# 11 Public hospitals

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| Attachment tables are identified in references throughout this chapter by a ‘11A’ prefix (for example, table 11A.1). A full list of attachment tables is provided at the end of this chapter, and the attachment tables are available from the Review website at www.pc.gov.au/rogs/2016. |
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Public hospitals are important providers of government funded health services in Australia. This chapter reports on the performance of State and Territory public hospitals, focusing on acute care services. It also reports separately on a significant component of the services provided by public hospitals — maternity services.

Improvements to the reporting of public hospitals in this edition include:

* a new measure ‘Emergency department waiting time to commencement of clinical care’ is reported under the ‘Emergency department waiting times’ indicator
* a new measure ‘Length of stay of emergency department presentations ending in admission’ is reported under the ‘Waiting times for admitted patient services’ indicator

All abbreviations used in this Report are available in a complete list in volume A: Approach to performance reporting.

## 11.1 Profile of public hospitals

A key objective of Australian governments is to provide public hospital services to ensure the population has access to cost-effective health services, based on clinical need and within clinically appropriate times, irrespective of geographic location. Public hospitals provide a range of services, including:

* acute care services to admitted patients
* subacute and non-acute services to admitted patients (for example, rehabilitation, palliative care and long stay maintenance care)
* emergency, outpatient and other services to non-admitted patients
* mental health services, including services provided to admitted patients by designated psychiatric/psychogeriatric units
* public health services
* teaching and research activities.

This chapter focuses on services provided to admitted patients and emergency services provided to non-admitted patients in public hospitals. These services comprise the bulk of public hospital activity and, in the case of services to admitted patients, have the most reliable data relative to other hospitals data. Data in the chapter include subacute and non‑acute care services.

In some instances, data for stand-alone psychiatric hospitals are included in this chapter. However, under the National Mental Health Strategy, the provision of psychiatric treatment is shifting away from specialised psychiatric hospitals to mainstream public hospitals and the community sector. The performance of psychiatric hospitals and psychiatric units of public hospitals is examined more closely in the ‘Mental health management’ chapter of this Report (chapter 12).

### Funding

Total recurrent expenditure on public hospitals (excluding depreciation) was $44.4 billion in 2013-14 (table 11A.1). Funding for public hospitals comes from a number of sources. The Australian, State and Territory governments contributed 91.0 per cent of funding for public hospital services in 2013-14, with non-government sources contributing 9.0 per cent (including depreciation) (table 11A.2). Non‑government expenditure comprised revenue from health insurance funds, individuals, workers’ compensation and compulsory third‑party motor vehicle insurers, and other sources.

Expenditure data in this profile section are sourced from unpublished data from the AIHW Health Expenditure Australia database, and are not directly comparable with other expenditure data used in this chapter, which are drawn from *Hospital resources 2013–14: Australian hospital statistics* (AIHW 2015d). The AIHW publication *Health Expenditure Australia 2013-14* provides information about the differences in the expenditure data between the two sources (AIHW 2015b).

In 2013-14, government real recurrent expenditure on public hospitals was $1905 per person nationally, up from $1692 in 2009-10 (figure 11.1). It is difficult to make comparisons across jurisdictions based on these recurrent expenditure data, due to differences in the data coverage. The main differences are:

* the inclusion, by some jurisdictions, of expenditure on community health services as well as public hospital services
* the exclusion, by some jurisdictions, of expenditure on privately owned or privately operated hospitals that have been contracted to provide public hospital services.

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| Figure 11.1 Real recurrent expenditure per person, public hospitals (including psychiatric) (2013-14 dollars)**a** |
| |  | | --- | | Figure 11.1 Real recurrent expenditure per person, public hospitals (including psychiatric) (2013-14 dollars)  More details can be found within the text surrounding this image. | |
| a See table 11A.3 for detailed footnotes and caveats. |
| *Source*: AIHW (various years), *Australian hospital statistics*, Health Services Series, Cat. nos HSE 107, 117, 134 and 145; AIHW (2015), *Hospital resources 2013-14: Australian hospital statistics*. Health services series no. 63. Cat. no. HSE 160; AIHW (2015), *Health expenditure Australia 2013-14*, Health and Welfare Expenditure Series No. 54, Cat. no. HWE 63; table 11A.3. |
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### Size and scope of sector

There are several ways to measure the size and scope of Australia’s public hospital sector. This profile section reports on: the number and size of hospitals; the number and location of public hospital beds; the number and type of public hospital separations; the number of separations and incidence of treatment, by the Indigenous status of the patient; the number of hospital staff; and types of public hospital activity.

#### Hospitals

In 2013-14, Australia had 747 public hospitals (table 11A.4). Although 72 per cent of hospitals had 50 or fewer beds (figure 11.2), these smaller hospitals represented only 15 per cent of total available beds (table 11A.4).

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| Figure 11.2 Public hospitals, by size, 2013-14**a, b** |
| |  | | --- | | Figure 11.2 Public hospitals, by size, 2013-14  More details can be found within the text surrounding this image. | |
| a See table 11A.4 for detailed footnotes and caveats. b The ACT did not have hospitals with more than 10 to 50 beds or more than 50 to 100 beds. The NT did not have hospitals with 10 or fewer beds. |
| *Source*: AIHW (2015), *Hospital resources 2013-14: Australian hospital statistics.* Health services series no. 63. Cat. no. HSE 160; table 11A.4. |
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#### Hospital beds

There were 58 567 available beds for admitted patients in public hospitals in 2013-14, equivalent to 2.5 beds per 1000 people (figure 11.3 and table 11A.4). The concept of an available bed is becoming less important in the overall context of hospital activity, particularly given the increasing significance of same day hospitalisations and hospital-in-the-home care (AIHW 2011).

Nationally, more beds were available per 1000 people in remote areas (table 11A.5). The patterns of bed availability can reflect a number of factors, including patterns of availability of other healthcare services, patterns of disease and injury and the relatively poor health of Aboriginal and Torres Strait Islander Australians, who have higher population concentrations in remote areas. These data also need to be viewed in the context of the age and sex structure (chapter 2) and the morbidity and mortality (reported in the ‘Health sector overview’) of the population in each State and Territory.

The comparability of bed numbers can be affected by the casemix of hospitals, including the extent to which hospitals provide same day admitted services and other specialised services. There are also differences in admission practices and how available beds are counted, both across jurisdictions and over time.

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| Figure 11.3 Available beds, public hospitals**a** |
| |  | | --- | | Figure 11.3 Available beds, public hospitals  More details can be found within the text surrounding this image. | |
| a See table 11A.5 for detailed footnotes and caveats. |
| *Source*: AIHW (various years), *Australian hospital statistics*, Health Services Series, Cat. nos HSE 107, 117, 134 and 145; AIHW (2015), *Hospital resources 2013-14: Australian hospital statistics.* Health services series no. 63. Cat. no. HSE 160; table 11A.5. |
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#### Admitted patient care

There were approximately 5.7 million separations from public (non-psychiatric) hospitals in 2013-14 (table 11A.6). Nationally, this translates into 234.0 separations per 1000 people (figure 11.4). Acute separations accounted for 95.3 per cent of separations from public hospitals, newborns who required acute care accounted for 1.3 per cent and rehabilitation care accounted for 1.7 per cent. Palliative care, geriatric evaluation and management, and maintenance care constitute the remainder (table 11A.12). Of the total number of separations in public (non-psychiatric) hospitals, 51.4 per cent were for same day patients. Public psychiatric hospitals accounted for around 0.2 per cent of total separations in public hospitals in 2013-14 (table 11A.6).

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| Figure 11.4 Separation rates in public (non-psychiatric) hospitals**a** |
| |  | | --- | | Figure 11.4 Separation rates in public (non-psychiatric) hospitals  More details can be found within the text surrounding this image. | |
| a See table 11A.7 for detailed footnotes and caveats. |
| *Source*: AIHW (various years), *Australian Hospital Statistics*, Health Services Series, Cat. nos HSE 107, 117, 134 and 145; AIHW (2015), *Admitted patient care 2013-14: Australian hospital statistics*. Health services series no. 60. Cat. no. HSE 156; table 11A.7. |
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Differences across jurisdictions in separation rates reflect variations in the health profiles of the people living in each State and Territory, the decisions made by medical staff about the type of care required and people’s access to health services other than public hospitals.

Variations in admission rates can reflect different practices in classifying patients as either admitted same day patients or outpatients. For example, in SA, chemotherapy and scope procedures are treated as outpatient rather than same day services. The extent of differences in classification practices can be inferred from the variation in the proportion of same day separations across jurisdictions for certain conditions or treatments. This is particularly true of medical separations. Significant variation across jurisdictions in the proportion of same day medical separations was evident in 2013-14 (table 11A.8).

#### Admitted patient care for Aboriginal and Torres Strait Islander Australians

In 2013-14, on an age standardised basis, 800.5 public hospital separations (including same day separations) for Aboriginal and Torres Strait Islander Australians were reported per 1000 Aboriginal and Torres Strait Islander Australians. This rate was markedly higher than the corresponding rate of 234.4 per 1000 for all Australians (figure 11.5).

In 2013-14, separations for Aboriginal and Torres Strait Islander Australians accounted for around 4.2 per cent of total separations and 6.5 per cent of separations in public hospitals (table 11A.9). Aboriginal and Torres Strait Islander Australians made up only around 3 per cent of the population nationally, although this rate varied significantly from 0.9 per cent in Victoria to 29.5 per cent in the NT (tables 2A.1 and 2A.14). Most separations involving Aboriginal and Torres Strait Islander Australians (91.0 per cent) in these jurisdictions occurred in public hospitals (table 11A.9).

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| Figure 11.5 Public hospital separations, 2013-14**a** |
| |  | | --- | | Figure 11.5 Public hospital separations, 2013-14  More details can be found within the text surrounding this image. | |
| a See table 11A.10 for detailed footnotes and caveats. |
| *Source*: AIHW (unpublished), National Hospital Morbidity Database; table 11A.10. |
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#### Non-admitted patient services

A total of 46.5 million individual occasions of service were provided to non-admitted patients in public acute hospitals in 2013-14, not including Victoria which did not provide occasions of service information (table 11.1). In addition, public hospitals delivered 832 576 group sessions during this time (a group session is defined as a service provided to two or more patients, excluding services provided to two or more family members) (AIHW2015c).

There is considerable variation among states and territories and across reporting years in collection of non-admitted patient occasions of service. Differing admission practices across states and territories also lead to variation among jurisdictions in the services reported (AIHW 2015c).

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| Table 11.1 Non-admitted patient occasions of service, by type of non‑admitted patient care, public acute hospitals, 2013-14**a** |
| |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | | Qld | | WA | SA | Tas | ACT | NT | Aust | | Occasions of service for the most common types of non-admitted patient care as a proportion of all occasions of service for non-admitted patients (%) | | | | | | | | | | | | | Accident and emergency | 10.5 | na | 17.5 | | 16.0 | | 27.9 | 28.8 | 7.3 | 24.1 | 13.8 | | Pathology | 12.7 | na | 36.6 | | 14.4 | | – | – | 22.6 | 23.0 | 18.1 | | Radiology and organ imaging | 2.4 | na | 9.8 | | 8.5 | | 4.4 | – | 2.9 | 15.3 | 5.1 | | Pharmacy | 16.1 | na | 4.6 | | 3.5 | | – | – | 2.6 | 5.0 | 10.4 | | Other medical/surgical/ obstetric | 21.5 | na | 22.5 | | 20.6 | | 44.9 | 38.3 | 23.7 | 28.3 | 23.0 | | Mental health | 7.1 | na | 0.2 | | 1.4 | | 0.6 | 0.6 | 19.1 | – | 4.8 | | Dental | 1.9 | na | – | | 0.4 | | 0.5 | – | – | – | 1.1 | | Allied health | 2.3 | na | 6.4 | | 15.1 | | 8.8 | 30.2 | 11.2 | 2.9 | 5.8 | | Other non-admitted |  |  |  | |  | |  |  |  |  |  | | Community health | 9.3 | na | 1.0 | | 16.9 | | – | 2.2 | 10.4 | – | 7.9 | | District nursing | 7.5 | na | .. | | 1.5 | | – | – | – | – | 4.2 | | **Total occasions of service (’000)** | **25 293** | **na** | **10 451** | | **5 920** | | **1 981** | **560** | **1 716** | **603** | **46 523** | |
| a See table 11A.13 for detailed footnotes and caveats. **na** Not available. **..** Not applicable. – Nil or rounded to zero. |
| *Source*: AIHW (2015), *Non-admitted patient care 2013-14: Australian hospital statistics*. Health services series no. 62. Cat. no. HSE 159; table 11A.13. |
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#### Staff

In 2013-14, nurses comprised the single largest group of full time equivalent (FTE) staff employed in public hospitals (5.6 per 1000 people) (figure 11.6). Comparing data on FTE staff across jurisdictions should be undertaken with care, because these data are affected by differences across jurisdictions in the recording and classification of staff. The outsourcing of services with a large labour related component (for example, food services and domestic services) can have a large impact on hospital staffing figures and can explain some of the differences in FTE staff in some staffing categories across jurisdictions (AIHW 2011).

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| Figure 11.6 Average FTE staff per 1000 people, public hospitals,  2013-14**a** |
| |  | | --- | | Figure 11.6 Average FTE staff per 1000 people, public hospitals,  2013-14   More details can be found within the text surrounding this image. | |
| a See table 11A.11 for detailed footnotes and caveats. |
| *Source*: AIHW (2015), *Hospital resources 2013-14: Australian hospital statistics*. Health services series no. 63. Cat. no. HSE 160; ABS (unpublished), Australian Demographic Statistics, December Quarter 2013, Cat. no. 3101.0; tables 11A.11 and 2A.2. |
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## 11.2 Framework of performance indicators for public hospitals

Performance is reported against objectives that are common to public hospitals in all jurisdictions (box 11.1). The Health sector overview explains the performance indicator framework for health services as a whole, including the subdimensions of quality and sustainability that have been added to the standard Review framework.

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| Box 11.1 Objectives for public hospitals |
| The common government objectives for public hospitals are to provide acute and specialist services that are:   * safe and of high quality * appropriate and responsive to individual needs * affordable, timely and accessible * equitably and efficiently delivered. |
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The performance indicator framework provides information on equity, efficiency and effectiveness, and distinguishes the outputs and outcomes of public hospital services (figure 11.7). The performance indicator framework shows which data are complete and comparable in the 2016 Report. For data that are not considered directly comparable, text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability and data completeness from a Report-wide perspective (section 1.6).

This framework is also aligned with the National Healthcare Agreement (NHA), which covers the area of health and aged care. Performance indicators in this chapter are aligned with health indicators in the NHA, where relevant.

In addition to section 11.1, the Report’s Statistical context chapter contains data that may assist in interpreting the performance indicators presented in this chapter. These data cover a range of demographic and geographic characteristics (chapter 2).

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| Figure 11.7 Public hospitals performance indicator framework |
| |  | | --- | | Figure 11.7 Public hospitals performance indicator framework  More details can be found within the text surrounding this image. | |
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## 11.3 Key performance indicator results for public hospitals

Different delivery contexts, locations and types of client can affect the equity, effectiveness and efficiency of health services.

Data Quality Information (DQI) is included where available for performance indicators in this Report. The purpose of DQI is to provide structured and consistent information about quality aspects of data used to report on performance indicators, in addition to material in the chapter or sector overview and attachment tables. All DQI for the 2016 Report can be found at www.pc.gov.au/rogs/2016.

### Outputs

Outputs are the services delivered (while outcomes are the impact of these services on the status of an individual or group) (see chapter 1, section 1.5). Output information is also critical for equitable, efficient and effective management of government services.

### Equity

Equity indicators measure how well a service is meeting the needs of certain groups in society (see chapter 1). Public hospitals have a significant influence on the equity of the overall healthcare system. While access to public hospital services is important to the community in general, it is particularly important for people of low socioeconomic status (and others) who can have difficulty in accessing alternative services, such as those provided by private hospitals.

#### Access — Equity of access by special needs groups

‘Equity of access by special needs groups’ is an indicator of governments’ objective to provide accessible services (box 11.2).

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| Box 11.2 Equity of access by special needs groups |
| ‘Equity of access by special needs groups’ measures the performance of agencies providing services for identified special needs groups including: Aboriginal and Torres Strait Islander Australians; people living in communities outside the capital cities (that is, people living in other metropolitan areas, or rural and remote communities); and people from culturally and linguistically diverse backgrounds. Chapter 1 outlines special needs groups in more detail.  Equity of access by special needs groups has been identified as a key area for development in future Reports. Data for the emergency department waiting times and waiting times for admitted patient services indicators are reported by Indigenous status and remoteness. |
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### Effectiveness

#### Access — Emergency department waiting times

‘Emergency department waiting times’ is an indicator of governments’ objective to provide accessible services (box 11.3).

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| Box 11.3 Emergency department waiting times |
| ‘Emergency department waiting times’ is defined by the following three measures:   * Emergency department waiting times by triage category * Emergency department waiting time to commencement of clinical care * Length of stay for emergency department care, proportion of patients staying for four hours or less.   Data reported for all three measures for this indicator are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * complete (subject to caveats) for the current reporting period. All required 2014-15 data are available for all jurisdictions.   Emergency department waiting times by triage category  ‘Emergency department waiting times by triage category' is defined as the proportion of patients seen within the benchmarks set by the Australasian Triage Scale. The Australasian Triage Scale is a scale for rating clinical urgency, designed for use in hospital-based emergency services in Australia and New Zealand.  The benchmarks, set according to triage category, are as follows:   * triage category 1: need for resuscitation — patients seen immediately * triage category 2: emergency — patients seen within 10 minutes * triage category 3: urgent — patients seen within 30 minutes * triage category 4: semi-urgent — patients seen within 60 minutes * triage category 5: non-urgent — patients seen within 120 minutes.   A high or increasing proportion of patients seen within the benchmarks set for each triage category is desirable.  Data quality information for this measure is at www.pc.gov.au/rogs/2016.  Emergency department waiting time to commencement of clinical care  ‘Emergency department waiting time to commencement of clinical care’ is defined as the time elapsed for each patient from presentation in the emergency department to commencement of clinical care at the median and 90th percentile in minutes.  A low or decreasing Emergency department waiting time to commencement of clinical care is desirable.  Data quality information for this measure is under development.  (continued next page) |
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| Box 11.3 (continued) |
| Length of stay for emergency department care, proportion of patients staying for four hours or less  ‘Length of stay for emergency department care, proportion of patients staying for four hours or less’ is defined as the percentage of presentations to public hospital emergency departments where the time from presentation to admission, transfer or discharge is less than or equal to four hours. It is a measure of the duration of the emergency department service rather than a waiting time for emergency department care.  A high or increasing proportion of patients with a length of stay of four hours or less is desirable.  Data quality information for this measure is at www.pc.gov.au/rogs/2016. |
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##### Emergency department waiting times by triage category

Nationally, in 2014-15, 100 per cent of patients in triage category 1 were seen within the clinically appropriate timeframe, and 79 per cent of patients in triage category 2 were seen within the clinically appropriate timeframe. For all triage categories combined, 74 per cent of patients were seen within triage category timeframes (table 11.2). Emergency department waiting times for peer group A and B hospitals are reported in table 11A.15.

The comparability of emergency department waiting times data across jurisdictions can be influenced by differences in data coverage (table 11.2) and clinical practices — in particular, the allocation of cases to urgency categories. The proportion of patients in each triage category who were subsequently admitted can indicate the comparability of triage categorisations across jurisdictions and thus the comparability of the waiting times data (table 11A.14).

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| Table 11.2 Emergency department patients seen within triage category timeframes, public hospitals (per cent, 2014-15)**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Triage category | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | 1 — Resuscitation | 100 | 100 | 99 | 100 | 100 | 100 | 100 | 100 | 100 | | 2 — Emergency | 82 | 80 | 77 | 83 | 69 | 83 | 78 | 62 | 79 | | 3 — Urgent | 76 | 73 | 64 | 57 | 57 | 64 | 48 | 54 | 68 | | 4 — Semi-urgent | 81 | 73 | 74 | 69 | 69 | 67 | 53 | 59 | 74 | | 5 — Non-urgent | 95 | 89 | 93 | 93 | 89 | 89 | 86 | 88 | 92 | | **Total** | **81** | **75** | **71** | **68** | **66** | **70** | **59** | **60** | **74** | |
| a See box 11.3 and table 11A.14 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (2015), *Emergency department care 2014-15: Australian hospital statistics*. Health services series no. 65. Cat. no. HSE 168; table 11A.14. |
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Emergency department waiting times by Indigenous status, remoteness and socioeconomic status for public hospitals are reported in the attachment (tables 11A.16–18). Nationally, there was little difference between Aboriginal and Torres Strait Islander and other Australians in the percentages of patients treated within national benchmarks across the triage categories, although there were variations across states and territories for some triage categories (table 11A.16). At the national level, there was variation in waiting times across triage categories by remoteness, although there was less variation for the most serious category, resuscitation (table 11A.17). There was little difference in waiting times across triage categories by socioeconomic status on a national basis (table 11A.18).

##### Emergency department waiting time to commencement of clinical care

Median and 90th percentile waiting times to commencement of clinical care are reported in table 11.3. Nationally, emergency department patients had a median waiting time of 18 minutes, and 93 minutes at the 90th percentile (table 11.3).

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| Table 11.3 Emergency department patients waiting time to commencement of clinical care, public hospitals (minutes), 2014-15**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | Median waiting time | 15 | 19 | 20 | 25 | 20 | 25 | 37 | 31 | 18 | | 90th percentile waiting time | 78 | 97 | 93 | 99 | 113 | 107 | 147 | 130 | 93 | |
| a See box 11.3 and table 11A.20 for detailed definitions, footnotes and caveats.  *Source*: AIHW (2015), *Emergency department care 2014-15: Australian hospital statistics*, Health services series no. 65. Cat. no. HSE 168; table 11A.20. |
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##### Length of stay for emergency department care, proportion of patients staying for four hours or less

The proportion of patients staying for four hours or less in an emergency department has increased from 64.3 per cent in 2011-12 to 73.2 per cent in 2014-15 (figure 11.8).

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| Figure 11.8 Length of stay for emergency department care, proportion of patients staying for four hours or less**a** |
| |  | | --- | | Figure 11.8 Length of stay for emergency department care, proportion of patients staying for four hours or less  More details can be found within the text surrounding this image. | |
| a See box 11.3 and table 11A.19 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (various years), *Emergency department care: Australian hospital statistics*. Health services series no. 45, 52, 58 and 65, Cat. no. HSE 126, 142, 153 and 168; table 11A.19. |
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#### Waiting times for admitted patient services

‘Waiting times for admitted patient services’ is an indicator of governments’ objective to provide accessible services (box 11.4). Patients waiting longer are likely to suffer discomfort and inconvenience, and may experience poor health outcomes as a result.

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| Box 11.4 Waiting times for admitted patient services |
| ‘Waiting times for admitted patient services’ is defined by the following four measures:   * Overall elective surgery waiting times * Elective surgery waiting times by clinical urgency category * Presentations to emergency departments with a length of stay of 4 hours or less ending in admission * Length of stay of emergency department presentations ending in admission.   (continued next page) |
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| Box 11.4 (continued) |
| Data reported for these four measures are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * complete (subject to caveats) for the current reporting period. All required 2014-15 data are available for all jurisdictions.   Overall elective surgery waiting times  ‘Overall elective surgery waiting times’ are calculated by comparing the date on which patients are added to a waiting list with the date on which they are admitted. Days on which the patient was not ready for care are excluded. ‘Overall waiting times’ are presented as the number of days within which 50 per cent of patients are admitted and the number of days within which 90 per cent of patients are admitted. The proportion of patients who waited more than 12 months is also shown.  For overall elective surgery waiting times, a low or decreasing number of days waited at the 50th and 90th percentiles, and a low or decreasing proportion of people waiting more than 365 days are desirable.  Data quality information for this measure is at www.pc.gov.au/rogs/2016.  Elective surgery waiting times by clinical urgency category  ‘Elective surgery waiting times by clinical urgency category’ reports the proportion of patients who were admitted from waiting lists after an extended wait. The three generally accepted clinical urgency categories for elective surgery are:   * category 1 — admission is desirable within 30 days for a condition that has the potential to deteriorate quickly to the point that it may become an emergency * category 2 - admission is desirable within 90 days for a condition causing some pain, dysfunction or disability but which is not likely to deteriorate quickly or become an emergency * category 3 — admission at some time in the future is acceptable for a condition causing minimal or no pain, dysfunction or disability, which is unlikely to deteriorate quickly and which does not have the potential to become an emergency. The desirable timeframe for this category is admission within 365 days.   The term ‘extended wait’ is used for category 3 patients waiting longer than 12 months for elective surgery, as well as for category 1 and 2 patients waiting more than the agreed desirable waiting times of 30 days and 90 days respectively.  For elective surgery waiting times by clinical urgency category, a low or decreasing proportion of patients who have experienced extended waits at admission is desirable. However, variation in the way patients are classified to urgency categories should be taken into account. Rather than comparing jurisdictions, the results for individual jurisdictions should be viewed in the context of the proportions of patients assigned to each of the three urgency categories (table 11.4).  Data quality information for this measure is at www.pc.gov.au/rogs/2016.  (continued next page) |
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| Box 11.4 (continued) |
| Presentations to emergency departments with a length of stay of 4 hours or less ending in admission  ‘Presentations to emergency departments with a length of stay of 4 hours or less ending in admission’ is defined as the percentage of presentations to public hospital emergency departments where the time from presentation to admission to hospital is less than or equal to four hours.  A high or increasing proportion of presentations to emergency departments with a length of stay of 4 hours or less ending in admission is desirable.  Data quality information for this measure is at www.pc.gov.au/rogs/2016.  Length of stay of emergency department presentations ending in admission  ‘Length of stay of emergency department presentations ending in admission’ is defined as the time from presentation of the patient to the emergency department to the time of admission to the hospital at the median and 90th percentile measured in hours and minutes by triage category.  A low or decreasing length of stay of emergency department presentations ending in admission is desirable.  Data quality information for this measure is under development. |
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##### Overall elective surgery waiting times

Nationally in 2014-15, 50 per cent of patients were admitted within 35 days and 90 per cent of patients were admitted within 253 days. The proportion of patients who waited more than a year was 1.8 per cent. Nationally, waiting times at the 50th percentile decreased by one day between 2010-11 and 2014-15, from 36 to 35 days. However, there were different trends for different jurisdictions and for different sized hospitals over that period (figure 11.9 and table 11A.21).

Patients on waiting lists who were not subsequently admitted to hospital are excluded. Patients can be removed from waiting lists because they no longer need the surgery, die, are treated at another location, decline to have the surgery, or cannot be contacted by the hospital (AIHW 2015a). In 2014-15, around 14 per cent of patients who were removed from waiting lists were removed for reasons other than admission for the awaited procedure (AIHW 2015a).

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| Figure 11.9 Waiting times for elective surgery, public hospitals**a** |
| |  | | --- | | Figure 11.9 Waiting times for elective surgery, public hospitals  Days waited at the 50th percentile  More details can be found within the text surrounding this image. | | Figure 11.9 Waiting times for elective surgery, public hospitals  Days waited at the 90th percentile  More details can be found within the text surrounding this image. | | Figure 11.9 Waiting times for elective surgery, public hospitals  Percentage who waited more than 365 days  More details can be found within the text surrounding this image. | |
| a See box 11.4 and table 11A.21 for detailed definitions, footnotes and caveats.  *Source*: AIHW (various years), *Australian Hospital Statistics*, Health Services Series, Cat no. HSE 117; AIHW (various years), *Elective surgery waiting times: Australian hospital statistics,* Cat. nos. HSE 127, 140, 151 and 166; table 11A.21. |
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Comparisons across jurisdictions should be made with caution, due to differences in clinical practices and classification of patients across Australia. The measures are also affected by variations across jurisdictions in the method used to calculate waiting times for patients who transferred from a waiting list managed by one hospital to a waiting list managed by another hospital. For patients who were transferred from a waiting list managed by one hospital to that managed by another, the time waited on the first list is included in the waiting time reported in NSW, WA, SA and the NT. This approach can have the effect of increasing the apparent waiting times for admissions in these jurisdictions compared with other jurisdictions (AIHW 2015a).

Attachment 11A includes data on elective surgery waiting times by hospital peer group, specialty of surgeon and indicator procedure. It also includes waiting times by Indigenous status, remoteness and socioeconomic status (tables 11A.21–26). Nationally, Aboriginal and Torres Strait Islander Australians had longer waiting times for elective surgery than other Australians at the 50th percentile and 90th percentile (table 11A.23). Those living in regional areas had longer waiting times than those in major cities at the 50th and 90th percentiles at the national level (table 11A.24). Elective surgery waiting times tended to increase with social disadvantage at the 50th and 90th percentiles on a national basis (table 11A.25).

##### Elective surgery waiting times by clinical urgency category

Elective surgery waiting times by urgency category not only provide an indication of the extent to which patients are seen within a clinically desirable time, but also draw attention to the variation in the way in which patients are classified across jurisdictions. Jurisdictional differences in the classification of patients by urgency category in 2014-15 are shown in table 11.4.

The system of urgency categorisation for elective surgery in public hospitals is important to ensure that priority is given to patients according to their needs. While elective surgery waiting times by urgency category are not comparable across jurisdictions, this measure has the advantage of providing an indication of the extent to which patients are seen within a clinically desirable time according to the urgency category to which they have been assigned.

The proportion of patients on waiting lists who already had an extended wait at the date of assessment are reported in tables 11A.28, 11A.30, 11A.32, 11A.34, 11A.36, 11A.38, 11A.40 and 11A.42. Waiting times data by urgency category and surgical speciality are also provided (tables 11A.29, 11A.31, 11A.33, 11A.35, 11A.37, 11A.39, 11A.41 and 11A.43).

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| Table 11.4 Elective surgery waiting times by clinical urgency category, 2014-15 (per cent)**a** |
| |  |  |  |  | | --- | --- | --- | --- | |  | Patients on waiting lists | Patients admitted from waiting lists | Patients admitted from waiting lists with extended waits | | ***New South Wales*** | | | | | Category 1 | 2.5 | 22.6 | 0.2 | | Category 2 | 15.9 | 33.0 | 2.5 | | Category 3 | 81.6 | 44.3 | 3.5 | | **Total** | **100.0** | **100.0** | **2.4** | | ***Victoria*** | | | | | Category 1 | 4.4 | 30.3 | – | | Category 2 | 49.6 | 46.9 | 24.2 | | Category 3 | 46.0 | 22.8 | 7.4 | | **Total** | **100.0** | **100.0** | **13.0** | | ***Queensland*** | | | | | Category 1 | 2.7 | 39.7 | 2.2 | | Category 2 | 29.0 | 41.9 | 6.1 | | Category 3 | 68.2 | 18.4 | 2.6 | | **Total** | **100.0** | **100.0** | **3.9** | | ***Western Australia*** | | | | | Category 1 | 5.4 | 25.5 | 4.0 | | Category 2 | 28.5 | 34.7 | 10.7 | | Category 3 | 66.0 | 39.8 | 1.7 | | **Total** | **100.0** | **100.0** | **5.4** | | ***South Australia*** | | | | | Category 1 | 3.7 | 25.9 | 8.0 | | Category 2 | 22.5 | 35.4 | 10.4 | | Category 3 | 73.7 | 38.7 | 2.7 | | **Total** | **100.0** | **100.0** | **6.8** | | ***Tasmania*** | | | | | Category 1 | 5.5 | 37.4 | 27.2 | | Category 2 | 49.0 | 42.1 | 57.2 | | Category 3 | 45.5 | 20.5 | 32.9 | | **Total** | **100.0** | **100.0** | **41.0** | |
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| Table 11.4 (continued) |
| |  |  |  |  | | --- | --- | --- | --- | |  | Patients on waiting lists | Patients admitted from waiting lists | Patients admitted from waiting lists with extended waits | | ***Australian Capital Territory*** |  |  |  | | Category 1 | 4.0 | 32.5 | 4.6 | | Category 2 | 35.4 | 41.8 | 31.1 | | Category 3 | 60.6 | 25.7 | 16.7 | | **Total** | **100.0** | **100.0** | **18.8** | | ***Northern Territory*** | | | | | Category 1 | 4.3 | 37.0 | 12.4 | | Category 2 | 39.7 | 44.6 | 32.8 | | Category 3 | 56.1 | 18.5 | 18.2 | | **Total** | **100.0** | **100.0** | **22.5** | |
| a See box 11.4 and tables 11A.27, 11A.28, 11A.30, 11A.32, 11A.34, 11A.36, 11A.38, 11A.40 and 11A.42 for detailed definitions, footnotes and caveats. – Nil or rounded to zero. |
| *Source*: AIHW (unpublished) National Elective Surgery Waiting Times Data Collection; tables 11A.27, 11A.28, 11A.30, 11A.32, 11A.34, 11A.36, 11A.38, 11A.40 and 11A.42. |
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##### Presentations to emergency departments with a length of stay of 4 hours or less ending in admission

Nationally in 2014-15, 47 per cent of those who presented to an emergency department waited 4 hours or less to be admitted to hospital. Nationally, the percentage waiting 4 hours or less to be admitted was 56 per cent of patients requiring resuscitation, 48 per cent of emergency patients and 45 per cent of urgent patients (table 11.5).

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| Table 11.5 Proportion of presentations to emergency departments with a length of stay of 4 hours or less ending in admission, public hospitals, 2014-15**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Triage category | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | 1 — Resuscitation | 51 | 56 | 59 | 68 | 54 | 58 | 57 | 46 | 56 | | 2 — Emergency | 43 | 49 | 56 | 60 | 37 | 35 | 46 | 24 | 48 | | 3 — Urgent | 40 | 48 | 56 | 52 | 34 | 26 | 31 | 21 | 45 | | 4 — Semi-urgent | 45 | 51 | 60 | 53 | 40 | 28 | 35 | 22 | 48 | | 5 — Non-urgent | 65 | 64 | 66 | 63 | 58 | 45 | 42 | 29 | 63 | | **Total** | **43** | **49** | **57** | **55** | **37** | **29** | **36** | **23** | **47** | |
| a See box 11.4 and table 11A.44 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (2015), *Emergency department care 2014-15: Australian hospital statistics*. Health services series no. 65. Cat. no. HSE 168; table 11A.44. |
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Nationally in 2014-15, a lower proportion of patients were admitted within 4 hours or less in large hospitals than in principal referral and women’s and children’s hospitals (table 11A.44).

##### Length of stay of emergency department presentations ending in admission

Median and 90th percentile lengths of stay of emergency department presentations ending in admission by triage category are reported in table 11.6. Patients requiring resuscitation tended to have shorter lengths of stay in the emergency department before being admitted than the other triage categories except for non-urgent cases (table 11.6).

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| Table 11.6 Length of stay of emergency department presentations ending in admission, public hospitals (hours:minutes),  2014-15**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Triage category | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | Median length of stay | | | | | | | | | | | 1 — Resuscitation | 3:59 | 3:45 | 3:37 | 3:04 | 3:36 | 3:24 | 3:27 | 4:28 | 3:45 | | 2 — Emergency | 4:39 | 4:03 | 3:49 | 3:38 | 5:11 | 5:28 | 4:24 | 7:17 | 4:11 | | 3 — Urgent | 4:58 | 4:14 | 3:52 | 3:58 | 5:31 | 6:24 | 5:51 | 7:22 | 4:26 | | 4 — Semi-urgent | 4:32 | 3:59 | 3:44 | 3:56 | 4:52 | 6:12 | 5:22 | 6:54 | 4:11 | | 5 — Non-urgent | 3:18 | 3:24 | 3:20 | 3:37 | 3:12 | 4:25 | 4:36 | 6:32 | 3:26 | | **Total** | **4:43** | **4:05** | **3:50** | **3:53** | **5:12** | **6:05** | **5:21** | **7:08** | **4:16** | | 90th percentile length of stay | | | | | | | | | | | 1 — Resuscitation | 11:19 | 10:58 | 8:20 | 7:24 | 11:28 | 11:57 | 9:25 | 14:47 | 10:09 | | 2 — Emergency | 12:59 | 12:29 | 9:00 | 7:58 | 14:39 | 21:52 | 14:28 | 20:47 | 11:55 | | 3 — Urgent | 13:05 | 12:14 | 8:53 | 8:35 | 15:21 | 22:14 | 17:01 | 19:43 | 11:58 | | 4 — Semi-urgent | 11:37 | 11:21 | 8:14 | 8:12 | 13:23 | 20:55 | 13:50 | 18:26 | 11:11 | | 5 — Non-urgent | 8:39 | 8:22 | 7:16 | 6:45 | 9:38 | 13:53 | 11:33 | 19:36 | 8:45 | | **Total** | **12:34** | **11:58** | **8:47** | **8:19** | **14:34** | **21:34** | **15:28** | **19:33** | **11:41** | |
| a See box 11.4 and table 11A.45 for detailed definitions, footnotes and caveats.  *Source*: AIHW (2015), *Emergency department care 2014-15: Australian hospital statistics*. Health services series no. 65. Cat. no. HSE 168; table 11A.45. |
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#### Appropriateness — Separation rates for selected procedures

‘Separation rates for selected procedures’ is an indicator of the appropriateness of hospital services (box 11.5).

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| Box 11.5 Separation rates for selected procedures |
| ‘Separation rates for selected procedures’ is defined as separations per 1000 people for certain procedures in all hospitals. The procedures are selected for their frequency, for sometimes being elective and discretionary, and because alternative treatments are sometimes available.  Higher/lower or increasing/decreasing rates are not necessarily associated with inappropriate care. However, large jurisdictional variations in rates for particular procedures can require investigation to determine whether service levels are appropriate.  Care needs to be taken when interpreting differences in the separation rates for the selected procedures. Variations in rates can be attributable to variations in the prevalence of the conditions being treated, or to differences in clinical practice across states and territories. Higher rates can be acceptable for certain conditions and not for others. Higher rates of angioplasties, for example, can represent appropriate levels of care, whereas higher rates of hysterectomies or tonsillectomies can represent an over-reliance on procedures. Some of the selected procedures, such as angioplasty and coronary artery bypass graft, are alternative treatment options for people diagnosed with similar conditions.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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The separation rates for selected procedures reported here reflect the activities of the health system. For all procedures, separation rates varied across jurisdictions (table 11.7).

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| Table 11.7 Separations for selected procedures per 1000 people,  2013-14**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | *Procedure* |  |  |  |  |  |  |  |  |  | | Cataract extraction | 8.3 | 8.7 | 9.6 | 10.6 | 8.0 | 10.4 | 7.4 | 9.1 | 8.9 | | Cholecystectomy | 2.2 | 2.3 | 2.4 | 2.0 | 2.1 | 2.4 | 2.5 | 1.7 | 2.2 | | Coronary angioplasty | 1.5 | 1.5 | 1.5 | 1.4 | 1.2 | 1.2 | 3.2 | 0.3 | 1.5 | | Coronary artery bypass graft | 0.5 | 0.5 | 0.6 | 0.4 | 0.6 | 0.3 | 0.7 | .. | 0.5 | | Cystoscopy | 3.9 | 6.1 | 5.5 | 7.8 | 6.0 | 4.8 | 5.8 | 3.1 | 5.4 | | Haemorrhoidectomy | 2.7 | 1.8 | 1.5 | 1.2 | 1.5 | 1.9 | 1.0 | 1.9 | 1.9 | | Hip replacement | 1.4 | 1.7 | 1.4 | 1.7 | 1.7 | 1.9 | 2.3 | 0.7 | 1.6 | | Hysterectomy, females aged 15–69 years | 2.1 | 2.3 | 2.7 | 3.8 | 1.8 | 2.7 | 3.8 | 0.8 | 2.4 | | Inguinal herniorrhaphy | 2.0 | 2.1 | 2.1 | 2.1 | 2.0 | 2.1 | 2.4 | 1.7 | 2.1 | | Knee replacement | 1.9 | 1.7 | 2.0 | 2.2 | 2.1 | 1.6 | 2.4 | 0.8 | 1.9 | | Myringotomy (with insertion of tube) | 1.4 | 1.7 | 1.4 | 2.0 | 2.6 | 1.2 | 2.3 | 0.7 | 1.6 | | Prostatectomy | 2.5 | 2.8 | 2.7 | 2.9 | 1.9 | 2.6 | 8.1 | 0.2 | 2.6 | | Septoplasty | 1.2 | 1.3 | 0.9 | 1.0 | 1.4 | 0.5 | 1.2 | 0.5 | 1.1 | | Tonsillectomy | 2.3 | 2.6 | 2.3 | 2.8 | 2.8 | 1.8 | 4.0 | 1.2 | 2.5 | | Varicose veins, stripping and ligation | 0.6 | 0.7 | 0.5 | 0.6 | 0.6 | 0.4 | 1.0 | 0.5 | 0.6 | |
| a See box 11.5 and table 11A.46 for detailed definitions, footnotes and caveats. **..** Not applicable. |
| *Source*: AIHW (2015), *Admitted patient care 2013-14: Australian hospital statistics*. Health services series no. 60. Cat. no. HSE 156; table 11A.46. |
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#### Quality

The aspects of quality highlighted in the performance indicator framework are safety, responsiveness and continuity. This Report includes indicators of safety, but no indicators have yet been developed for responsiveness or continuity.

#### Quality — Safety

Improving patient safety is an important issue for all hospitals. Studies on medical errors have indicated that adverse healthcare related events occur in public hospitals in Australia and internationally, and that their incidence is potentially high (for example, Eshani et al. 2006). These adverse events can result in serious consequences for individual patients, and the associated costs to individuals and the health care system can be considerable (Van den Bos et al. 2011).

#### Quality — Safety — Selected unplanned hospital readmission rates

‘Selected unplanned hospital readmission rates’ is an indicator of governments’ objective to provide public hospital services that are safe and of high quality (box 11.6). Patients might be re-admitted unexpectedly if the initial care or treatment was ineffective or unsatisfactory, if post-discharge planning was inadequate, or for reasons outside the control of the hospital (for example poor post-discharge care).

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| Box 11.6 Selected unplanned hospital readmission rates |
| ‘Selected unplanned hospital readmission rates’ is defined as the rate at which patients unexpectedly return to hospital within 28 days for further treatment of the same condition. It is calculated as the number of separations that were unplanned or unexpected readmissions to the same hospital following a separation in which a selected surgical procedure was performed and which occurred within 28 days of the previous date of separation, expressed per 1000 separations in which one of the selected surgical procedures was performed.  Selected surgical procedures are knee replacement, hip replacement, tonsillectomy and adenoidectomy, hysterectomy, prostatectomy, cataract surgery and appendectomy. Unplanned readmissions are those having a principal diagnosis of a post-operative adverse event for which a specified ICD-10-AM diagnosis code has been assigned.  Low or decreasing rates for this indicator are desirable. Conversely, high rates for this indicator suggest the quality of care provided by hospitals, or post-discharge care or planning, should be examined, because there may be scope for improvement.  Data reported for this indicator are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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Selected unplanned readmission rates are not adjusted for casemix or patient risk factors, which can vary across hospitals and across jurisdictions. Selected unplanned hospital readmission rates in public hospitals in 2013-14 are reported in table 11.8. Selected unplanned hospital readmission rates are reported by hospital peer group, Indigenous status, remoteness and socioeconomic status in table 11A.48.

There are some difficulties in identifying readmissions that were unplanned. The indicator is likely to be an under-estimate because:

* it identifies only those patients readmitted to the same hospital, so does not include patients who go to another hospital
* episodes of non-admitted patient care provided in outpatient clinics or emergency departments which may have been related to a previous admission are not included
* the unplanned and/or unexpected readmissions are limited to those having a principal diagnosis of a post-operative adverse event. This does not include all possible unplanned/unexpected readmissions.

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| Table 11.8 Selected unplanned hospital readmission rates, per 1000 separations, 2013-14**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Total | | Surgical procedure prior to separation | | | | | | | | | | | Knee replacement | 21.4 | 21.2 | 31.3 | 34.4 | 18.5 | 33.8 | 30.6 | np | 23.7 | | Hip replacement | 18.1 | 16.3 | 19.3 | 24.8 | 20.9 | 14.9 | 18.4 | – | 17.8 | | Tonsillectomy and  Adenoidectomy | 28.5 | 30.1 | 43.4 | 45.4 | 35.7 | 35.3 | 27.3 | 58.5 | 33.0 | | Hysterectomy | 28.6 | 26.0 | 34.8 | 37.3 | 30.9 | 8.4 | 64.1 | np | 29.8 | | Prostatectomy | 25.8 | 19.8 | 30.4 | 29.6 | 29.3 | 30.5 | np | np | 25.5 | | Cataract surgery | 2.7 | 3.7 | 4.3 | 2.1 | 1.7 | 2.1 | – | 9.3 | 3.1 | | Appendicectomy | 18.3 | 20.3 | 19.7 | 32.9 | 25.7 | 19.1 | 30.2 | 34.9 | 20.3 | |
| a See box 11.6 and table 11A.47 for detailed definitions, footnotes and caveats. **np** Not published. – Nil or rounded to zero. |
| *Source*: AIHW (unpublished) National Hospital Morbidity Database; WA Health (unpublished); table 11A.47. |
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#### Quality — Safety — hospital accreditation

‘Accreditation’ is an indicator of governments’ objective to provide public hospital services that are of high quality (box 11.7).

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| Box 11.7 Accreditation |
| ‘Accreditation’ is defined by the following two measures:   * the proportion of accredited hospitals reported to the National Public Hospital Establishments Database * the proportion of hospitals accredited to the National Safety and Quality Health Service standards. The standards are: * Governance for safety and quality in health service organisations * Partnering with consumers * Preventing and controlling healthcare associated infections * Medication safety * Patient identification and procedure matching   (continued next page) |
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| Box 11.7 (continued) |
| * Clinical handover * Blood and blood products * Preventing and managing pressure injuries * Recognising and responding to clinical deterioration in acute health care * Preventing falls and harm from falls.   A high or increasing rate of accreditation is desirable. However, it is not possible to draw conclusions about the quality of care in those hospitals that do not have accreditation.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions but not over time. Data for 2013-14 are not comparable with prior years. * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is under development. |
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##### Accredited hospitals reported to the National Public Hospital Establishments Database

The proportion of accredited public hospitals is reported in figure 11.10.

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| Figure 11.10 Proportion of accredited public hospitals, 2013-14**a** |
| |  | | --- | | Figure 11.10 Proportion of accredited public hospitals, 2013-14  More details can be found within the text surrounding this image. | |
| a See box 11.7 and table 11A.49 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (2015), *Hospital resources 2013-14: Australian hospital statistics*. Health services series no. 63. Cat. no. HSE 160; table 11A.49. |
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Accreditation is provided by a number of bodies, including the Australian Healthcare Standards’ Evaluation and Quality Improvement Program, Business Excellence Australia, and the Quality Improvement Council. Hospitals can also be certified as compliant with the International Organization for Standardization’s (ISO) 9000 quality family.

##### Hospitals accredited to the National Safety and Quality Health Service standards

Australian Health Ministers have mandated accreditation in all public and private hospitals and day procedure services in Australia from 1 January 2013. From this date health services are to be assessed to the National Safety and Quality Health Service (NSQHS) Standards by accrediting agencies approved by the ACSQHC. By 2016 it is anticipated all Australian hospitals will have been accredited to all 10 NSQHS standards. While the NSQHS standards started from January 2013, the proportion of hospitals that have been assessed to date varies between jurisdictions, as not all hospitals were due to be assessed as part of the routine 3-4 year cycle. The proportion of hospitals accredited to the National Safety and Quality Health Service standards are reported in table 11A.49.

#### Quality — Safety — adverse events in public hospitals

‘Adverse events in public hospitals’ is an indicator of governments’ objective to provide public hospital services that are safe and of high quality (box 11.8). Adverse events in public hospitals can result in serious consequences for individual patients, place a significant burden on the health system and are influenced by the safety of hospital practices and procedures. Sentinel events, which are a subset of adverse events that result in death or very serious harm to the patient, are reported separately in this chapter as an outcome indicator.

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| Box 11.8 Adverse events in public hospitals |
| ‘Adverse events in public hospitals’ is defined by the following three measures:   * selected healthcare-associated infections * adverse events treated in hospitals * falls resulting in patient harm in hospitals.   Selected healthcare-associated infections  ‘Selected healthcare-associated infections’ is the number of *Staphylococcus aureus* (including Methicillin-resistant *Staphylococcus aureus* [MRSA]) bacteraemia (SAB) patient episodes associated with public hospitals, expressed as a rate per 10 000 patient days for public hospitals reporting for the SAB indicator.  (continued next page) |
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| Box 11.8 (continued) |
| A patient episode of SAB is defined as a positive blood culture for SAB. Only the first isolate per patient is counted, unless at least 14 days has passed without a positive blood culture, after which an additional episode is recorded.  SAB is considered to be healthcare-associated if the first positive blood culture is collected more than 48 hours after hospital admission or less than 48 hours after discharge, or if the first positive blood culture is collected 48 hours or less after admission and one or more of the following key clinical criteria was met for the patient episode of SAB:   * SAB is a complication of the presence of an indwelling medical device * SAB occurs within 30 days of a surgical procedure where the SAB is related to the surgical site * an invasive instrumentation or incision related to the SAB was performed within 48 hours * SAB is associated with neutropenia (<1x109/L) contributed to by cytotoxic therapy.   Cases where a known previous blood culture has been obtained within the last 14 days are excluded. Patient days for unqualified newborns are included. Patient days for hospital boarders and posthumous organ procurement are excluded.  A low or decreasing rate of selected healthcare-associated infections is desirable.  Data reported for this measure are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * complete (subject to caveats) for the current reporting period. All required 2014-15 data are available for all jurisdictions.   Data quality information for this measure is at www.pc.gov.au/rogs/2016.  Adverse events treated in hospitals  ‘Adverse events treated in hospitals’ are incidents in which harm resulted to a person during hospitalisation. They are measured by separations that had an adverse event, including infections, falls resulting in injuries and problems with medication and medical devices that occurred during a hospitalisation. Hospital separations data include information on diagnoses, external causes of injury and poisoning, and their places of occurrence that can indicate that an adverse event was treated and/or occurred during the hospitalisation. However, other diagnosis codes may also suggest that an adverse event has occurred, and some adverse events are not identifiable using these codes.  Low or decreasing adverse events treated in hospitals is desirable.  Data reported for this measure are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this measure is at www.pc.gov.au/rogs/2016.  (continued next page) |
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| Box 11.8 (continued) |
| Falls resulting in patient harm in hospitals  ‘Falls resulting in patient harm in hospitals’ is defined as the number of separations with an external cause code for fall and a place of occurrence of health service area, expressed as a rate per 1000 hospital separations.  It is not possible to determine if the place of occurrence was a public hospital, only that it was a health service area.  A low or decreasing rate of falls resulting in patient harm in hospitals is desirable.  Data reported for this measure are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this measure is at www.pc.gov.au/rogs/2016. |
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##### Selected healthcare-associated infections

Selected healthcare-associated infections in public hospitals per 10 000 patient days is reported in figure 11.11. The SAB patient episodes were associated with both admitted patient care and with non‑admitted patient care (including emergency departments and outpatient clinics). The comparability of the SAB rates across jurisdictions and over time is limited, because of coverage differences and because the count of patient days reflects the amount of admitted patient activity, but does not necessarily reflect the amount of non‑admitted patient activity.

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| Figure 11.11 Selected healthcare-associated infections, public hospitals**a** |
| |  | | --- | | Figure 11.11 Selected healthcare-associated infections, public hospitals  More details can be found within the text surrounding this image. | |
| a See box 11.8 and table 11A.50 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW 2015 *Staphylococcus aureus bacteraemia in Australian public hospitals 2014-15: Australian hospital statistics*. Health services series. Cat. no. HSE 171; table 11A.50. |
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##### Adverse events treated in hospitals

In 2013-14, 6.7 per cent of separations in public hospitals reported an ICD-10-AM code indicating an adverse event (table 11.9). A separation may be recorded against more than one category in table 11.9, as some adverse events are reported as diagnoses and others as external causes or places of occurrence (of the injury or poisoning).

These data can be interpreted as representing selected adverse events in health care that have resulted in, or have affected, hospital admissions, rather than all adverse events that occurred in hospitals. Some of the adverse events included in these tables may represent events that occurred before admission.

Some adverse events are not identifiable using the codes for an adverse event or a place of occurrence of hospital. Some other diagnosis codes may suggest that an adverse event has occurred when it has not.

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| Table 11.9 Separations with an adverse event, per 100 separations, public hospitals, 2013-14**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | External cause of injury and poisoning | | | | | | | | | | | Adverse effects of drugs, medicaments and biological substances | | | | | | | | | | |  | 2.6 | 2.2 | 2.4 | 2.6 | 2.8 | 2.9 | 2.6 | 1.1 | 2.5 | | Misadventures to patients during surgical and medical care | | | | | | | | | | |  | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.3 | 0.1 | 0.3 | | Procedures causing abnormal reactions/complications | | | | | | | | | | |  | 3.1 | 4.0 | 3.4 | 3.6 | 3.7 | 4.7 | 4.0 | 2.4 | 3.5 | | Other external causes of adverse events | | | | | | | | | | |  | 0.2 | 0.2 | 0.1 | 0.1 | 0.4 | 0.2 | 0.3 | 0.1 | 0.2 | | Place of occurrence of injury and poisoning | | | | | | | | | | | Place of occurrence: Health service area | | | | | | | | | | |  | 6.3 | 6.7 | 6.2 | 6.8 | 7.0 | 8.3 | 7.1 | 3.6 | 6.5 | | Diagnoses | | | | | | | | | | | Selected post-procedural disorders | | | | | | | | | | |  | 0.8 | 0.7 | 0.8 | 0.9 | 1.1 | 1.3 | 1.0 | 0.4 | 0.8 | | Haemorrhage and haematoma complicating a procedure | | | | | | | | | | |  | 0.5 | 0.5 | 0.4 | 0.6 | 0.5 | 0.6 | 0.5 | 0.3 | 0.5 | | Infection following a procedure | | | | | | | | | | |  | 0.5 | 0.3 | 0.5 | 0.4 | 0.4 | 0.5 | 0.4 | 0.3 | 0.4 | | Complications of internal prosthetic devices | | | | | | | | | | |  | 1.2 | 1.7 | 1.3 | 1.3 | 1.3 | 1.4 | 1.7 | 1.1 | 1.4 | | Other diagnoses of complications of medical and surgical care | | | | | | | | | | |  | 0.7 | 1.4 | 0.9 | 0.9 | 0.9 | 1.2 | 1.0 | 0.7 | 1.0 | | Total (any of the above) | | | | | | | | | | |  | 6.4 | 7.0 | 6.4 | 7.0 | 7.3 | 8.4 | 7.3 | 3.7 | 6.7 | |
| a See box 11.8 and table 11A.51 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished), National Hospital Morbidity Database; table 11A.51. |
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##### Falls resulting in patient harm in hospitals

Falls resulting in patient harm recorded in public hospital separations where the place of occurrence was a health service area varied across states and territories in 2013-14, with a national rate of 4.2 falls per 1000 separations (figure 11.12). Data are reported by Indigenous status and remoteness in table 11A.52.

Falls resulting in patient harm occurring in hospitals could be underestimated as the place of occurrence was not reported (or unspecified) for about 26 per cent of separations with an external cause of injury of falls (AIHW 2014).

Falls could also be overestimated, as it is not currently possible to identify falls specifically occurring in hospitals. Currently, the data identify falls occurring in any health service setting, including day surgery centres or hospices. However, to minimise the inclusion of falls that occurred before admission, separations with an injury or poisoning principal diagnosis are excluded.

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| Figure 11.12 Separations for falls resulting in patient harm in public hospitals, 2013-14**a** |
| |  | | --- | | Figure 11.12 Separations for falls resulting in patient harm in public hospitals, 2013-14  More details can be found within the text surrounding this image. | |
| a See box 11.8 and table 11A.52 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (2015), *Admitted patient care 2013-14: Australian hospital statistics*. Health services series no. 60. Cat. no. HSE 156; table 11A.52. |
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#### Quality — Responsiveness

The Steering Committee has identified the responsiveness of public hospitals as an area for development in future Reports.

#### Quality — Continuity — continuity of care

‘Continuity of care’ is an indicator of governments’ objective to provide public hospital services that are of high quality (box 11.9).

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| Box 11.9 Continuity of care |
| ‘Continuity of care’ measures the provision of uninterrupted, timely, coordinated healthcare, interventions and actions across programs, practitioners and organisations.  Continuity of care has been identified as a key area for development in future Reports. |
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### Efficiency

#### Sustainability — Workforce sustainability

‘Workforce sustainability’ is an indicator of governments’ objective to provide sustainable public hospital services (box 11.10). Labour, particularly nurses and medical practitioners, is the most significant and costly resource used in providing public hospital services (AIHW 2015d), and the sustainability of the workforce helps determine whether problems might arise in the future delivery of public hospital services.

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| Box 11.10 Workforce sustainability |
| ‘Workforce sustainability’ reports age profiles for nurse and medical practitioner workforces. It shows the proportions of registered nurses and medical practitioners in ten year age brackets, by jurisdiction and by region.  High or increasing proportions of the workforce that are new entrants and/or low or decreasing proportions of the workforce that are close to retirement is desirable.  All nurses (including midwives) and medical practitioners in the workforce are included in these measures, as crude indicators of the potential respective workforces for public hospitals.  These measures are not a substitute for a full workforce analysis that allows for migration, trends in full-time work and expected demand increases. They can, however, indicate that further attention should be given to workforce sustainability for public hospitals.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2014 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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The sustainability of the public hospital workforce is affected by a number of factors; in particular, whether the numbers of new entrants are sufficient to maintain the existing workforce, and the proportion of the workforce that is close to retirement.

The age profile of the nursing workforce (which includes midwives) and the medical workforce for 2014 for each jurisdiction is shown in figures 11.13 and 11.14 respectively. Nationally, 11.1 per cent of the nursing workforce and 17.2 per cent of the medical practitioner workforce were aged 60 years and over. Data disaggregated by remoteness area are available in tables 11A.53 (nursing) and 11A.55 (medical practitioner).

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| Figure 11.13 Nursing workforce, by age group, 2014**a** |
| |  | | --- | | Figure 11.13 Nursing workforce, by age group, 2014  More details can be found within the text surrounding this image. | |
| a See box 11.10 and table 11A.54 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished) National Health Workforce Data Set; table 11A.54. |
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| Figure 11.14 Medical practitioner workforce, by age group, 2014**a** |
| |  | | --- | | Figure 11.14 Medical practitioner workforce, by age group, 2014  More details can be found within the text surrounding this image. | |
| a See box 11.10 and table 11A.56 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished) National Health Workforce Data Set; table 11A.56. |
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#### Efficiency

Two approaches to measuring the efficiency of public hospital services are included in this Report: the ‘cost per casemix-adjusted unit of output’ (the unit cost) and the ‘casemix-adjusted relative length of stay index’. Length of stay is correlated with costs at aggregate levels of reporting.

The Steering Committee’s approach is to report the full costs of a service where they are available. Where the full costs of a service cannot be accurately measured, the Steering Committee seeks to report estimated costs that are comparable. Where differences in comparability remain, the differences are documented. The Steering Committee has identified financial reporting issues that have affected the accuracy and comparability of unit costs for acute care services. These include the treatment of payroll tax, superannuation, depreciation and the user cost of capital associated with buildings and equipment. A number of issues remain to improve further the quality of these estimates.

Costs associated with non-current physical assets (such as depreciation and the user cost of capital) are potentially important components of the total costs of many services delivered by government agencies. Differences in the techniques for measuring non-current physical assets (such as valuation methods) can reduce the comparability of cost estimates across jurisdictions.

The results from a Steering Committee study examining different assessment measurement techniques (SCRCSSP 2001) found that for public hospitals the different methods could lead to quite large variations in reported capital costs. However, considered in the context of total unit costs, the differences created by these asset measurement effects were relatively small, because capital costs represent a small proportion of total cost (although the differences can affect cost rankings across jurisdictions). A key message from the study was that the adoption of nationally uniform accounting standards across all service areas would be a desirable outcome.

Care needs to be taken, therefore, in comparing unit costs across jurisdictions. Differences in counting rules, the treatment of various expenditure items (for example, superannuation) and the allocation of overhead costs have the potential to affect such comparisons. In addition, differences in the use of salary packaging can allow hospitals to lower their wage bills (and thus State or Territory government expenditure) while maintaining the after-tax income of their staff. No data were available for reporting on the effect of salary packaging and any variation in its use across jurisdictions.

#### Cost per casemix-adjusted separation

‘Cost per casemix-adjusted separation’ is an indicator of governments’ objective to deliver services in a cost effective manner (box 11.11).

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| Box 11.11 Cost per casemix-adjusted separation |
| ‘Cost per casemix-adjusted separation’ is defined by the following two measures:   * Recurrent cost per casemix-adjusted separation * Total cost per casemix-adjusted separation.   A low or decreasing recurrent or total cost per casemix-adjusted separation can reflect more efficient service delivery in public hospitals. However, this indicator needs to be viewed in the context of the set of performance indicators as a whole, as decreasing cost could also be associated with decreasing quality and effectiveness.  Recurrent cost per casemix-adjusted separation  ‘Recurrent cost per casemix-adjusted separation’ is the average cost of providing care for an admitted patient (overnight stay or same day) adjusted with AR-DRG cost weights for the relative complexity of the patient’s clinical condition and of the hospital services provided.  Data reported for this measure are:   * comparable (subject to caveats) across jurisdictions but not over time. Data prior to 2013-14 are not comparable with data after this time * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this measure is under development.  Total cost per casemix-adjusted separation  ‘Total cost per casemix adjusted separation’ is calculated as capital, labour and material costs adjusted by the inpatient fraction, divided by the number of casemix-adjusted separations.  Capital costs include depreciation and the user cost of capital for buildings and equipment. This measure allows the full cost of hospital services to be considered. 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 services or to retire debt. Interest payments represent a user cost of capital, so are deducted from capital costs to avoid double counting.  Results for this measure are not available this year.  Data quality information for this indicator is under development. |
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##### Recurrent cost per casemix-adjusted separation

‘Recurrent cost per casemix-adjusted separation’ data are presented in figure 11.15.

##### Total cost per casemix-adjusted separation

Results for this measure are not available this year. Capital costs are reported in table 11A.58 for 2013-14.

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| Figure 11.15 Recurrent cost per casemix-adjusted separation,  2013-14**a** |
| |  | | --- | | Figure 11.15 Recurrent cost per casemix-adjusted separation,  2013-14   More details can be found within the text surrounding this image. | |
| a See box 11.11 and table 11A.57 for detailed definitions, footnotes and caveats. |
| *Source*: IHPA (unpublished) National Hospital Cost Data Collection; table 11A.57. |
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#### Relative stay index

‘Relative stay index’ is an indicator of governments’ objective to deliver services efficiently (box 11.12). Data for this indicator are reported in figure 11.16.

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| Box 11.12 Relative stay index |
| ‘Relative stay index’ is defined as the actual number of acute care patient days divided by the expected number of acute care patient days, adjusted for casemix. Casemix adjustment allows comparisons to take account of variation in types of service provided but not other influences on length of stay, such as the Indigenous status of the patient. Acute care separations only are included. Section 11.8 contains a more detailed definition outlining exclusions from the index.  The relative stay index for Australia for all hospitals (public and private) is one. A relative stay index greater than one indicates that average length of patient stay is higher than expected given the jurisdiction’s casemix distribution. A relative stay index of less than one indicates that the number of bed days used was less than expected.  A low or decreasing relative stay index is desirable if it is not associated with poorer health outcomes or significant extra costs outside the hospital systems (for example, in home care).  States and territories vary in their thresholds for classifying patients as either same day admitted patients or outpatients. These variations affect the relative stay index.  Data reported for this measure are:   * comparable (subject to caveats) across jurisdictions but not over time * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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The relative stay index is reported by funding source and by medical, surgical and other AR-DRGs in tables 11A.59-60.

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| Figure 11.16 Relative stay index, public hospitals, 2013-14**a** |
| |  | | --- | | Figure 11.16 Relative stay index, public hospitals, 2013-14  More details can be found within the text surrounding this image. | |
| a See box 11.12 and table 11A.59 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (2015), *Admitted patient care 2013-14: Australian hospital statistics*. Health services series no. 60. Cat. no. HSE 156; table 11A.59. |
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#### Recurrent cost per non-admitted occasion of service

‘Recurrent cost per non-admitted occasion of service’ is an indicator of governments’ objective to deliver services in a cost effective manner (box 11.13).

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| Box 11.13 Recurrent cost per non-admitted occasion of service |
| ‘Recurrent cost per non-admitted occasion of service’ is defined as the proportion of recurrent expenditure allocated to patients who were not admitted, divided by the total number of non‑admitted patient occasions of service in public hospitals. Occasions of service include examinations, consultations, treatments or other services provided to patients in each functional unit of a hospital. Non-admitted occasions of service (including emergency department presentations and outpatient services) account for a significant proportion of hospital expenditure.  A low or decreasing recurrent cost per non-admitted occasion of service can reflect more efficient service delivery in public hospitals. However, this indicator should be viewed in the context of the set of performance indicators as a whole, as decreasing cost could also be associated with decreasing quality and effectiveness. This indicator does not adjust for the complexity of service — for example, a simple urine glucose test is treated equally with a complete biochemical analysis of all body fluids (AIHW 2000).  Data reported for this indicator are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * incomplete for the current reporting period. All required data were not available for Victoria, Queensland and the NT.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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These data are not comparable across jurisdictions. Reporting categories vary across jurisdictions, and further inconsistencies arise as a result of differences in outsourcing practices. In some cases, for example, outsourced occasions of service can be included in expenditure on non-admitted services, but not in the count of occasions of service. Jurisdictions able to supply 2013-14 data for this indicator were NSW, WA, SA, Tasmania and the ACT, with data available in tables 11A.61–65.

Given the lack of a nationally consistent non-admitted patient classification system, this Report includes national data from the Independent Hospital Pricing Authority’s National Hospital Cost Data Collection (NHCDC). The NHCDC collects data across a sample of hospitals that is expanding over time. The sample for each jurisdiction is not necessarily representative, because hospitals contribute data on a voluntary basis. The NHCDC data are affected by differences in costing and admission practices across jurisdictions and hospitals. Therefore, an estimation process has been carried out to create representative national activity figures from the sample data. In addition, the purpose of the NHCDC is to calculate between-DRG cost weights, not to compare the efficiency of hospitals.

The emergency department cost per presentation in 2013-14 was $584 nationally (table 11A.66). Wages and salaries accounted for around two thirds of this average cost nationally (table 11A.66). Emergency department costs per presentation by urgency related grouping are reported in table 11A.67 for the period 2011-12 to 2013‑14 on a national basis. Non-admitted service events had an average cost of $282 in 2013-14 nationally (table 11A.68).

### Outcomes

#### Outcomes are the impact of services on the status of an individual or group (see chapter 1, section 1.5).

#### Patient satisfaction

‘Patient satisfaction’ provides a proxy measure of governments’ objective to deliver services that are high quality and responsive to individual patient needs (box 11.14).

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| Box 11.14 Patient satisfaction |
| ‘Patient satisfaction’ is defined by the following six measures for the purposes of this report:   * Proportion of people who went to an emergency department in the last 12 months reporting that the emergency department doctors, specialists or nurses ‘always’ or ‘often’ listened carefully to them * Proportion of people who went to an emergency department in the last 12 months reporting that the emergency department doctors, specialists or nurses ‘always’ or ‘often’ showed respect to them * Proportion of people who went to an emergency department in the last 12 months reporting that the emergency department doctors, specialists or nurses ‘always’ or ‘often’ spent enough time with them * Proportion of people who were admitted to hospital in the last 12 months reporting that the hospital doctors, specialists or nurses ‘always’ or ‘often’ listened carefully to them * Proportion of people who were admitted to hospital in the last 12 months reporting that the hospital doctors, specialists or nurses ‘always’ or ‘often’ showed respect to them * Proportion of people who were admitted to hospital in the last 12 months reporting that the hospital doctors, specialists or nurses ‘always’ or ‘often’ spent enough time with them.   A high or increasing proportion of patients who were satisfied is desirable, because it suggests the hospital care received was of high quality and better met the expectations and needs of patients.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time. * complete (subject to caveats) for the current reporting period. All required 2014-15 data are available for all jurisdictions.   The Patient Experience Survey does not include people living in discrete Indigenous communities and very remote areas, which affects the comparability of the NT results.  Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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Patient satisfaction surveys are different from other sources of hospital quality data, because they provide information on hospital quality from the patient’s perspective. Surveys can be useful for obtaining information on patient views of both clinical and non clinical hospital care (such as whether patients feel they were treated with respect and provided with appropriate information regarding their treatment).

Patient satisfaction data for emergency department and admitted hospital patients are reported in table 11.10. Relative standard errors and confidence intervals are reported in attachment tables 11A.69–76. These tables also report patient satisfaction by remoteness.

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| Table 11.10 Patient satisfaction, hospitals, 2014-15**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | Aust | | Emergency department patients | | | | | | | | | | | Proportion of people who went to an emergency department in the last 12 months reporting the emergency department doctors, specialists or nurses always or often listened carefully to them | | | | | | | | | | | Doctors or specialists | 86.9 | 83.7 | 83.9 | 88.8 | 84.4 | 87.4 | 86.8 | 85.5 | 85.2 | | Nurses | 90.5 | 91.2 | 88.6 | 92.6 | 88.2 | 91.2 | 91.8 | 91.2 | 90.4 | | Proportion of people who went to an emergency department in the last 12 months reporting the emergency department doctors, specialists or nurses always or often showed respect to them | | | | | | | | | | | Doctors or specialists | 90.1 | 86.1 | 86.6 | 89.5 | 86.4 | 88.1 | 89.3 | 88.2 | 87.7 | | Nurses | 90.8 | 90.3 | 88.7 | 92.7 | 88.6 | 93.7 | 94.8 | 91.2 | 90.7 | | Proportion of people who went to an emergency department in the last 12 months reporting the emergency department doctors, specialists or nurses always or often spent enough time with them | | | | | | | | | | | Doctors or specialists | 85.0 | 80.9 | 81.2 | 83.7 | 80.4 | 82.5 | 82.0 | 87.1 | 82.4 | | Nurses | 87.6 | 85.9 | 84.4 | 90.7 | 85.1 | 88.5 | 89.4 | 91.5 | 86.8 | | Admitted hospital patients | | | | | | | | | | | Proportion of people who were admitted to hospital in the last 12 months reporting the hospital doctors, specialists or nurses always or often listened carefully to them | | | | | | | | | | | Doctors or specialists | 92.0 | 88.8 | 88.8 | 88.9 | 89.1 | 88.8 | 88.1 | 94.3 | 89.9 | | Nurses | 92.9 | 89.6 | 90.0 | 90.7 | 89.9 | 91.8 | 91.6 | 94.7 | 90.8 | | Proportion of people who were admitted to hospital in the last 12 months reporting the hospital doctors, specialists or nurses always or often showed respect to them | | | | | | | | | | | Doctors or specialists | 92.5 | 90.7 | 90.2 | 90.5 | 91.1 | 90.1 | 88.5 | 90.5 | 91.0 | | Nurses | 93.7 | 91.1 | 90.3 | 90.7 | 90.3 | 92.7 | 90.1 | 94.7 | 91.9 | | Proportion of people who were admitted to hospital in the last 12 months reporting the hospital doctors, specialists or nurses always or often spent enough time with them | | | | | | | | | | | Doctors or specialists | 89.6 | 84.9 | 86.4 | 87.0 | 88.2 | 84.5 | 83.3 | 90.2 | 87.2 | | Nurses | 90.0 | 88.6 | 87.7 | 85.9 | 86.4 | 90.3 | 88.4 | 93.1 | 88.6 | |
| a See box 11.14 and tables 11A.69–76 for detailed definitions, footnotes and caveats. |
| *Source*: ABS (unpublished) *Patient Experience Survey 2014-15*; tables 11A.69–76. |
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#### Sentinel events

‘Sentinel events’ is an indicator of governments’ objective to deliver public hospital services that are safe and of high quality (box 11.15). Sentinel events can indicate hospital system and process deficiencies that compromise quality and safety. Sentinel events are a subset of adverse events that result in death or very serious harm to the patient. Adverse events are reported elsewhere in this chapter as an output indicator.

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| Box 11.15 Sentinel events |
| ‘Sentinel events’ is defined as the number of reported adverse events that occur because of hospital system and process deficiencies, and which result in the death of, or serious harm to, a patient. Sentinel events occur relatively infrequently and are independent of a patient’s condition. Sentinel events have the potential to seriously undermine public confidence in the healthcare system.  Australian health ministers have agreed on a national core set of sentinel events for which all public hospitals are required to provide data. The eight nationally agreed core sentinel events are:   1. Procedures involving the wrong patient or body part resulting in death or major permanent loss of function. 2. Suicide of a patient in an inpatient unit. 3. Retained instruments or other material after surgery requiring re-operation or further surgical procedure. 4. Intravascular gas embolism resulting in death or neurological damage. 5. Haemolytic blood transfusion reaction resulting from ABO (blood group) incompatibility. 6. Medication error leading to the death of a patient reasonably believed to be due to incorrect administration of drugs. 7. Maternal death associated with pregnancy, birth or the puerperium. 8. Infant discharged to the wrong family.   A low or decreasing number of sentinel events is desirable.  Over time, an increase in the number of sentinel events reported might reflect improvements in incident reporting mechanisms and organisational cultural change, rather than an increase in the frequency of such events. However, trends need to be monitored to establish whether this is the underlying reason.  Data reported for this indicator are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is under development. |
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Sentinel event programs have been implemented by all State and Territory governments. The purpose of these programs is to facilitate a safe environment for patients by reducing the frequency of these events. The programs are not punitive, and are designed to facilitate self-reporting of errors so that the underlying causes of the events can be examined, and action taken to reduce the risk of these events re-occurring.

Numbers of sentinel events for 2013-14 are reported below. As larger states and territories will tend to have more sentinel events than smaller jurisdictions, the numbers of separations and individual occasions of service are also presented to provide context.

In 2013-14:

* In NSW public hospitals there was a total of 53 sentinel events (table 11A.77) compared to around 1.8 million separations (table 11A.6) and around 25.3 million individual occasions of service (table 11A.13).
* In Victorian public hospitals there was a total of 20 sentinel events (table 11A.78) compared to around 1.5 million separations (table 11A.6). Victoria did not report any individual occasions of service (table 11A.13).
* In Queensland public hospitals there was a total of 12 sentinel events (table 11A.79) compared to around 1.1 million separations (table 11A.6) and around 10.4 million individual occasions of service (table 11A.13).
* In WA public hospitals there was a total of 9 sentinel events (table 11A.80) compared to around 596 000 separations (table 11A.6) and around 5.9 million individual occasions of service (table 11A.13).
* In SA public hospitals there was a total of 6 sentinel events (table 11A.81) compared to around 416 000 separations (table 11A.6) and around 2.0 million individual occasions of service (table 11A.13).
* In Tasmanian public hospitals there were no reported sentinel events (table 11A.82) compared to around 114 000 separations (table 11A.6) and around 560 000 individual occasions of service (table 11A.13).
* In ACT public hospitals there were no reported sentinel events (table 11A.83). There were around 97 000 separations (table 11A.6) and around 1.7 million individual occasions of service (table 11A.13).
* In NT public hospitals in 2013-14, there was a total of 2 sentinel events (table 11A.84) compared to around 124 000 separations (table 11A.6) and around 603 000 individual occasions of service (table 11A.13).

Data for 2009-10 to 2013-14 are reported in tables 11A.77–84, along with disaggregation by the type of sentinel event. Australian totals are reported in table 11A.85.

#### Mortality in hospitals

‘Mortality in hospitals’ is an indicator of governments’ objective to deliver public hospital services that are safe and of high quality (box 11.16).

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| Box 11.16 Mortality in hospitals |
| ‘Mortality in hospitals’ is defined by the following three measures:   * Hospital standardised mortality ratio * Death in low-mortality diagnostic related groups * In-hospital mortality rates.   Mortality in hospitals has been identified as a key area for development in future Reports. |
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## 11.4 Profile of maternity services

Maternity services (defined as AR-DRGs relating to pregnancy, childbirth and the puerperium, and newborns and other neonates) accounted for 8.3 per cent of total acute separations in public hospitals (table 11A.87) and around 10.6 per cent of the total cost of all acute separations in public hospitals in 2013-14 (table 11A.86). Figure 11.17 shows the rate of acute separations per 1000 people for maternity services in 2013-14.

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| Figure 11.17 Separation rates for maternity services, public hospitals, 2013-14**a** |
| |  | | --- | | Figure 11.17 Separation rates for maternity services, public hospitals, 2013-14  More details can be found within the text surrounding this image. | |
| a See table 11A.87 for detailed footnotes and caveats. |
| *Source*: AIHW (unpublished), National Hospital Morbidity Database; ABS (unpublished), Australian Demographic Statistics, December Quarter 2013, Cat. no. 3101.0; tables 2A.2 and 11A.87. |
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In Australian public hospitals in 2013-14, 41.1 per cent of the separations for pregnancy, childbirth and the puerperium had a DRG of vaginal delivery (tables 11A.87 and 11A.88). The cost of vaginal deliveries was $780.5 million in 2013-14 (table 11A.88).

The complexity of maternity services is partly related to the mother’s age at the time of giving birth. The mean age of mothers giving birth varied across jurisdictions (table 11.11).

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| Table 11.11 Mean age of mothers at time of giving birth, public hospitals**a** |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | | 2010 |  |  |  |  |  |  |  |  | | First birth | 27.6 | 28.4 | 25.6 | 26.3 | 27.1 | 25.3 | 28.0 | 24.6 | | Second birth | 29.8 | 30.8 | 28.2 | 28.8 | 29.6 | 26.4 | 30.4 | 27.1 | | Third birth | 31.1 | 32.1 | 29.8 | 30.3 | 31.3 | 28.9 | 31.9 | 28.9 | | All births | 29.4 | 30.2 | 28.0 | 28.4 | 29.2 | 28.0 | 29.9 | 27.0 | | 2011 |  |  |  |  |  |  |  |  | | First birth | 27.7 | 28.4 | 25.9 | 26.5 | 27.3 | 25.9 | 28.4 | 24.7 | | Second birth | 29.9 | 30.7 | 28.2 | 28.8 | 29.8 | 28.5 | 30.6 | 27.2 | | Third birth | 31.1 | 32.2 | 30.1 | 30.4 | 31.3 | 29.8 | 32.2 | 28.7 | | All births | 29.4 | 30.2 | 28.1 | 28.5 | 29.3 | 28.1 | 30.0 | 27.1 | | 2012 |  |  |  |  |  |  |  |  | | First birth | 27.7 | 28.6 | 26.0 | 26.6 | 27.3 | 25.9 | 28.3 | 24.8 | | Second birth | 29.9 | 30.9 | 28.4 | 28.9 | 29.8 | 28.4 | 30.7 | 27.4 | | Third birth | 31.3 | 32.2 | 29.9 | 30.3 | 31.3 | 30.3 | 31.8 | 28.8 | | All births | 29.5 | 30.3 | 28.2 | 28.5 | 29.3 | 28.2 | 29.9 | 27.2 | | 2013 |  |  |  |  |  |  |  |  | | First birth | 28.0 | 28.8 | 26.1 | 26.9 | 27.6 | 26.1 | 28.7 | 25.2 | | Second birth | 30.0 | 30.9 | 28.4 | 29.1 | 30.0 | 28.6 | 30.9 | 27.9 | | Third birth | 31.2 | 32.2 | 29.9 | 30.4 | 31.2 | 29.9 | 32.4 | 29.7 | | All births | 29.6 | 30.4 | 28.2 | 28.7 | 29.4 | 28.2 | 30.3 | 27.6 | | 2014 |  |  |  |  |  |  |  |  | | First birth | 28.2 | 28.9 | 26.4 | 27.2 | 27.8 | 26.4 | 28.7 | 25.5 | | Second birth | 30.1 | 31.0 | 28.6 | 29.3 | 30.0 | 28.4 | 31.0 | 28.2 | | Third birth | 31.3 | 32.1 | 29.9 | 30.5 | 31.5 | 30.2 | 32.3 | 29.7 | | All births | 29.7 | 30.5 | 28.4 | 28.9 | 29.7 | 28.3 | 30.4 | 27.9 | |
| a See table 11A.89 for detailed footnotes and caveats. |
| *Source*: State and Territory governments (unpublished); table 11A.89. |
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## 11.5 Framework of performance indicators for maternity services

The performance indicator framework provides information on equity, efficiency and effectiveness, and distinguishes the outputs and outcomes of maternity services (figure 11.18). The performance indicator framework shows which data are complete and comparable in the 2016 Report. For data that are not considered directly comparable, text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability and data completeness from a Report-wide perspective (section 1.6). The Health sector overview explains the performance indicator framework for health services as a whole, including the subdimensions of quality and sustainability that have been added to the standard Review framework.

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| Figure 11.18 Maternity services performance indicator framework |
| |  | | --- | | Figure 11.18 Maternity services performance indicator framework  More details can be found within the text surrounding this image. | |
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In addition to section 11.1 and 11.4, the Report’s Statistical context chapter contains data that may assist in interpreting the performance indicators presented in this chapter. These data cover a range of demographic and geographic characteristics (chapter 2).

## 11.6 Key performance indicator results for maternity services

Different delivery contexts, locations and types of client can affect the equity, effectiveness and efficiency of health services.

Data Quality Information (DQI) is included where available for performance indicators in this Report. The purpose of DQI is to provide structured and consistent information about quality aspects of data used to report on performance indicators, in addition to material in the chapter or sector overview and attachment tables. All DQI for the 2016 Report can be found at www.pc.gov.au/rogs/2016.

### Outputs

### Outputs are the services delivered (while outcomes are the impact of these services on the status of an individual or group) (see chapter 1, section 1.5). Output information is also critical for equitable, efficient and effective management of government services.

### Equity

The Steering Committee has identified equity of access as an area for development in future Reports. Equity of access indicators will measure access to maternity services by special needs groups such as Aboriginal and Torres Strait Islander Australians or people in rural and remote areas.

### Effectiveness

#### Access

The Steering Committee has identified the effectiveness of access to maternity services as an area for development in future Reports. Effectiveness of access indicators will measure access to appropriate services for the population as a whole, particularly in terms of affordability and/or timeliness.

#### Appropriateness — Caesareans and inductions for selected primiparae

‘Caesareans for selected primiparae’ and ‘Inductions for selected primiparae’ are indicators of the appropriateness of maternity services in public hospitals (box 11.17).

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| Box 11.17 Caesareans and inductions for selected primiparae**a** |
| ‘Caesareans and inductions for selected primiparae’ are defined as the number of inductions or caesareans for the selected primiparaea divided respectively by the number of the selected primiparae who gave birth.  The indicator is calculated for women aged between 20 and 34 years who have had no previous deliveries, with a singleton baby with a vertex presentation (that is, the crown of the baby’s head is at the lower segment of the mother’s uterus) and a gestation length of 37 to 41 weeks. This group is considered to be low risk parturientsb so caesarean or induction rates should be low in their population.  High intervention rates can indicate a need for investigation, although labour inductions and birth by caesarean section are interventions that are appropriate in some circumstances, depending on the health and wellbeing of mothers and babies.  Data reported for this indicator are:   * comparable (subject to caveats) within jurisdictions and over time but are not comparable across jurisdictions and are not comparable with data in previous report editions * complete (subject to caveats) for the current reporting period. All required 2014 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016.  a Primiparae refers to a woman who has given birth to a liveborn or stillborn infant for the first time. b Parturient means ‘about to give birth’. |
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Caesarean rates for selected primiparae in public hospitals are reported in figure 11.19. Induction rates for selected primiparae in public hospitals are reported in figure 11.20. Caesarean and induction rates for private hospitals are shown in table 11A.90 for comparison. Data for all jurisdictions for earlier years are included in tables 11A.91–98.

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| Figure 11.19 Caesareans for selected primiparae, public hospitals**a** |
| |  | | --- | | Figure 11.19 Caesareans for selected primiparae, public hospitals  More details can be found within the text surrounding this image. | |
| a See box 11.17 and tables 11A.91–98 for detailed definitions, footnotes and caveats. |
| *Source*: State and Territory governments (unpublished); tables 11A.91–98. |
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| Figure 11.20 Inductions for selected primiparae, public hospitals**a** |
| |  | | --- | | Figure 11.20 Inductions for selected primiparae, public hospitals  More details can be found within the text surrounding this image. | |
| a See box 11.17 and tables 11A.91–98 for detailed definitions, footnotes and caveats. |
| *Source*: State and Territory governments (unpublished); tables 11A.91–98. |
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#### Instrumental vaginal births

‘Instrumental vaginal births’ is an indicator of the appropriateness of maternity services (box 11.18).

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| Box 11.18 Instrumental vaginal births |
| ‘Instrumental vaginal births’ is defined as the number of selected primiparasa who had an instrumental vaginal birth as a percentage of all selected primiparas that gave birth. Instrumental vaginal births includes the use of forceps and vacuum extraction.  The indicator is calculated for women aged between 20 and 34 years who have had no previous deliveries, with a singleton baby with a vertex presentation (that is, the crown of the baby’s head is at the lower segment of the mother’s uterus) and a gestation length of 37 to 41 weeks.  While low or decreasing instrumental vaginal births can be desirable, a high rate does not necessarily indicate inappropriate care. Reasons for instrumental vaginal births often include:   * the first baby/birth of the mother * the baby was becoming distressed during birth * the baby was not moving down through the birth canal * there was a medical reason why the mother should or could not push.   In these cases, the use of instruments is often necessary and appropriate and can often have a better outcome for mother and baby than a caesarean section. A low or decreasing rate of instrumental vaginal births could be undesirable in situations such as this if there is a corresponding increase in the rate of caesarean sections.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016.  a Primiparas refers to women who have given birth to a liveborn or stillborn infant for the first time. |
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In 2013 across Australia, 47.1 per cent of women giving birth for the first time gave birth without the assistance of instruments, while 25.3 per cent gave birth with the use of instruments and 27.5 per cent had a caesarean section. There was significant variation across states and territories (figure 11.21).

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| Figure 11.21 Method of birth for selected women giving birth for the first time, 2013**a** |
| |  | | --- | | Figure 11.21 Method of birth for selected women giving birth for the first time, 2013  More details can be found within the text surrounding this image. | |
| a See box 11.18 and table 11A.99 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (unpublished) National Perinatal Data Collection; table 11A.99. |
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#### Vaginal birth after caesarean section

‘Vaginal birth after caesarean section’ is an indicator of the appropriateness of maternity services (box 11.19).

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| Box 11.19 Vaginal birth after caesarean section |
| ‘Vaginal birth after caesarean section’ is defined as the percentage of multiparousa mothers who have had a previous caesarean, whose current method of birth was either an instrumental or non-instrumental vaginal birth.  Interpretation of this indicator is ambiguous. There is ongoing debate about the relative risks of a repeat caesarean section or vaginal birth following a caesarean section. The decision should always be based on clinical assessment. Low rates of vaginal birth following a caesarean may warrant investigation, or on the other hand, they can indicate appropriate clinical caution. When interpreting this indicator, emphasis needs to be given to the potential for improvement.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013 data are available for all jurisdictions.   (continued next page) |
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| Box 11.19 (continued) |
| Data quality information for this indicator is at www.pc.gov.au/rogs/2016.  a Multiparous means a woman who has given birth from at least two pregnancies that each resulted in a live birth or stillbirth. |
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Nationally in 2013, 15.4 per cent of women had either an instrumental or non-instrumental vaginal delivery after a caesarean section, while 84.6 per cent had another caesarean section (figure 11.22 and table 11A.100).

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| Figure 11.22 Women who had a vaginal birth after a caesarean section**a** |
| |  | | --- | | Figure 11.22 Women who had a vaginal birth after a caesarean section  More details can be found within the text surrounding this image. | |
| a See box 11.19 and table 11A.100 for detailed definitions, footnotes and caveats. |
| *Source*: Li, Z., McNally, L., Hilder, L. and Sullivan, EA. (various years), *Australia’s mothers and babies*, Perinatal statistics series; table 11A.100. |
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#### Quality

The performance indicator framework for maternity services identifies three subdimensions of quality for health services: safety; responsiveness and continuity. For maternity services in this Report, data are reported against the subdimension of safety only. Other subdimensions of quality have been identified by the Steering Committee for future development.

#### Quality — Safety — perineal status after vaginal birth

‘Perineal status after vaginal birth’ is an indicator of governments’ objective to provide safe and high quality services (box 11.20). Perineal lacerations caused by childbirth are painful, take time to heal and can result in ongoing discomfort and debilitating conditions such as faecal incontinence.

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| Box 11.20 Perineal status after vaginal birth |
| ‘Perineal status after vaginal birth’ is defined as the state of the perineum following a vaginal birth. A third or fourth degree laceration is a perineal laceration or rupture (or tear following episiotomy) extending to, or beyond, the anal sphincter (see section 11.8 for definitions) (NCCH 2008). It is measured by the proportion of women giving birth with third or fourth degree lacerations to their perineum following vaginal birth.  A low or decreasing rate of women giving birth with third or fourth degree lacerations after vaginal birth is desirable. Maternity services staff aim to minimise lacerations, particularly more severe lacerations (third and fourth degree), through labour management practices. Severe lacerations (third and fourth degree laceration) of the perineum are not avoidable in all cases and so safe labour management is associated with a low (rather than zero) proportion of third or fourth degree lacerations.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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The proportion of mothers with third or fourth degree lacerations to their perineum following vaginal births is shown in figure 11.23. More information on perineal status after vaginal birth (including the proportion of mothers with intact perineum following vaginal births) is contained in table 11A.101.

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| Figure 11.23 Perineal status — mothers with third or fourth degree lacerations after vaginal births**a** |
| |  | | --- | | Figure 11.23 Perineal status — mothers with third or fourth degree lacerations after vaginal births  More details can be found within the text surrounding this image. | |
| a See box 11.20 and table 11A.101 for detailed definitions, footnotes and caveats. |
| *Source*: Li, Z., McNally, L., Hilder, L. and Sullivan, EA. (various years), *Australia’s mothers and babies*, Perinatal statistics series; table 11A.101. |
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### Efficiency

#### Sustainability

The Steering Committee has identified the sustainability of maternity services as an area for development in future Reports.

#### Recurrent cost per maternity separation

‘Recurrent cost per maternity separation’ is an indicator of governments’ objective to deliver cost effective services (box 11.21).

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| Box 11.21 Recurrent cost per maternity separation |
| ‘Recurrent cost per maternity separation’ is presented for the two AR-DRGs that account for the largest number of maternity patient days: caesarean delivery without catastrophic or severe complications and comorbidities; and vaginal delivery without catastrophic or severe complications and comorbidities.  Low or decreasing recurrent costs per maternity separation can reflect high or increasing efficiency in providing maternity services to admitted patients. However, this is only likely to be the case where the low cost maternity services are provided at equal or superior effectiveness.  Data reported for this indicator are:   * comparable (subject to caveats) within some jurisdictions over time but are not comparable across jurisdictions or over time for other jurisdictions (see caveats in attachment tables for specific jurisdictions) * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is under development. |
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Data are reported for the two most common maternity AR-DRGs: caesarean delivery without catastrophic or severe complications and comorbidities; and vaginal delivery without catastrophic or severe complications and comorbidities (figure 11.24).

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| Figure 11.24 Estimated average cost per separation for selected maternity related AR-DRGs, public hospitals, 2013-14**a** |
| |  | | --- | | Figure 11.24 Estimated average cost per separation for selected maternity related AR-DRGs, public hospitals, 2013-14  More details can be found within the text surrounding this image. | |
| a See box 11.21 and table 11A.102 for detailed definitions, footnotes and caveats. |
| *Source*: IHPA (unpublished), National Hospital Cost Data Collection; table 11A.102. |
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Average cost is affected by a number of factors including admission practices, sample size, remoteness and the types of hospital contributing to the collection. Caution must be used in making direct comparisons across jurisdictions, because of differences in hospital costing systems.

Data for a number of other maternity related AR-DRGs are shown in table 11A.102. Data are sourced from the NHCDC. The NHCDC is a voluntary annual collection, the purpose of which is to calculate DRG cost weights. The samples are not necessarily representative of the set of hospitals in each jurisdiction. An estimation process has been carried out to create representative national activity figures from the sample data.

#### Mother’s average length of stay

‘Mother’s average length of stay’ is an indicator of governments’ objective to deliver services efficiently (box 11.22).

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| Box 11.22 Mother’s average length of stay |
| ‘Mother’s average length of stay’ is defined as the total number of patient days for the selected maternity AR-DRG, divided by the number of separations for that AR-DRG.  Shorter stays for mothers reduce hospital costs but whether they represent genuine efficiency improvements depends on a number of factors. Shorter stays can, for example, have an adverse effect on the health of some mothers and result in additional costs for in-home care and potential readmissions. The indicator is not adjusted for multiple births born vaginally and without complications but requiring a longer stay to manage breastfeeding.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013-14 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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Data are reported for two selected maternity AR-DRGs: caesarean delivery without catastrophic or severe complications and comorbidities; and vaginal delivery single uncomplicated (figure 11.25). Nationally in 2013-14, the average length of stay in public hospitals was 3.5 days for caesarean delivery and 2.2 days for vaginal delivery. Data are available for private hospitals in table 11A.103.

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| Figure 11.25 Average length of stay for selected maternity-related  AR-DRGs, public hospitals, 2013-14**a** |
| |  | | --- | | Figure 11.25 Average length of stay for selected maternity-related AR-DRGs, public hospitals, 2013-14   More details can be found within the text surrounding this image. | |
| a See box 11.22 and table 11A.103 for detailed definitions, footnotes and caveats. |
| *Source*: AIHW (2015), *Admitted patient care 2013-14: Australian hospital statistics*. Health services series no. 60. Cat. no. HSE 156; table 11A.103. |
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### Outcomes

Outcomes are the impact of services on the status of an individual or group (see chapter 1, section 1.5).

#### Baby’s Apgar score

‘Baby’s Apgar score at five minutes’ is an indicator of governments’ objective to deliver maternity services that are safe and of high quality (box 11.23). The future health of babies with lower Apgar scores is often poorer than those with higher scores.

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| Box 11.23 Baby’s Apgar score at five minutes |
| Baby’s Apgar score at five minutes is defined as the number of live births with an Apgar score of less than 4, at 5 minutes post-delivery, as a proportion of the total number of live births by specified birthweight categories. The Apgar score is a numerical score that indicates a baby’s condition shortly after birth. Apgar scores are based on an assessment of the baby’s heart rate, breathing, colour, muscle tone and reflex irritability. Between 0 and 2 points are given for each of these five characteristics and the total score is between 0 and 10. The Apgar score is routinely assessed at 1 and 5 minutes after birth, and subsequently at 5 minute intervals if it is still low at 5 minutes.  A high or increasing Apgar score is desirable.  Low Apgar scores (defined as less than 4) are strongly associated with low birthweights. The management of labour in hospitals does not usually affect birthweights, but can affect the prevalence of low Apgar scores for babies with similar birthweights. Apgar scores can therefore indicate relative performance within birthweight categories, although factors other than hospital maternity services can influence Apgar scores within birthweight categories — for example, antenatal care, multiple births and socioeconomic factors.  Data reported for this indicator are:   * comparable (subject to caveats) within jurisdictions over time but are not comparable across jurisdictions * complete (subject to caveats) for the current reporting period. All required 2014 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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‘Low’ (less than 4) Apgar scores for babies by birthweight category are reported in table 11.12. The full range of Apgar scores for 2005 to 2014 are reported in table 11A.104.

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| Table 11.12 Live births with an Apgar score of less than 4, 5 minutes post delivery, public hospitals, 2014**a** |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Birthweight (grams) | Unit | NSW | Vic | Qld | WA | SA | Tas | ACT | NT | | Less than 1500 | no. | 877 | 716 | 565 | 308 | 199 | 64 | 68 | 51 | | Low Apgar | % | 14.5 | 18.2 | 18.2 | 5.8 | 9.0 | 18.8 | 13.2 | 25.5 | | 1500-1999 | no. | 963 | 823 | 698 | 319 | 253 | 69 | 95 | 52 | | Low Apgar | % | 0.8 | 0.7 | 1.4 | 0.3 | – | – | 2.1 | 1.7 | | 2000-2499 | no. | 3 101 | 2 270 | 1 914 | 950 | 714 | 183 | 246 | 208 | | Low Apgar | % | 0.4 | 0.3 | 0.6 | 0.5 | 0.3 | 0.5 | 0.4 | 0.5 | | 2500 and over | no. | 69 536 | 50 327 | 42 523 | 18 655 | 14 544 | 3 452 | 4 660 | 2 972 | | Low Apgar | % | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.5 | 0.3 | |
| a See box 11.23 and table 11A.104 for detailed definitions, footnotes and caveats. – Nil or rounded to zero. |
| *Source*: State and Territory governments (unpublished); table 11A.104. |
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#### Perinatal death rate

‘Perinatal death rate’ is an indicator of governments’ objective to deliver maternity services that are safe and of high quality (box 11.24).

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| Box 11.24 Perinatal death rate |
| ‘Perinatal death rate’ is defined by the following three measures:   * Fetal death (stillbirth) is the birth of a child who did not at any time after delivery breathe or show any other evidence of life, such as a heartbeat. Fetal deaths by definition include only infants weighing at least 400 grams or of a gestational age of at least 20 weeks. The fetal death rate is calculated as the number of fetal deaths divided by the total number of births (live births and fetal deaths combined). The rate of fetal deaths is expressed per 1000 total births, by State or Territory of usual residence of the mother. * Neonatal death is the death of a live born infant within 28 days of birth (see section 11.8 for a definition of a live birth). The neonatal death rate is calculated as the number of neonatal deaths divided by the number of live births registered. The rate of neonatal deaths is expressed per 1000 live births, by State or Territory of usual residence of the mother. * A perinatal death is a fetal or neonatal death. The perinatal death rate is calculated as the number of perinatal deaths divided by the total number of births (live births and fetal deaths combined). It is expressed per 1000 total births, by State or Territory of usual residence of the mother.   Low or decreasing death rates are desirable and can indicate high quality maternity services. The neonatal death rate tends to be higher among premature babies, so a lower neonatal death rate can also indicate a lower percentage of pre-term births.  Differences in the fetal death rate across jurisdictions are likely to be due to factors outside the control of admitted patient maternity services (such as the health of mothers and the progress of pregnancy before hospital admission). To the extent that the health system influences fetal death rates, the health services that can have an influence include outpatient services, general practice services and maternity services. In jurisdictions where the number of fetal deaths is low, small annual fluctuations in the number affect the annual rate of fetal deaths.  As for fetal deaths, a range of factors contribute to neonatal deaths. However, the influence of maternity services for admitted patients is greater for neonatal deaths than for fetal deaths, through the management of labour and the care of sick and premature babies.  Data reported for this indicator are:   * comparable (subject to caveats) across jurisdictions and over time * complete (subject to caveats) for the current reporting period. All required 2013 data are available for all jurisdictions.   Data quality information for this indicator is at www.pc.gov.au/rogs/2016. |
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##### Fetal death rate

Fetal death rates are reported in figure 11.26. Nationally, fetal death rates have been steady over the period 2009–2013. National time series for fetal death rates for the period 2004 to 2013 are included in table 11A.107. Fetal deaths data by the Indigenous status of the mother are available in table 11A.109 for NSW, Queensland, WA, SA and the NT only. These five states and territories are considered to have adequate levels of identification of Aboriginal and Torres Strait Islander people in mortality data.

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| Figure 11.26 Fetal death rate**a** |
| |  | | --- | | Figure 11.26 Fetal death rate  More details can be found within the text surrounding this image. | |
| a See box 11.24 and table 11A.105 for detailed definitions, footnotes and caveats. |
| *Source*: ABS (unpublished) Perinatal deaths,Australia, Cat. no. 3304.0; table 11A.105. |
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##### Neonatal death rate

Neonatal death rates are reported in figure 11.27. Nationally, neonatal death rates have declined over the period 2009–2013. National time series for neonatal death rates for the period 2004 to 2013 are included in table 11A.107. Neonatal deaths data by the Indigenous status of the mother are available in table 11A.109 for NSW, Queensland, WA, SA and the NT only. These five states and territories are considered to have adequate levels of identification of Aboriginal and Torres Strait Islander people in mortality data.

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| Figure 11.27 Neonatal death rate**a** |
| |  | | --- | | Figure 11.27 Neonatal death rate  More details can be found within the text surrounding this image. | |
| a See box 11.24 and table 11A.106 for detailed definitions, footnotes and caveats. |
| *Source*: ABS (unpublished) Perinatal deaths, Australia, Cat. no. 3304.0; table 11A.106. |
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##### Perinatal death rate

Perinatal death rates are shown in figure 11.28. Nationally, perinatal death rates have been steady over the period 2009–2013. National time series for perinatal death rates for the period 2004 to 2013 are included in table 11A.107. Perinatal deaths data by the Indigenous status of the mother are available in table 11A.109 for NSW, Queensland, WA, SA and the NT only. These five states and territories are considered to have adequate levels of identification of Aboriginal and Torres Strait Islander people in mortality data.

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| Figure 11.28 Perinatal death rate**a** |
| |  | | --- | | Figure 11.28 Perinatal death rate  More details can be found within the text surrounding this image. | |
| a See box 11.24 and table 11A.108 for detailed definitions, footnotes and caveats. |
| *Source*: ABS (unpublished) Perinatal deaths,Australia, Cat. no. 3304.0; table 11A.108. |
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## 11.7 Future directions in performance reporting

Priorities for future reporting on public hospitals and maternity services include the following:

* Improving the comprehensiveness of reporting by filling in gaps in the performance indicator frameworks. Important gaps in reporting for public hospitals include indicators of equity of access to services for special needs groups, and indicators of continuity of care. Gaps in the maternity services framework include equity of access, effectiveness of access, two aspects of quality — responsiveness and continuity — and the efficiency subdimension of sustainability.
* Improving currently reported indicators for public hospitals and maternity services where data are not complete or not directly comparable. There is scope to improve reporting of the quality and access dimensions of the public hospitals framework, and the output indicators for maternity services.
* Improving the reporting of elective surgery waiting times by urgency category to achieve greater comparability across jurisdictions and improving timeliness of the data.
* Improving the reporting of quality and safety indicators in both the public hospitals’ and maternity services’ frameworks.

## 11.8 Definitions of key terms

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| **Accreditation** | Professional recognition awarded to hospitals and other healthcare facilities that meet defined industry standards. Public hospitals can seek accreditation through the ACHS Evaluation and Quality Improvement Program, the Australian Quality Council (now known as Business Excellence Australia), the Quality Improvement Council, the International Organisation for Standardization 9000 Quality Management System or other equivalent programs. |
| **Acute care** | Clinical services provided to admitted or non-admitted patients, including managing labour, curing illness or treating injury, performing surgery, relieving symptoms and/or reducing the severity of illness or injury, and performing diagnostic and therapeutic procedures. Most episodes involve a relatively short hospital stay. |
| **Admitted patient** | A patient who has undergone a formal admission process in a public hospital to begin an episode of care. Admitted patients can receive acute, subacute or non‑acute care services. |
| **Admitted patient cost proportion** | The ratio of admitted patient costs to total hospital costs, also known as the inpatient fraction. |
| **Allied health (non‑admitted)** | Occasions of service to non-admitted patients at units/clinics providing treatment/counselling to patients. These include units providing physiotherapy, speech therapy, family planning, dietary advice, optometry and occupational therapy. |
| **Apgar score** | Numerical score used to evaluate a baby’s condition after birth. The definition of the reported indicator is the number of babies born with an Apgar score of 3 or lower at 5 minutes post delivery, as a proportion of the total number of babies born. Excludes fetal deaths in utero before commencement of labour. |
| **AR-DRG** | Australian Refined Diagnosis Related Group - a patient classification system that hospitals use to match their patient services (hospital procedures and diagnoses) with their resource needs. AR-DRG version 6.0x is based on the ICD-10-AM classification. |
| **Australian Classification of Health Interventions (ACHI)** | ACHI is the Australian classification of health interventions. |
| **Average length of stay** | The mean length of stay for all patient episodes, calculated by dividing total occupied bed days by total episodes of care. |
| **Caesarean section** | Operative birth through an incision into abdomen and uterus. |
| **Casemix adjusted** | Adjustment of data on cases treated to account for the number and type of cases. Cases are sorted by AR‑DRG into categories of patients with similar clinical conditions and requiring similar hospital services. Casemix adjustment is an important step to achieving comparable measures of efficiency across hospitals and jurisdictions. |
| **Casemix adjusted separations** | The number of separations adjusted to account for differences across hospitals in the complexity of episodes of care. |
| **Catastrophic** | An acute or prolonged illness usually considered to be life threatening or with the threat of serious residual disability. Treatment can be radical and is frequently costly. |
| **Community health services** | Health services for individuals and groups delivered in a community setting, rather than via hospitals or private facilities. |
| **Comparability** | Data are considered comparable if, (subject to caveats) they can be used to inform an assessment of comparative performance. Typically, data are considered comparable when they are collected in the same way and in accordance with the same definitions. For comparable indicators or measures, significant differences in reported results allow an assessment of differences in performance, rather than being the result of anomalies in the data. |
| **Completeness** | Data are considered complete if all required data are available for all jurisdictions that provide the service. |
| **Cost of capital** | The return foregone on the next best investment, estimated at a rate of 8 per cent of the depreciated replacement value of buildings, equipment and land. Also called the ‘opportunity cost’ of capital. |
| **Cost per casemix adjusted separation** | Recurrent expenditure multiplied by the inpatient fraction and divided by the total number of casemix-adjusted separations plus estimated private patient medical costs. |
| **Cost per non‑admitted occasion of service** | Recurrent expenditure divided by the inpatient fraction and divided by the total number of non‑admitted occasions of service. |
| **Elective surgery waiting times** | Elective surgery waiting times are calculated by comparing the date on which patients are added to a waiting list with the date on which they are admitted for the awaited procedure. Days on which the patient was not ready for care are excluded. |
| **Emergency department waiting time to commencement of clinical care** | The time elapsed for each patient from presentation to the emergency department (that is, the time at which the patient is clerically registered or triaged, whichever occurs earlier) to the commencement of service by a treating medical officer or nurse. |
| **Emergency department waiting times to admission** | The time elapsed for each patient from presentation to the emergency department to admission to hospital. |
| **Episiotomy** | A surgical incision into the perineum and vagina that attempts to control trauma while widening the vaginal opening to expedite birth of the infant or provide better access for application of forceps or vacuum cup to the fetus. |
| **Fetal death** | Delivery of a child who did not at any time after delivery breathe or show any other evidence of life, such as a heartbeat. Excludes infants that weigh less than 400 grams or that are of a gestational age of less than 20 weeks. |
| **Fetal death rate** | The number of fetal deaths divided by the total number of births (that is, by live births registered and fetal deaths combined). |
| **General practice** | The organisational structure with one or more GPs and other staff such as practice nurses. A general practice provides and supervises healthcare for a ‘population' of patients and can include services for specific populations, such as women’s health or Aboriginal and Torres Strait Islander people’s health. |
| **ICD-10-AM** | The Australian modification of the International Standard Classification of Diseases and Related Health Conditions. This is the current classification of diagnoses in Australia. |
| **Hospital boarder** | A person who is receiving food and/or accommodation but for whom the hospital does not accept responsibility for treatment and/or care. |
| **Inpatient fraction** | The ratio of admitted patient costs to total hospital costs, also known as the admitted patient cost proportion. |
| **Labour cost per casemix-adjusted separation** | Salary and wages plus visiting medical officer payments, multiplied by the inpatient fraction, divided by the number of casemix-adjusted separations. |
| **Length of stay** | The period from admission to separation less any days spent away from the hospital (leave days). |
| **Live birth** | Birth of a child who, after delivery, breathes or shows any other evidence of life, such as a heartbeat. Includes all registered live births regardless of birthweight. |
| **Medicare** | Australian Government funding of private medical and optometrical services (under the Medicare Benefits Schedule). Sometimes defined to include other forms of Australian Government funding such as subsidisation of selected pharmaceuticals (under the Pharmaceutical Benefits Scheme) and public hospital funding (under the Australian Health Care Agreements), which provides public hospital services free of charge to public patients. |
| **Mortality rate** | The number of deaths per 100 000 people. |
| **Neonatal death** | Death of a live born infant within 28 days of birth. Defined in Australia as the death of an infant that weighs at least 400 grams or that is of a gestational age of at least 20 weeks. |
| **Neonatal death rate** | Neonatal deaths divided by the number of live births registered. |
| **Newborn qualification status** | A newborn qualification status is assigned to each patient day within a newborn episode of care.  A newborn patient day is qualified if the infant meets at least one of the following criteria:   * is the second or subsequent live born infant of a multiple birth, whose mother is currently an admitted patient, * is admitted to an intensive care facility in a hospital, being a facility approved by the Commonwealth Minister for the purpose of the provision of special care, * is admitted to, or remains in hospital without its mother.   A newborn patient day is unqualified if the infant does not meet any of the above criteria.  The day on which a change in qualification status occurs is counted as a day of the new qualification status.  If there is more than one qualification status in a single day, the day is counted as a day of the final qualification status for that day. |
| **Nursing workforce** | Registered and enrolled nurses who are employed in nursing, on extended leave or looking for work in nursing. |
| **Medical practitioner workforce** | Registered medical practitioners who are employed as medical practitioners, on extended leave or looking for work as a medical practitioner. |
| **Multiparous** | A woman who has given birth from at least two pregnancies that each resulted in a live birth or stillbirth. |
| **Non-acute care** | Includes maintenance care and newborn care (where the newborn does not require acute care). |
| **Non-admitted occasions of service** | Occasion of examination, consultation, treatment or other service provided to a non-admitted patient in a functional unit of a health service establishment. Services can include emergency department visits, outpatient services (such as pathology, radiology and imaging, and allied health services, including speech therapy and family planning) and other services to non-admitted patients. Hospital non-admitted occasions of service are not yet recorded consistently across states and territories, and relative differences in the complexity of services provided are not yet documented. |
| **Non-admitted patient** | A patient who has not undergone a formal admission process, but who may receive care through an emergency department, outpatient or other non-admitted service. |
| **Perinatal death** | Fetal death or neonatal death of an infant that weighs at least 400 grams or that is of a gestational age of at least 20 weeks. |
| **Perinatal death rate** | Perinatal deaths divided by the total number of births (that is, live births registered and fetal deaths combined). |
| **Perineal laceration (third or fourth degree)** | A ‘third degree’ laceration or rupture during birth (or a tear following episiotomy) involves the anal sphincter, rectovaginal septum and sphincter NOS. A ‘fourth degree’ laceration, rupture or tear also involves the anal mucosa and rectal mucosa (NCCH 2008). |
| **Perineal status** | The state of the perineum following a birth. |
| **Primary care** | Essential healthcare based on practical, scientifically sound and socially acceptable methods made universally accessible to individuals and families in the community. |
| **Primipara** | A woman who has given birth to a liveborn or stillborn infant for the first time. |
| **Public hospital** | A hospital that provides free treatment and accommodation to eligible admitted persons who elect to be treated as public patients. It also provides free services to eligible non-admitted patients and can provide (and charge for) treatment and accommodation services to private patients. Charges to non-admitted patients and admitted patients on discharge can be levied in accordance with the Australian Health Care Agreements (for example, aids and appliances). |
| **Puerperium** | The time in the woman's perinatal period between the birth and up to 42 days after the birth. |
| **Real expenditure** | Actual expenditure adjusted for changes in prices. |
| **Relative stay index** | 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. Includes acute care separations only. Excludes: patients who died or were transferred within 2 days of admission, or separations with length of stay greater than 120 days, AR-DRGs which are for ‘rehabilitation’, AR‑DRGs which are predominantly same day (such as R63Z chemotherapy and L61Z admit for renal dialysis), AR-DRGs which have a length of stay component in the definition, and error AR-DRGs. |
| **Same day patients** | A patient whose admission date is the same as the separation date. |
| **Sentinel events** | Adverse events that cause serious harm to patients and that have the potential to undermine public confidence in the healthcare system. |
| **Separation** | A total hospital stay (from admission to discharge, transfer or death) or a portion of a hospital stay beginning or ending in a change in the type of care for an admitted patient (for example, from acute to rehabilitation). Includes admitted patients who receive same day procedures (for example, renal dialysis). |
| **Separation rate** | Hospital separations per 1000 people or 100 000 people. |
| **Selected primiparae** | Primiparae with no previous deliveries, aged 25–29 years, singleton, vertex presentation and gestation of 37–41 weeks (inclusive). |
| **Subacute care** | Specialised multidisciplinary care in which the primary need for care is optimisation of the patient’s functioning and quality of life. A person’s functioning may relate to their whole body or a body part, the whole person, or the whole person in a social context, and to impairment of a body function or structure, activity limitation and/or participation restriction.  Subacute care comprises the defined care types of rehabilitation, palliative care, geriatric evaluation and management and psychogeriatric care. |
| **Triage category** | The urgency of the patient’s need for medical and nursing care:  category 1 — resuscitation (immediate within seconds)  category 2 — emergency (within 10 minutes)  category 3 — urgent (within 30 minutes)  category 4 — semi-urgent (within 60 minutes)  category 5 — non-urgent (within 120 minutes). |
| **Urgency category for elective surgery** | Category 1 patients — admission within 30 days is desirable for a condition that has the potential to deteriorate quickly to the point that it can become an emergency.  Category 2 patients — admission within 90 days is desirable for a condition that is causing some pain, dysfunction or disability, but that is not likely to deteriorate quickly or become an emergency.  Category 3 patients — admission at some time in the future is acceptable for a condition causing minimal or no pain, dysfunction or disability, that is unlikely to deteriorate quickly and that does not have the potential to become an emergency. |

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Attachment tables are identified in references throughout this chapter by a ‘11A’ prefix (for example, table 11A.1). Attachment tables are available from the Review website (www.pc.gov.au/rogs/2016).

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## 11.10 References

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