# 10 Public hospitals

Public hospitals are important providers of government funded health services in Australia. A key objective of government 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, regardless of geographic location. Public hospitals provide a range of services, including:

- acute care services to admitted patients
- sub-acute and non-acute services to admitted patients (for example, rehabilitation, palliative care, or long stay maintenance care)
- emergency, outpatient and other services to non-admitted patients[1]
- 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 (see *Report on Government Services 2008* (2008 Report), chapter 10). These services comprise the bulk of public hospital activity and, in the case of services to admitted patients, have the most reliable data available. Data in the chapter include sub-acute and non-acute care services.

Reporting on public hospitals has been improved this year with the introduction of hospital procedures measures, which provide data on the proportion of hospital separations for which procedures are reported by Indigenous status of the patient.

In some instances, stand-alone psychiatric hospitals are included in this chapter, (see 2008 Report, chapter 10), although their role is diminishing in accordance with the National Mental Health Strategy. Under the strategy, the provision of psychiatric treatment is shifting away from specialised psychiatric hospitals to mainstream public hospitals and the community sector. The performance of

[1] Other services to non-admitted patients include community health services such as baby clinics and immunisation units, district nursing services and other outreach services (AIHW 2001).

psychiatric hospitals and psychiatric units of public hospitals is examined more closely in 'Health management issues' (see 2008 Report, chapter 12).

Some common health terms relating to hospitals are defined in box 10.1.

Box 10.1 **Some common terms relating to hospitals**

***Patients***

**admitted patient:** a patient who has undergone a formal admission process in a public hospital to begin an episode of care. Admitted patients may receive acute, sub-acute or non-acute care services.

**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.

***Types of care***

Classification of care depends on the principal clinical intent of the care received.

**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.

**sub-acute and non-acute care:** clinical services provided to patients suffering from chronic illnesses or recovering from such illnesses. Services include rehabilitation, planned geriatric care, palliative care, geriatric care evaluation and management, and services for nursing home type patients. Clinical services delivered by designated psychogeriatric units, designated rehabilitation units and mothercraft services are considered non-acute.

***Hospital outputs***

**separation:** an episode of care for an admitted patient, which can be a total hospital stay (from admission to discharge, transfer or death), or a portion of a hospital stay beginning or ending in a change of type of care (for example, from acute to rehabilitation). Admitted patients who receive same day procedures (for example, renal dialysis) are included in separation statistics.

**casemix-adjusted separations:** the number of separations adjusted to account for differences across hospitals in the complexity of their episodes of care. Casemix adjustment is an important step to achieving comparable measures of efficiency across hospitals and jurisdictions.

(Continued on next page)

Box 10.1 **(Continued)**

**non-admitted occasion 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 may 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.

***Other common health terms***

**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 5.0 is based on the ICD-10-AM classification.

**ICD-10-AM (the Australian modification of the International Standard Classification of Diseases and Related Health Problems):** the current classification of diagnoses and procedures, replacing the earlier ICD-9-CM.

*Source:* AIHW (2006); NCCH (1998); NHDC (2001, 2003).

## Indigenous data in the public hospitals chapter

The public hospitals chapter in the 2008 Report contains the following data items on Indigenous people:

- separations, by Indigenous status of patients and hospital sector, 2005-06
- separations per 1000 people, public hospitals, 2001-02 to 2005-06
- separations with a procedure recorded by selected principal diagnoses, public hospitals, July 2004–June 2006
- separations with a procedure recorded, by Indigenous status of patient, July 2004–June 2006
- separations with a procedure recorded, by Indigenous status of patient and remoteness, July 2004–June 2006
- fetal, neonatal and perinatal death rates, 2001–2005.

### *Attachment tables*

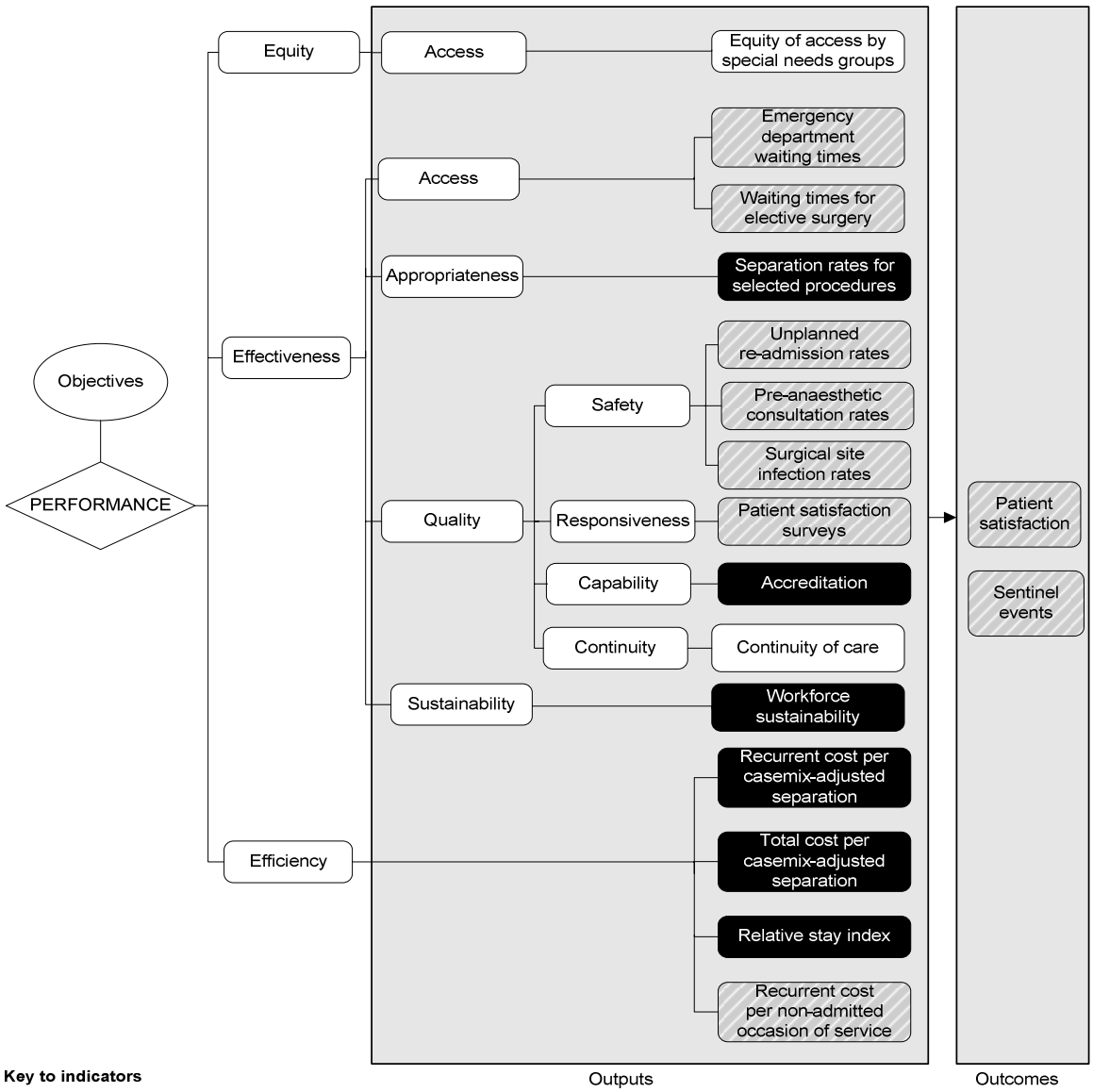
Attachment tables for data within the school education chapter of this compendium

are contained in attachment 10A of the compendium. These tables are identified in references throughout this chapter by an 'A' suffix (for example, table 10A.3 is table 3 in the public hospitals attachment). As the data are directly sourced from the 2008 Report, the compendium also notes where the original table, figure or text in the 2008 Report can be found. For example, where the compendium refers to '2008 Report, p. 10.15' this is page 15 of chapter 10 of the 2008 Report, and '2008 Report, table 10A.2' is attachment table 2 of attachment 10A of the 2008 Report.

## Framework of performance indicators for public hospitals

Data for Indigenous people are reported for a subset of the performance indicators for public hospitals in the 2008 Report. It is important to interpret these data in the context of the broader performance indicator framework outlined in figure 10.1. The performance indicator framework shows which data are comparable in the 2008 Report. For data that are not considered directly comparable, the text includes relevant caveats and supporting commentary.

Figure 10.1 **Performance indicators for public hospitals**




*Source*: 2008 Report, figure 10.13, p. 10.22.

## Separation rates for Indigenous patients

The completeness of Indigenous identification in hospital admitted patient data varies across states and territories. The AIHW (2005) report *Improving the Quality of Indigenous Identification in Hospital Separations Data* found that Indigenous patient data was of acceptable quality for analytical purposes only for Queensland,

WA, SA, and public hospitals in the NT. Following new assessments of the quality of Indigenous identification in 2007, the National Health Information Management Principal Committee (NHIMPC) recently approved NSW Indigenous patient data as acceptable in quality for analytical purposes, from the 2004-05 reference year. A proposal to approve Victorian data was being considered by the NHIMPC in late 2007. Efforts to improve Indigenous identification across states and territories are ongoing.

The available data are not necessarily representative of other jurisdictions. Indigenous patients are underidentified, to an extent that varies across jurisdictions. Because of improvements in data quality over time, caution also should be used in time series analysis of the data.

In 2005-06, separations for Indigenous people accounted for around 4.6 per cent of total separations and 7.2 per cent of separations in public hospitals in NSW, Queensland, WA, SA and the NT (table 10.1), but the Indigenous population made up only around 2.7 per cent of the population in these jurisdictions (table AA.1). Most separations involving Indigenous patients (93.6 per cent) in these jurisdictions occurred in public hospitals. The low proportion of private hospital separations for Indigenous people may be due partly to a lower proportion of Indigenous patients being correctly identified in private hospitals in addition to their lower use of private hospitals.

Table 10.1 **Separations, by Indigenous status of patient and hospital sector, 2005-06**[a, b]

| | *NSW* | *Vic* | *Qld* | *WA* | *SA* | *Tas* | *ACT* | *NT* | *Aust* | *Total*[c] |
|---|---|---|---|---|---|---|---|---|---|---|
| Public hospital separations ('000) | | | | | | | | | | |
| Indigenous | 47.3 | np | 58.4 | 40.5 | 15.8 | np | np | 55.6 | np | 217.6 |
| Non-Indigenous | 1 354.5 | np | 677.7 | 354.5 | 351.5 | np | np | 27.8 | np | 2 766.0 |
| Not reported | 18.7 | np | 14.2 | – | 10.4 | np | np | – | np | 43.2 |
| Total | 1 420.5 | np | 750.3 | 395.0 | 377.7 | np | np | 83.4 | np | 3 026.8 |
| Private hospital separations ('000) | | | | | | | | | | |
| Indigenous | 1.0 | np | 4.0 | 9.4 | 0.5 | np | np | np | np | 14.9 |
| Non-Indigenous | 756.3 | np | 638.5 | 310.0 | 216.8 | np | np | np | np | 1 921.6 |
| Not reported | 8.6 | np | 69.1 | – | 2.8 | np | np | np | np | 80.5 |
| Total | 765.9 | np | 711.5 | 319.4 | 220.2 | np | np | np | np | 2 017.0 |
| Indigenous separations as proportion of total separations (%) | | | | | | | | | | |
| Public hospitals | 3.3 | np | 7.8 | 10.3 | 4.2 | np | np | 66.6 | np | 7.2 |
| Private hospitals | 0.1 | np | 0.6 | 2.9 | 0.2 | np | np | np | np | 0.7 |
| All hospitals | 2.2 | np | 4.3 | 7.0 | 2.7 | np | np | np | np | 4.6 |
| Separations in public hospitals as a proportion of separations in all hospitals (%) | | | | | | | | | | |
| Indigenous | 98.0 | np | 93.6 | 81.2 | 96.7 | np | np | np | np | 93.6 |
| Non-Indigenous | 64.2 | np | 51.5 | 53.3 | 61.8 | np | np | np | np | 59.0 |

**a** Excludes separations for which the care type was reported as 'newborn with no qualified days' and records for hospital boarders and posthumous organ procurement. **b** Identification of Indigenous patients is not considered complete and completeness varies across jurisdictions. The AIHW advised that only data for NSW, Queensland, WA, SA and the NT are considered to be acceptable for the purpose of analysis. Nevertheless, data for these jurisdictions should be interpreted with caution as there are jurisdictional differences in data quality. In addition, these jurisdictions are not necessarily representative of the excluded jurisdictions. **c** The total rates include data only for NSW, Queensland, WA, SA, and the NT. – Nil or rounded to zero. **np** Not published.

*Source*: AIHW (2007); table 10A.1; 2008 Report, table 10.1, p. 10.13.

In 2005-06, on an age standardised basis, 792.1 public hospitals separations (including same day separations) for Indigenous patients were reported per 1000 Indigenous people in NSW, Queensland, WA, SA and the NT (table 10.2). This rate was markedly higher than the corresponding rate for these jurisdictions' combined total population of 205.7 per 1000 (table 10.2). Incomplete identification of Indigenous people limits the validity of comparisons over time, as well as across jurisdictions.

Table 10.2 **Estimates of public hospital separations per 1000 people, by Indigenous status of patient**[a, b]

| | *NSW*[c] | *Vic* | *Qld*[c] | *WA*[c] | *SA*[c] | *Tas* | *ACT* | *NT*[c] | *Aust* | *Total*[d] |
|---|---|---|---|---|---|---|---|---|---|---|
| 2001-02 | | | | | | | | | | |
| Indigenous | np | np | 676.5 | 752.7 | 743.6 | np | np | 1129.6 | np | np |
| Total population | np | np | 192.5 | 190.7 | 229.7 | np | np | 394.3 | np | np |
| 2002-03 | | | | | | | | | | |
| Indigenous | np | np | 685.2 | 809.4 | 788.1 | np | np | 1223.3 | np | np |
| Total population | np | np | 189.4 | 195.4 | 231.0 | np | np | 422.5 | np | np |
| 2003-04 | | | | | | | | | | |
| Indigenous | np | np | 710.9 | 789.3 | 853.9 | np | np | 1286.2 | np | np |
| Total population | np | np | 189.3 | 191.0 | 235.9 | np | np | 428.9 | np | np |
| 2004-05 | | | | | | | | | | |
| Indigenous | np | np | 733.6 | 821.5 | 822.2 | np | np | 1441.0 | np | 907.0 |
| Total population | np | np | 188.1 | 195.2 | 225.3 | np | np | 456.2 | np | 205.2 |
| 2005-06 | | | | | | | | | | |
| Indigenous | 495.6 | np | 745.4 | 845.2 | 875.0 | np | np | 1548.0 | np | 792.1 |
| Total population | 204.7 | np | 188.5 | 198.8 | 229.7 | np | np | 491.4 | np | 205.7 |

**a** The rates are directly age standardised to the Australian population at 30 June 2001. **b** Identification of Indigenous patients is not considered complete and completeness varies across jurisdictions and time. **c** The AIHW advised that only data for NSW, Queensland, WA, SA and the NT are of acceptable quality in 2005-06. Nevertheless, data for these jurisdictions should be interpreted with caution as there are jurisdictional differences in data quality and changes in hospitalisation rates for Indigenous people over time that may include a component due to improved identification. In addition, these jurisdictions are not necessarily representative of the excluded jurisdictions. **d** Total rates include data for Queensland, WA, SA, and the NT for all years, and for 2005-06 incorporate NSW. Total rates before 2005-06 are not comparable with the 2005-06 total. **np** Not published.

*Source*: AIHW (unpublished); table 10A.2; 2008 Report, table 10.2, p. 10.14.

### *Separations with a procedure recorded for Indigenous patients*

While Indigenous Australians are more likely to be hospitalised than non-Indigenous Australians, they are less likely to be treated by medical or surgical procedure while in hospital. The underlying reasons for this are not well understood and are likely to reflect a range of factors, including, for example, clinical judgements about the appropriateness of treatment by procedure, patient preferences and concerns, and distance from appropriate facilities (AHMAC 2006). Other factors are also likely to affect the data, including those relating to variations in casemix, comorbidities and stage at presentation.

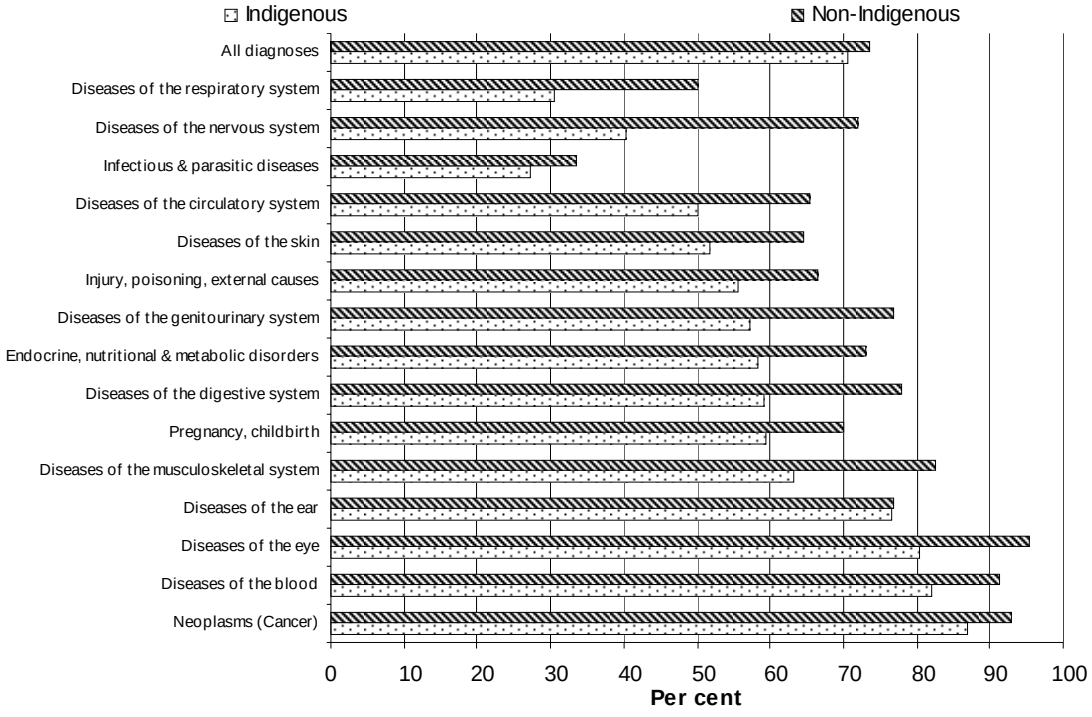
Data for NSW, Queensland, WA, SA and NT public hospitals for separations with a procedure recorded by principal diagnosis are presented in figure 10.2. Separations with a procedure recorded both by jurisdiction and by remoteness are presented in figures 10.3 and 10.4, and include data for all patients treated in public hospitals and public patients treated in private hospitals. Private hospital data are not published

for the NT, but the extent to which public patients are treated in private hospitals in that jurisdiction is limited.

In the period July 2004–June 2006, excluding care involving dialysis, consistently lower proportions of separations with a procedure were recorded for Indigenous patients compared with non-Indigenous patients in almost all categories of principal diagnosis (figure 10.2). The differences can be observed across all jurisdictions for which data are available (figure 10.3). While remoteness is associated with progressively reduced rates of separation with a procedure recorded for all patients, differences were more pronounced for Indigenous patients (figure 10.4).

Care involving dialysis accounts for the greatest number of separations, with end-stage renal disease requiring frequent dialysis treatments, often several times per week. The alternative to dialysis is a kidney transplant. Indigenous people have very high levels of end-stage renal disease as a consequence of high rates of diabetes, hypertension and related illnesses. In addition, few Indigenous people receive kidney transplants (AHMAC 2006). Without the exclusion of dialysis the result would overestimate the numbers of Indigenous people being treated by procedure for other conditions.

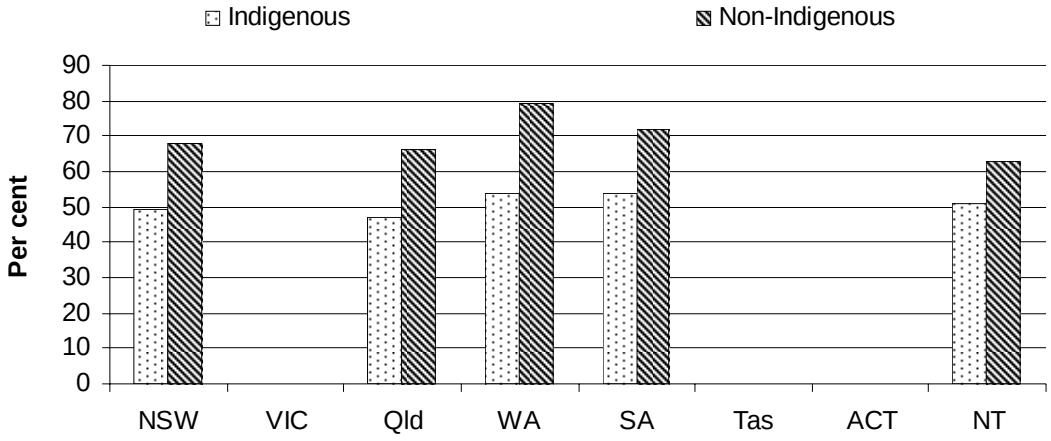
Figure 10.2 **Separations with a procedure recorded by principal diagnosis, public hospitals, by Indigenous status of patient, July 2004–June 2006**[a]




**a** Includes patients treated in public hospitals in NSW, Queensland, WA, SA and NT.

*Source:* AIHW (unpublished); 2008 Report, table 10A.3; 2008 Report, figure 10.9, p. 10.15.

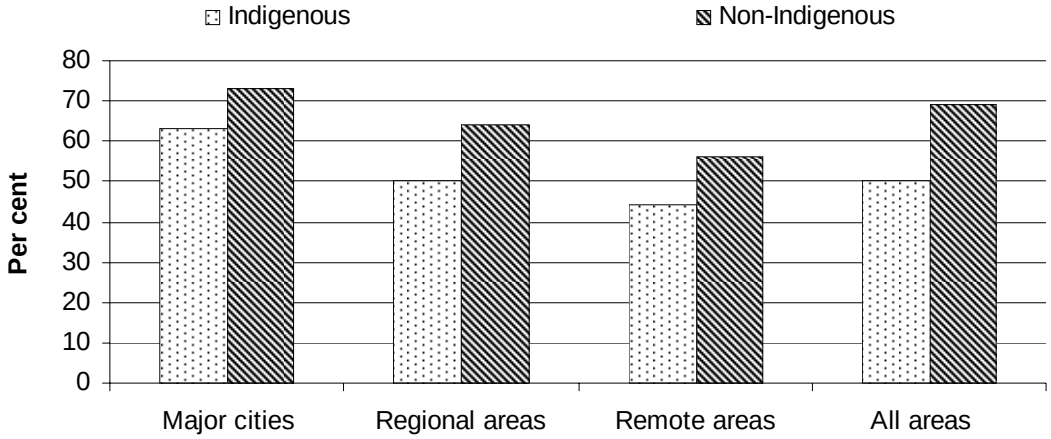
## Figure 10.3 Separations with a procedure recorded, by Indigenous status of patient, July 2004–June 2006[a, b]




**a** Includes all patients treated in public hospitals and public patients treated in private hospitals. Excludes private hospital data for NT due to the poor quality of Indigenous data. **b** The AIHW advised that only data for NSW, Queensland, WA, SA and the NT are considered to be acceptable for the purpose of analysis. Nevertheless, data for these jurisdictions should be interpreted with caution as there are jurisdictional differences in data quality. In addition, these jurisdictions are not necessarily representative of the excluded jurisdictions.

*Source*: AIHW (unpublished); table 10A.4; 2008 Report, figure 10.10, p. 10.16.

## Figure 10.4 Separations with a procedure recorded, by Indigenous status of patient and remoteness, July 2004–June 2006[a]



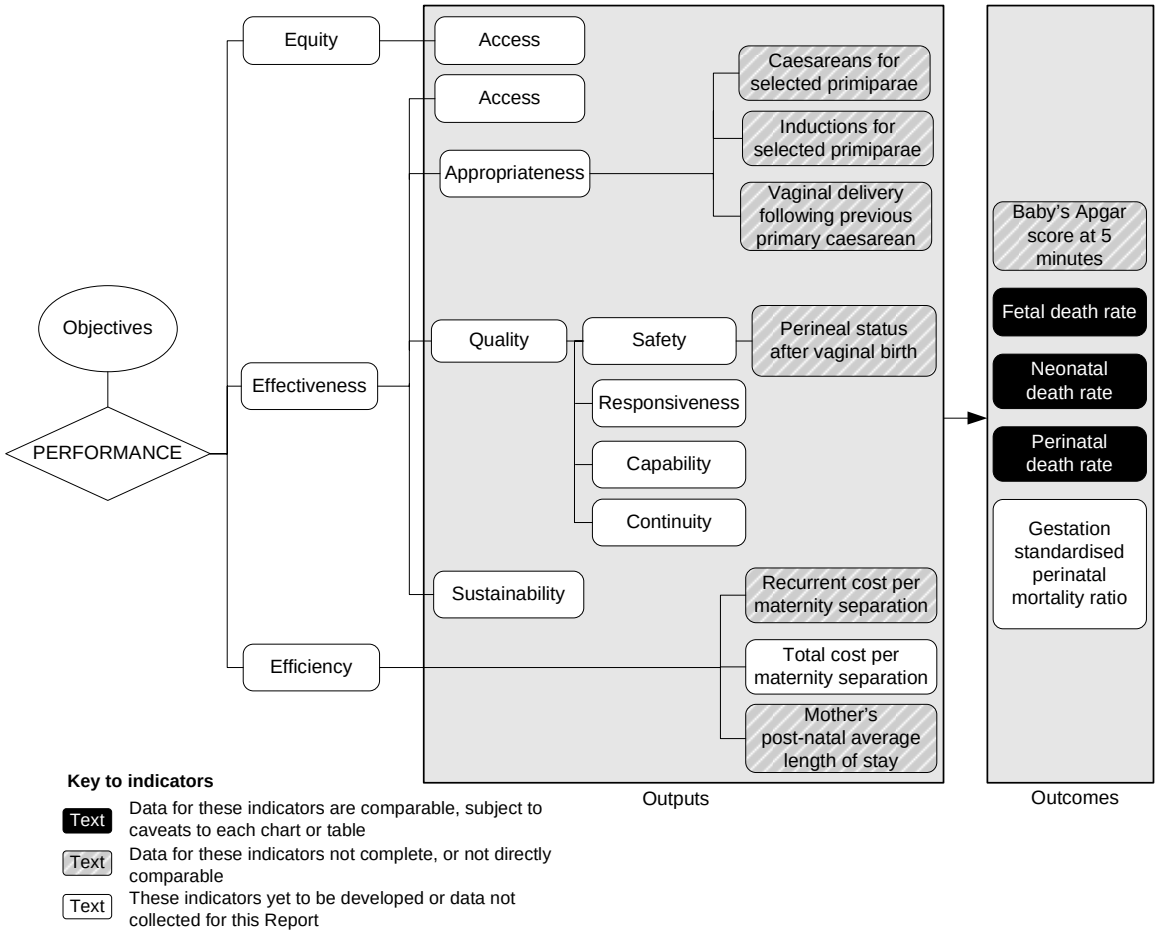

**a** Includes all patients treated in public hospitals and public patients treated in private hospitals in NSW, Queensland, WA, SA and NT. Excludes private hospital data for NT due to the poor quality of Indigenous data.

*Source*: AIHW (unpublished); table 10A.5; 2008 Report, figure 10.11, p. 10.16.

## Framework of performance indicators for maternity services

Data for Indigenous people are reported for a subset of the performance indicators for maternity services in the 2008 Report. It is important to interpret these data in the context of the broader performance indicator framework outlined in figure 10.5. The performance indicator framework shows which data are comparable in the 2008 Report. For data that are not considered directly comparable, the text includes relevant caveats and supporting commentary.

Figure 10.5 **Performance indicators for maternity services**




*Source*: 2008 Report, figure 10.25, p. 10.69.

## Fetal death rate

The 'fetal death rate' is an indicator of the outcomes of maternity services (box 10.2). Fetal deaths rates by Indigenous status are shown in figure 10.6.

Box 10.2 **Fetal death rate**

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.

'Fetal death rate' is reported as an indicator because maternity services for admitted patients have some potential to reduce the likelihood of fetal deaths. However, this potential is limited and other factors (such as the health of mothers and the progress of pregnancy before hospital admission) are also important.

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), by state or territory of usual residence of the mother. The rate of fetal deaths is expressed per 1000 total births. This indicator is also reported by the Indigenous status of the mother.

Low fetal death rates may indicate high quality 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.

Differences in the 'fetal death rate' between jurisdictions are likely to be due to factors outside the control of maternity services for admitted patients. To the extent that the health system influences fetal death rates, the health services that may have an influence include outpatient services, general practice services and maternity services.

## Neonatal death rate

The 'neonatal death rate' is an indicator of the outcomes of maternity services (box 10.3). Neonatal death rates by Indigenous status are shown in figure 10.6.

Box 10.3 **Neonatal death rate**

Neonatal death is the death of a live born infant within 28 days of birth (see section 10.8 for a definition of a live birth). 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.

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. This indicator is also reported by the Indigenous status of the mother.

Low 'neonatal death rates' may indicate high quality maternity services. The rate tends to be higher among premature babies, so a lower neonatal death rate may also indicate a lower percentage of pre-term births.

## Perinatal death rate

The 'perinatal death rate' is an indicator of the outcomes of maternity services (box 10.4). Perinatal deaths rates by Indigenous status are shown in figure 10.6.

Box 10.4 **Perinatal death rate**

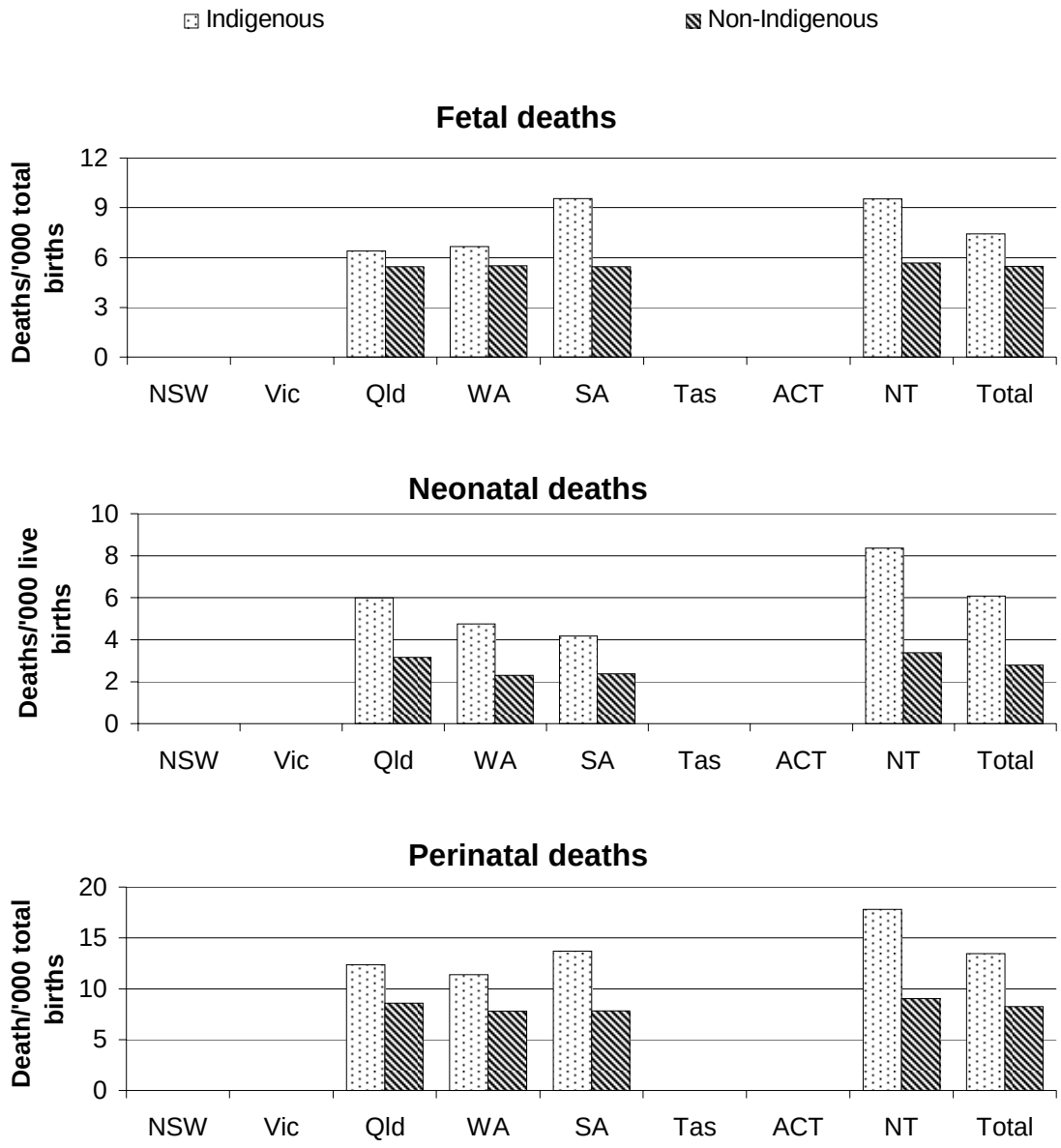
A perinatal death is a fetal or neonatal death (boxes 10.2 and 10.3).

The 'perinatal death rate' is calculated as the number of perinatal deaths divided by the total number of births (live births registered and fetal deaths combined) in each jurisdiction. It is expressed per 1000 total births. This indicator is also reported by the Indigenous status of the mother.

The caveats that apply to fetal and neonatal death rates also apply to perinatal death rates.

Fetal, neonatal and perinatal deaths data by the Indigenous status of the mother are available for Queensland, WA, SA and the NT only. Data are for the period 2001–2005 combined. Data for other jurisdictions are not included due to small numbers or poor coverage rates (ABS 2004). In those jurisdictions for which data are available, the fetal, neonatal and perinatal death rates for Indigenous people are higher than those for non-Indigenous people (figure 10.5).

Figure 10.6 **Fetal, neonatal and perinatal deaths, by Indigenous status of mother, 2001–2005**[a]




[a] The total relates to those jurisdictions for which data are published. Data are not available for other jurisdictions.

*Source*: ABS (unpublished) *Causes of Death*, Cat. no. 3303.0; table 10A.6; 2008 Report, figure 10.34, p 10.85.

## Future directions in performance reporting

Priorities for future reporting on public hospitals and maternity services include 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 (particularly Indigenous people), and indicators of continuity of care. Gaps in the maternity services framework include equity of access, effectiveness of access, three aspects of quality — responsiveness, capability and continuity — and the effectiveness subdimension of sustainability.

## Attachment tables

Attachment tables for data within this chapter are contained in the attachment to the compendium. These tables are identified in references throughout this chapter by an 'A' suffix (for example, table 10A.3 is table 3 in the public hospitals attachment). The tables included in the attachment are listed below.

**Table 10A.1** Separations by hospital sector and Indigenous status of patient, 2005-06

**Table 10A.2** Separations per 1000 people, by Indigenous status of patient (number)

**Table 10A.3** Hospitalisations with a procedure recorded, selected principal diagnoses, public hospitals, by Indigenous status of patient, July 2004–June 2006 (per cent)

**Table 10A.4** Hospitalisations with a procedure recorded, by Indigenous status of patient, July 2004– June 2006 (per cent)

**Table 10A.5** Hospitalisations with a procedure recorded, by Indigenous status of patient and remoteness, July 2004–June 2006 (per cent)

**Table 10A.6** Perinatal, neonatal and fetal deaths, by Indigenous status of mother 2001–2005

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