

# 6 Health services

This chapter describes health services and their use in Australia. This material relates to the intervention component of the conceptual framework for Australia's health presented in Figure 1.1. The interventions covered in this chapter include those provided to individual patients by service providers such as hospitals and general practitioners (GPs), and those provided as public (population) health interventions.

## 6.1 Hospitals

### Patients admitted to hospital

There were 6,398,171 separations of admitted patients from public acute, public psychiatric and private hospitals reported to the Australian Institute of Health and Welfare's (AIHW) National Hospital Morbidity Database for 2001–02 (Tables S30 and S31). This was a rate of 327 separations per 1,000 population (Table 6.1). There were 3,948,860 separations from public acute hospitals (62%), 16,652 separations from public psychiatric hospitals (0.3%) and 2,432,659 separations from private hospitals (which include private psychiatric hospitals and private free-standing day hospital facilities) (38%). These separations accounted for 23,201,186 patient days, 66% in public hospitals, 4% in public psychiatric hospitals and 30% in private hospitals (Tables S32 and S33).

Between 1997–98 and 2001–02, there was a 5.2% increase in separations from public acute hospitals and a 35.7% increase in separations from private hospitals (AIHW 2003a). There was a decrease of 0.5% in patient days for public acute hospitals over this period and an increase of 16.2% for private hospitals.

#### Box 6.1: Terms and data sources relating to the use of hospitals

##### *Admitted patients*

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

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

*(continued)*

### **Box 6.1 (continued): Terms and data sources relating to the use of hospitals**

For each separation, patients are assigned a **principal diagnosis**, which is the diagnosis established after study to be chiefly responsible for occasioning the patient's episode of admitted patient care. The principal diagnosis recorded for each separation is usually a disease, injury or poisoning, but can also be specific treatment of an already diagnosed condition, such as dialysis for renal disease, or other reasons for hospitalisation. If applicable, **procedures** are also reported. These can be surgical or non-surgical, and therapeutic or diagnostic. Diagnoses and procedures were reported using the second edition of the ICD-10-AM classification in 2001–02 (see Box 6.2). **Patient-day** means the occupancy of a hospital bed (or chair in the case of some same-day patients) by an admitted patient for all or part of a day.

The state and territory health authorities compile information on patients admitted to hospitals and supply it to the AIHW for collation into the National Hospital Morbidity Database. This database is an electronic record for each separation from almost every hospital in Australia, including public acute and psychiatric hospitals (public sector), and private free-standing day hospital facilities and other private hospitals (private sector). Data are provided for all public hospital separations and about 95% of private hospital separations for most years.

As indicators of ill health, hospital separation data have limitations. Sick people who are not admitted to hospital are not counted and those who are admitted more than once are counted on each occasion. Hospital separation data are also affected by variations in admission practices, and in the availability of and access to hospitals.

#### **Non-admitted patients**

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

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

Definitions used for non-admitted patient hospital care are not completely uniform among the states and territories, and have varied over time. Existing national systems for counting and classifying this care are being revised with the aim of improving consistency and comparability. For example, collection of more detailed data on non-admitted patients registered for care in emergency departments began on 1 July 2003 in selected public hospitals.

After adjusting for changes in the age and size of the population, between 1997–98 and 2001–02 the number of separations per 1,000 population increased by 7.3% overall. The number of separations per 1,000 population fell by 1.2% for public acute hospitals, and increased by 25.6% for private hospitals (calculated from Table 6.1). The number of patient days per 1,000 population fell by 5.7% overall over the 4-year period and by 7.9% for public acute hospitals, but increased by 5.7% for private hospitals.

**Table 6.1: Hospital use by admitted patients, 1997–98 to 2001–02**

	1997–98	1998–99	1999–00	2000–01	2001–02
<b>Separations per 1,000 population<sup>(a)</sup></b>					
Public hospitals	205.5	207.3	205.1	201.7	202.6
Public acute hospitals <sup>(b)</sup>	204.3	206.2	204.2	200.8	201.8
Public psychiatric hospitals	1.2	1.1	0.9	0.9	0.9
Private hospitals <sup>(c)</sup>	99.6	102.5	108.8	119.8	125.1
Private free-standing day hospital facilities	13.9	14.4	15.1	18.1	20.2
Other private hospitals	85.9	88.2	93.8	98.8	104.7
<b>Total</b>	<b>304.4</b>	<b>309.0</b>	<b>313.1</b>	<b>320.6</b>	<b>326.7</b>
<b>Patient days per 1,000 population<sup>(a)</sup></b>					
Public hospitals	918.4	885.9	868.6	825.0	827.8
Public acute hospitals <sup>(b)</sup>	842.0	817.1	807.7	787.4	775.9
Public psychiatric hospitals	76.3	68.8	60.8	37.6	51.9
Private hospitals <sup>(c)</sup>	337.8	333.8	344.3	356.7	357.0
Private free-standing day hospital facilities	13.9	14.4	15.1	18.1	20.2
Other private hospitals	324.1	319.5	329.3	336.6	334.9
<b>Total</b>	<b>1,254.1</b>	<b>1,217.6</b>	<b>1,210.8</b>	<b>1,179.4</b>	<b>1,182.5</b>
<b>Same-day separations as a percentage of total</b>					
Public acute hospitals <sup>(b)</sup>	43.3	44.7	45.8	46.4	47.6
Private hospitals	53.1	54.8	56.1	58.5	60.0
Other private hospitals	45.6	47.6	49.2	51.6	52.8
<b>Total<sup>(d)</sup></b>	<b>46.3</b>	<b>47.9</b>	<b>49.2</b>	<b>50.8</b>	<b>52.3</b>
<b>Average length of stay (days)</b>					
Public acute hospitals <sup>(b)</sup>	4.0	3.9	3.9	3.9	3.9
Private hospitals	3.3	3.2	3.1	3.0	2.9
Other private hospitals	3.7	3.6	3.5	3.3	3.2
<b>Total<sup>(d)</sup></b>	<b>4.1</b>	<b>3.9</b>	<b>3.8</b>	<b>3.7</b>	<b>3.6</b>
<b>Average length of stay, excluding same-day separations (days)</b>					
Public acute hospitals <sup>(b)</sup>	6.4	6.3	6.4	6.4	6.5
Other private hospitals	6.0	5.9	5.9	5.8	5.7
<b>Total<sup>(d)</sup></b>	<b>6.7</b>	<b>6.6</b>	<b>6.6</b>	<b>6.4</b>	<b>6.5</b>

(a) Figures are rates (per 1,000 population) directly age-standardised to the Australian population at 30 June 2001. For private hospitals, rates were derived using populations of the reporting states and territories only, without adjustment for incomplete reporting.

(b) Includes the Department of Veterans' Affairs hospitals for 1997–98.

(c) For 2000–01 and 2001–02 the hospital type was not specified for Tasmanian private hospitals, therefore data for Tasmania are included in the private hospitals total but not in the private hospital subcategories.

(d) Public psychiatric hospitals and private free-standing day hospital facilities included in these totals.

Source: AIHW 2003a.

Thus there was a shift from the use of public acute to private sector hospitals during the four-year period. In 1997–98, 67.4% of separations and 67.2% of patient days were in public acute hospitals, whereas in 2001–02 these proportions had fallen to 61.7% and 65.6% respectively. Within public acute hospitals, the proportion of patients admitted as public (Medicare) patients (see Box 6.3) remained relatively stable between 1997–98 (86.0%) and 2001–02 (86.2%).

The increase in separations for private hospitals was reflected in increases in the number of separations for a range of Australian Refined Diagnosis Related Groups (AR-DRGs) (see Box 6.2) for the private sector between 1999–00 and 2001–02 (AIHW 2003a). The AR-DRG with the greatest increase in separations was other colonoscopy, same-day for which an increase of 33,459 separations (24.6%) was reported. Other AR-DRGs for which relatively large increases were reported for the private sector were chemotherapy (an increase of 31,295 separations, 34.6%) and admit for renal dialysis (an increase of 26,353 separations, 42.2%).

### **Average length of stay**

Although some categories of patients (such as those requiring rehabilitation, some specialised mental health services or palliative care) are not admitted for acute care services, most patients require a relatively short stay in hospital. There is an increasing trend towards day surgery and procedures for this group of patients, with improvements in medical technology (anaesthetics and microsurgery, for example) enabling a wider range of procedures to be performed on a same-day basis (Duckett 2002). Improved drug treatments and efforts to increase hospital productivity have also tended to result in decreased lengths of stay. Potentially increasing the average length of stay, however, some treatments that have previously been undertaken during short-stay admissions are not now included in these data as they are being provided in outpatient clinics and day care facilities or by community health services.

With public psychiatric hospitals excluded, the average length of stay was 3.6 days overall in 2001–02, 3.9 days in public acute hospitals and 2.9 days in private hospitals. Excluding same-day separations, the average length of stay was 6.5 days in public acute hospitals and 5.7 days in private hospitals.

The difference between public and private hospitals at least in part reflects the different range of patients cared for and treatments undertaken (casemix) in the two hospital sectors. For example, public hospitals had more children under the age of 5 years as patients (6.7% of separations) compared with private hospitals (2.3% of separations). As noted below, there were also differences in the area of usual residence of the patients, in the proportion of separations for which procedures were reported, in the average number of procedures reported per separation, in the range of AR-DRGs reported and in the AR-DRG-based average cost weights.

The average length of stay in hospital decreased from 4.1 days in 1997–98 to 3.6 days in 2001–02. The average length of stay excluding same-day separations also decreased, but less markedly, from 6.7 days in 1997–98 to 6.5 days in 2001–02. These figures are within the range of those reported for other OECD countries.

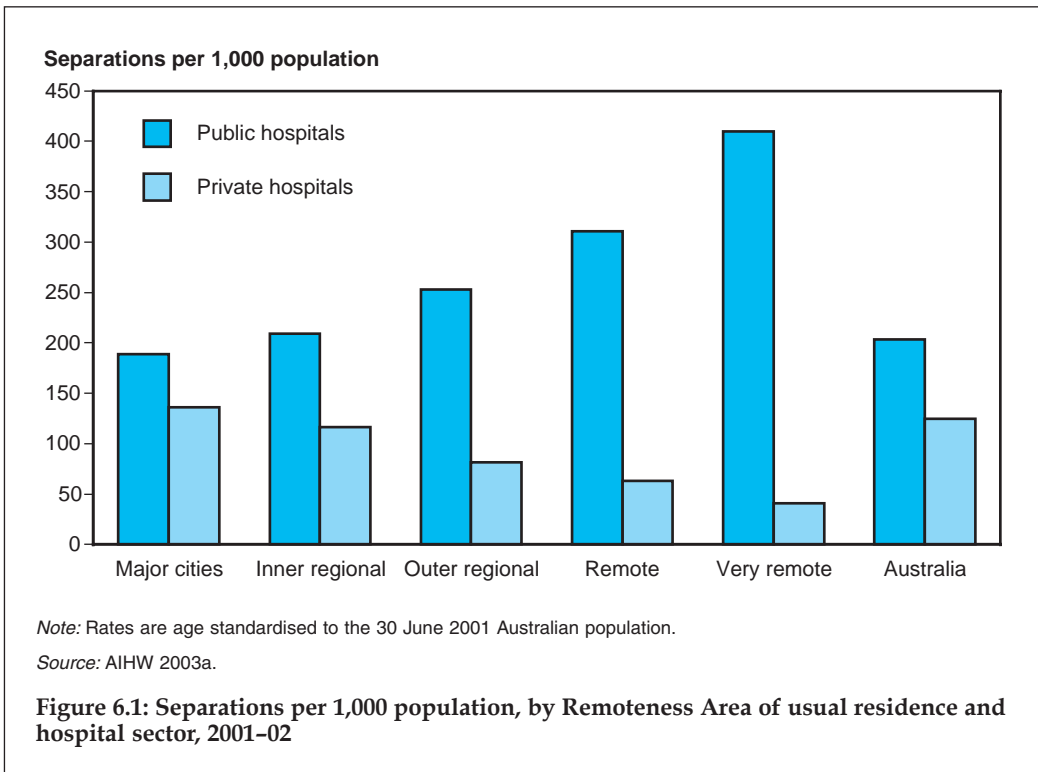
## Same-day separations

In 2001-02, there were 3,348,846 same-day separations, 1,886,619 from public acute hospitals, 2,609 from public psychiatric hospitals and 1,459,618 from private hospitals (AIHW 2003a). There was a marked upward trend over the period 1997-98 to 2001-02 in the proportion of separations that were day-only. In 1997-98, 46.3% of separations were same-day separations, but by 2001-02 this had increased to 52.3% (Table 6.1).

Although the number of private free-standing day hospital facilities has increased markedly over recent years (from 140 in 1995-96 to 236 in 2001-02; Table 6.4), other private hospitals reported a greater increase in same-day separations between 1997-98 and 2001-02. The number of same-day separations increased by 52.9% to 1,048,668 for these hospitals (excluding Tasmania), compared with an increase of 51.0% to 372,737 for private free-standing day hospitals (excluding Tasmania). The number of same-day separations in public hospitals increased by 16.3% to 1,889,228.

## Area of usual residence of the patients

In the public sector, the highest separation rates were reported for residents of very remote areas (410 separations per 1,000 population) (Figure 6.1). In the private sector, highest rates were reported for residents of major cities (136 separations per 1,000 population).



## Diagnoses, procedures and diagnosis-related groups for admitted patients

The conditions that hospitals treat are of interest to health service managers, planners, funders and epidemiologists. These conditions, the procedures that patients undergo in hospital and the consequent casemix of hospitals are detailed in the National Hospital Morbidity Database using the classification systems described in Box 6.2.

### Principal diagnoses

For patients with a disease or injury recorded as a principal diagnosis (See Boxes 6.1 and 6.2), over half of all separations in Australian hospitals in 2001–02 had a principal diagnosis in five of the broad ICD-10-AM chapter groups. These were diseases of the digestive system; neoplasms; diseases of the circulatory system; injury and poisoning; and contact with health services (including dialysis, chemotherapy and rehabilitation) (Tables S34 and S35).

### Box 6.2: Classification of diagnoses, procedures and separations for admitted patients

#### *Diagnoses and procedures*

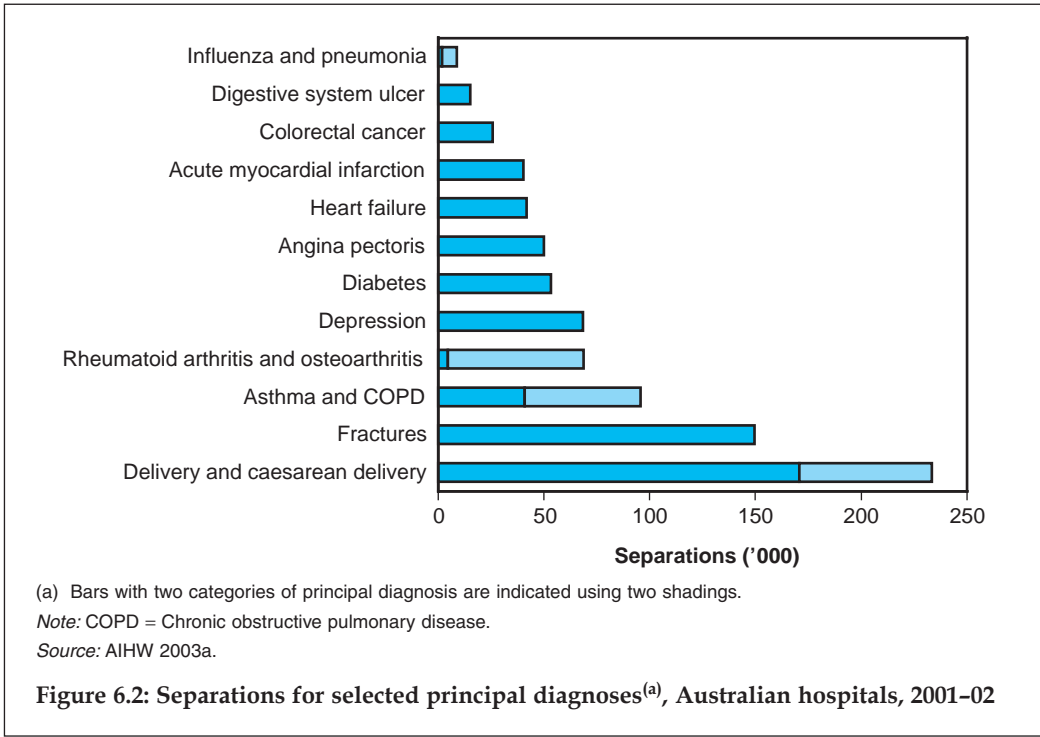
*Hospital patient records contain information about a patient's diagnosis and about procedures performed during the hospital stay. To allow efficient storage and analysis of this information, detailed classification and coding systems are used to describe and record diagnoses and procedures. The classification used in 2001–02 in Australia was the second edition of the International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM), developed by the National Centre for Classification in Health (NCCCH 2000). It comprises classifications of diseases and external causes of injuries and poisoning, based on the World Health Organization version of ICD-10, and a classification of procedures based on the Australian Medicare Benefits Schedule. These ICD-10-AM codes can be a source of information on the diseases treated in hospitals and the operations performed, at very detailed levels or combined into broad groupings such as the ICD-10-AM chapters.*

#### *Diagnosis-related groups*

*Australian Refined Diagnosis Related Groups (AR-DRGs) is a classification system used mainly for acute care admitted patient episodes. This classification provides a means of summarising and relating the number and type of acute admitted patients treated in a hospital (that is, its casemix) to the resources expected to be used in their treatment. This classification groups episodes with similar clinical conditions and similar usage of hospital resources using information in the hospital separation record such as diagnoses, procedures, and age of the patient. This grouping is first to broad Major Diagnostic Categories, then to medical, surgical and other partitions and then to the AR-DRGs that they comprise.*

*Each AR-DRG is associated with information on the average length of stay and estimated average cost for patients in the group in the public and private sectors. This classification therefore has use in measuring outputs and performance of hospitals, and in planning and funding hospital service provision.*

The National Health Priority Areas were represented in some high-volume diagnoses in 2001–02. There were 149,585 separations with a principal diagnosis of fracture, 95,774 separations with a principal diagnosis of asthma (40,918) (and 54,856 with a principal diagnosis of chronic obstructive pulmonary disease), 68,653 separations with a principal diagnosis of rheumatoid (4,609) or other (64,044) arthritis and 41,874 separations with a principal diagnosis of heart failure. Also of high volume were separations with a principal diagnosis of childbirth by caesarean section (62,663) or other delivery (170,799) (Figure 6.2).



### Procedures

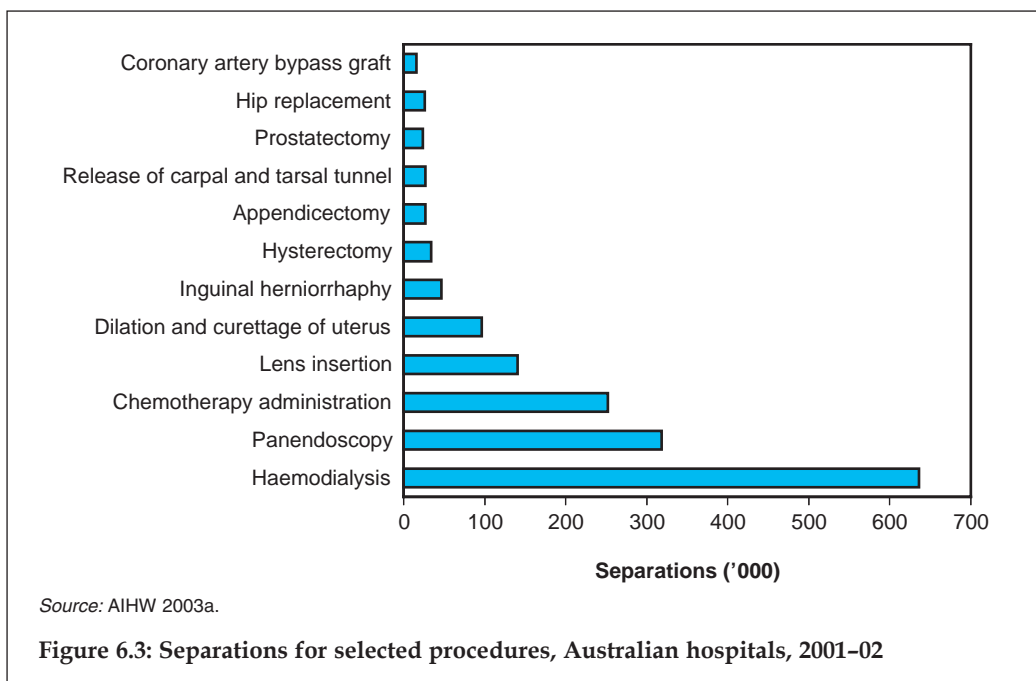
A procedure was reported for 79.1% of separations from Australian hospitals in 2001–02. Of these, 56.5% were in public hospitals, although public hospitals accounted for 62.0% of separations overall. Similarly, although 70.0% of overall patient days were in public hospitals, only 67.0% of patient days associated with procedures were in public hospitals. This reflects the higher proportion of separations in private hospitals (90.1%) that were reported with a procedure, compared to public hospitals (72.4%). An average of 1.7 procedures (excluding miscellaneous diagnostic and therapeutic procedures: procedures that are not ‘operations’ or obstetrical procedures) was reported for separations from public hospitals for which those procedures were reported. For private hospitals, there was an average of 1.6.

At the broad ICD-10-AM chapter level, if miscellaneous diagnostic and therapeutic procedures are not included, operations on the urinary system accounted for the largest

proportion of public hospital separations for which a procedure was reported (646,544 separations) (Table S36). Haemodialysis accounted for 84% (545,557) of these separations. The most commonly reported procedure group for the private sector was operations on the digestive system (635,074 separations) (Table S37). Within that grouping, panendoscopy with excision was reported for 32% of the separations, and fibreoptic colonoscopy with excision for 25%.

Other commonly reported procedures were chemotherapy administration (252,049 separations), lens insertion (140,449 separations), hip replacement (25,965 separations) and coronary artery bypass graft (16,120 separations) (Figure 6.3).

Some procedures are being increasingly undertaken in the private sector. For example, between 1993–94 and 2001–02 the number of separations for chemotherapy increased fivefold in the private sector and decreased by 2% in public hospitals. Thus, the proportion of separations for chemotherapy that was in private hospitals increased from 15% to 51% over this period. For haemodialysis, 8% of separations were in private hospitals in 1993–94 but, by 2001–02, this had risen to 14%.



### AR-DRGs

Using the AR-DRG classification of acute care separations (see Box 6.2), the Major Diagnostic Categories for which there were the most separations were kidney and urinary tract in public hospitals and digestive system in private hospitals (Tables S38 and S39). A total of 71.0% of separations in the public sector were for medical AR-DRGs (2,725,193), compared with 36.2% in the private sector (854,321). In contrast there was a larger proportion of separations for surgical AR-DRGs (40.6%, 959,489) in the private

sector than in the public sector (20.8%, 797,257). Overall, the average cost weight of separations (a summary measure of the relative resource intensity, based on the public sector cost estimates for each AR-DRG reported) was 0.99 for public acute hospitals and 0.91 for private hospitals (AIHW 2003a).

The AR-DRGs with the highest numbers of separations in 2001-02 featured several for which same-day separations dominated (Table 6.2). Among these were the top two groups in public hospitals, admit for renal dialysis (539,303 public sector separations) and chemotherapy (116,312 public sector separations); and the top two groups in the private sector, other colonoscopy, same-day (169,360 private sector separations) and chemotherapy (121,807 private sector separations). Vaginal delivery without complicating diagnosis was the most common AR-DRG that was not usually a same-day hospitalisation. This group was the third most common in public hospitals (96,714 separations) and the eleventh most common in private hospitals (36,462 separations).

Public hospitals reported separations for all AR-DRGs. Private hospitals reported separations for all but 7 of the 661 AR-DRGs: liver transplant, lung transplant, heart transplant, multiple organ transplants, extracorporeal membrane oxygenation without cardiac surgery, cardiothoracic/vascular procedures for neonates, and other HIV with catastrophic complications and comorbidities.

**Table 6.2: Top 12 AR-DRGs version 4.2 with the highest number of separations, Australian hospitals, 2001-02<sup>(a)</sup>**

AR-DRG	Separations	Same-day separations (per cent)	Patient days	Average length of stay (days)
L61Z Admit for renal dialysis	628,110	99.9	628,374	1.0
R63Z Chemotherapy	238,119	99.9	238,776	1.0
G44C Other colonoscopy, same-day	231,356	100.0	231,356	1.0
G45B Other gastroscopy for non-major digestive disease, same-day	152,265	100.0	152,265	1.0
O60D Vaginal delivery without complicating diagnosis	133,176	3.0	438,916	3.3
C08Z Major lens extraction	127,906	87.8	131,110	1.0
D40Z Dental extractions and restorations	98,667	93.8	100,566	1.0
Z40Z Follow-up after completed treatment with endoscopy	92,696	97.5	93,814	1.0
J11Z Other skin, subcutaneous tissue and breast procedures	85,915	90.8	99,430	1.2
I18Z Knee procedures	83,197	70.0	105,479	1.3
U60Z Mental health treatment same-day without electroconvulsive therapy	81,685	100.0	81,685	1.0
O40Z Abortion with dilatation and curettage, aspiration curettage or hysterotomy	68,924	87.9	71,536	1.0

(a) Separations for which the care type was reported as acute, or as newborn (with qualified patient days), or was not reported.

Source: AIHW 2003a.

### *AR-DRGs for veterans*

Veterans receive admitted patient care in both public and private hospitals. In 2001–02, 327,927 separations for veterans were reported to the AIHW National Hospital Morbidity Database by state and territory governments, 131,613 in public hospitals and 196,314 in private hospitals. The most frequently reported AR-DRGs were admit for renal dialysis (19,781 in public hospitals and 11,253 in private hospitals), major lens procedures (1,421 and 14,543, respectively), and chemotherapy (3,103 and 9,723, respectively). Eligibility to receive hospital treatment as a Department of Veterans' Affairs (DVA) patient may not necessarily have been confirmed by the DVA for these separations.

## **Non-admitted hospital patients**

There were 39,522,981 non-admitted patient occasions of service delivered to individuals through public acute hospitals in 2001–02 or about 2,036 per 1,000 population (AIHW 2003a). Of these, 5,754,666 or 15% were accident and emergency occasions of service, 5,775,085 (15%) were allied health services, and 5,770,193 (15%) were reported in a category of medical/surgical/obstetric services other than particular types such as radiology and organ imaging. In addition to the services provided to individuals, 444,409 services for groups of patients were delivered through public acute hospitals.

There is considerable variation in practices among states and territories in how data on non-admitted patient occasions of service are collected, and the extent to which these types of services are provided in non-hospital settings (such as community health centres), and this may affect the comparability of data on this type of hospital activity (see Box 6.1).

Private hospitals also provide non-admitted patient services, with a different mix of types compared with the public hospitals. In 2001–02, private hospitals reported 1,748,000 occasions of service (ABS 2003a), with the largest numbers reported for accident and emergency (478,000 or 27%) and allied health services (409,000 or 23%).

Table 6.3 presents data on the provision of accident and emergency non-admitted occasions of service in public hospitals by remoteness area of the hospital. The ratio of services provided in the area to the number of residents in the area is presented as an approximation of population use, though services provided in one area may be provided to persons residing in other remoteness areas. Nationally, the ratio varied from 236 per 1,000 population in major cities to 377 per 1,000 population in regional areas and 881 per 1,000 population in remote areas. The pattern of utilisation may reflect a number of factors including patterns of availability of other health care services, patterns of disease and injury, and the poor health of Indigenous people, who have higher population concentrations in remote areas.

There are also fewer accident and emergency non-admitted patient occasions of service per 1,000 population for private hospitals in regional and remote areas. The ratio of services provided to the population resident in the area ranged from 28 per 1,000 population in major cities to 20 per 1,000 population in regional areas and 7 per 1,000 population in remote areas in 2000–01 (AIHW 2003a).

**Table 6.3: Accident and emergency non-admitted patient occasions of service in public acute hospitals, by remoteness area of hospital, states and territories, 2001-02**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>Accident and emergency services</b>									
Major cities	1,116,925	788,228	458,302	260,548	314,244	..	94,763	..	3,033,010
Inner regional	611,293	318,693	356,362	46,205	48,714	64,855	0	..	1,446,122
Outer regional	227,056	103,274	265,525	101,840	69,731	28,082	..	36,933	832,441
<i>Total regional</i>	<i>838,349</i>	<i>421,967</i>	<i>621,887</i>	<i>148,045</i>	<i>118,445</i>	<i>92,937</i>	<i>0</i>	<i>36,933</i>	<i>2,278,563</i>
Remote	33,199	0	79,070	91,626	24,209	6,372	..	42,048	276,524
Very remote	14,965	..	61,176	60,628	11,998	1,463	..	16,339	166,569
<i>Total remote</i>	<i>48,164</i>	<i>0</i>	<i>140,246</i>	<i>152,254</i>	<i>36,207</i>	<i>7,835</i>	<i>..</i>	<i>58,387</i>	<i>443,093</i>
<b>Total</b>	<b>2,003,438</b>	<b>1,210,195</b>	<b>1,220,435</b>	<b>560,847</b>	<b>468,896</b>	<b>100,772</b>	<b>94,763</b>	<b>95,320</b>	<b>5,754,666</b>
<b>Ratio of accident and emergency services provided in area to 1,000 population resident in area<sup>(a)</sup></b>									
Major cities	238	223	241	194	290	..	297	..	236
Inner regional	453	313	380	199	260	216	0	..	359
Outer regional	470	409	411	547	390	175	..	346	413
<i>Total regional</i>	<i>458</i>	<i>332</i>	<i>393</i>	<i>354</i>	<i>324</i>	<i>202</i>	<i>0</i>	<i>346</i>	<i>377</i>
Remote	845	0	855	1,010	531	761	..	1,003	853
Very remote	1,871	..	1,160	1,228	812	560	..	333	933
<i>Total remote</i>	<i>1,019</i>	<i>0</i>	<i>966</i>	<i>1,087</i>	<i>600</i>	<i>713</i>	<i>..</i>	<i>642</i>	<i>881</i>
<b>Total</b>	<b>305</b>	<b>252</b>	<b>336</b>	<b>295</b>	<b>310</b>	<b>214</b>	<b>297</b>	<b>482</b>	<b>296</b>

.. Not applicable.

(a) The ratio of services provided in the area to the number of residents in the area only approximates population use as services provided in an area may be provided to persons residing in other remoteness area categories.

Source: AIHW 2003a.

## Hospitals and bed numbers

In 2001-02, there were 724 public acute care hospitals and 301 private hospitals other than free-standing day hospital facilities, numbers not much changed over recent years (Table 6.4). Acute care hospitals provide at least minimal medical, surgical or obstetric services for admitted patient treatment and/or care, and provide 24-hour nursing service as well as other necessary professional services. Private hospitals in this category include acute care and psychiatric hospitals. In contrast, there was a marked change in the number of private free-standing day hospital facilities, with numbers increasing from 140 in 1995-96, to 236 in 2001-02. These facilities provide investigation and treatment services for admitted patients on a day-only basis.

The number of public psychiatric hospitals declined from 37 in 1993-94 to 23 in 1996-97 and has remained stable since then. These hospitals are devoted mainly to the treatment and care of admitted patients with psychiatric, mental or behavioural disorders. Reforms under the National Mental Health Strategy meant that their role declined in the early to mid-1990s, with more services provided in acute care hospitals and community settings.

Public acute hospitals can be described in terms of 'peer groups' (Table 6.6), based on their volume of admitted patient activity and geographical location (AIHW 2003a). This peer grouping was developed to explain variability in the average cost per casemix-adjusted separation and also demonstrate some of the attributes of the state and territory hospital systems arising from differing geographical characteristics, for example. Thus, Small hospitals had an average of 24 beds in 2001-02, and were most numerous in Queensland and New South Wales. Principal referral and specialist women's and children's hospitals averaged 419 beds each nationally.

Changes in the numbers of hospitals are often due to changes in administrative or reporting arrangements and not necessarily to changes in the number of hospital campuses or buildings. A more reliable indicator of the availability of hospital services may be numbers of hospital beds. However, the concept of an available bed is also becoming less important, for example in the light of increasing same day hospitalisations and provision of hospital in the home care. The comparability of bed numbers can also be affected by the casemix of hospitals with, for example, differing proportions of beds available for special and more general purposes.

Between 1995-96 and 2001-02, there was an 11% reduction in available beds per 1,000 population (Table 6.4). The change in beds per 1,000 population was not evenly distributed between the public and private sectors, with private sector beds increasing by 8% per 1,000 population and public sector beds decreasing by 19% per 1,000 population.

**Table 6.4: Hospitals and available beds, 1995-96 to 2001-02**

	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02
<b>Hospitals</b>							
Public acute	704	706	736	728	726	726	724
Public psychiatric	34	23	24	21	22	23	22
<i>Total public</i>	<i>738</i>	<i>729</i>	<i>760</i>	<i>749</i>	<i>748</i>	<i>749</i>	<i>746</i>
Private free-standing day hospital facilities	140	153	175	175	190	207	236
Private other <sup>(b)</sup>	323	319	317	317	312	302	301
<i>Total private</i>	<i>463</i>	<i>472</i>	<i>492</i>	<i>492</i>	<i>502</i>	<i>509</i>	<i>537</i>
Total	1,201	1,199	1,250	1,241	1,250	1,258	1,283
<b>Available beds (per 1,000 population)<sup>(a)</sup></b>							
Public acute	3.0	2.9	2.8	2.7	2.6	2.6	2.5
Public psychiatric	0.2	0.2	0.2	0.2	0.1	0.1	0.1
<i>Total public</i>	<i>3.2</i>	<i>3.1</i>	<i>3.0</i>	<i>2.9</i>	<i>2.8</i>	<i>2.7</i>	<i>2.6</i>
Private free-standing day hospital facilities	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Private other <sup>(b)</sup>	1.3	1.2	1.2	1.3	1.2	1.3	1.3
<i>Total private</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.3</i>	<i>1.4</i>	<i>1.4</i>
Total	4.5	4.4	4.3	4.2	4.1	4.1	4.0

(a) Average available beds through the course of the year where possible, otherwise available beds at 30 June.

(b) Includes private acute and private psychiatric hospitals.

Source: AIHW 2003a.

In 2001–02, the average number of public hospital beds per 1,000 population ranged from 2.1 per 1,000 population in the Australian Capital Territory to 3.3 per 1,000 population in South Australia. For the private sector, there was a range from 1.1 beds per 1,000 population in the New South Wales to 1.7 beds per 1,000 population in Queensland (Table 6.5). The ratio of public beds per 1,000 population to private beds per 1,000 population was 1.9 nationally, ranging from 1.6 in Queensland to 2.4 in New South Wales.

**Table 6.5: Available hospital beds per 1,000 population, states and territories, 2001–02**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Public acute hospitals	2.5	2.4	2.6	2.6	3.0	2.3	2.1	2.8	2.5
Public psychiatric hospitals	0.2	0.0	0.1	0.1	0.3	0.1	..	..	0.1
<i>Total public</i>	<i>2.6</i>	<i>2.4</i>	<i>2.7</i>	<i>2.7</i>	<i>3.3</i>	<i>2.3</i>	<i>2.1</i>	<i>2.8</i>	<i>2.6</i>
Private free-standing day hospital facilities	0.1	0.1	0.1	0.1	0.1	n.a.	n.a.	n.a.	0.1
Other private hospitals <sup>(a)</sup>	1.0	1.3	1.6	1.5	n.a.	n.a.	1.0	n.a.	1.3
<i>Total private</i>	<i>1.1</i>	<i>1.4</i>	<i>1.7</i>	<i>1.5</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>n.a.</i>	<i>1.4</i>
Total available beds per 1,000 population	3.7	3.8	4.4	4.2	n.a.	n.a.	n.a.	n.a.	4.0

(a) Includes private acute and private psychiatric hospitals.

n.a. Not available but included in totals.

.. Not applicable.

Source: AIHW 2003a.

## Hospital performance indicators

The National Health Performance Framework (NHPC 2002) includes nine dimensions that can be used to assess how well the health system is performing in delivering quality health actions to improve the health of Australians. For several of these dimensions, indicators that relate to the performance of the acute care or hospital component of the health system have been identified. They include:

- the cost per casemix-adjusted separation, as an indicator of efficiency
- waiting times for elective surgery, as an indicator of access
- emergency department waiting times, as an indicator of responsiveness
- hospital separations with an adverse event, as an indicator of safety.

The first three of these indicators are used for public acute hospitals and the last is applicable to all hospitals.

### Cost per casemix-adjusted separation

The cost per casemix-adjusted separation is a measure of the average cost of providing care for an admitted patient, adjusted for the relative complexity of the patient's condition (AIHW 2003a). It is calculated for selected public acute care hospitals as the recurrent expenditure that is estimated to have been associated with treating admitted patients, divided by the total separations adjusted using AR-DRG cost weights for their relative costliness.

Table 6.6 presents cost per casemix-adjusted separation data by hospital peer group for 2001–02 (AIHW 2003a). Nationally, the average cost per casemix-adjusted separation was \$3,006. The cost varied from \$3,720 for the Australian Capital Territory, to \$2,715 for Queensland, and from \$3,147 for Small hospitals, to \$2,787 for Large hospitals.

**Table 6.6: Cost per casemix-adjusted separation, by public hospital peer group<sup>(a)</sup>, 2001–02**

Peer group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
<b>Principal referral and specialist women's &amp; children's hospitals</b>									
Number of hospitals	21	16	15	4	4	2	1	1	64
Average beds per hospital	369	531	353	508	431	382	498	297	419
Average cost weight	1.09	1.01	1.07	1.09	1.08	1.06	0.97	0.81	1.05
Cost per casemix-adjusted separation (\$)	3,130	3,105	2,831	3,036	2,914	2,968	n.p.	n.p.	3,054
<b>Large hospitals</b>									
Number of hospitals	20	7	8	1	3	1	1	1	42
Average beds per hospital	152	115	150	105	201	131	162	153	147
Average cost weight	1.02	0.88	0.90	1.03	1.06	1.25	1.14	0.70	0.97
Cost per casemix-adjusted separation (\$)	2,810	2,917	2,321	2,503	2,967	n.p.	n.p.	n.p.	2,787
<b>Medium hospitals</b>									
Number of hospitals	40	21	17	12	13	0	0	0	103
Average beds per hospital	55	54	59	106	57	..	..	..	62
Average cost weight	0.92	0.79	0.79	0.82	0.84	..	..	..	0.85
Cost per casemix-adjusted separation (\$)	2,953	2,960	2,266	3,491	2,706	..	..	..	2,941
<b>Small hospitals</b>									
Number of hospitals	36	19	38	20	15	3	0	3	134
Average beds per hospital	24	24	22	23	25	16	..	37	24
Average cost weight	0.84	0.80	0.75	0.78	0.88	0.79	..	0.70	0.80
Cost per casemix-adjusted separation (\$)	3,125	3,351	2,865	3,542	2,553	3,506	..	3,893	3,147
<b>Total selected public acute care hospitals</b>									
Number of hospitals	117	63	78	37	35	6	2	5	343
Average beds per hospital	118	173	107	105	98	157	330	112	124
Average cost weight	1.04	0.97	1.00	0.99	1.02	1.08	1.00	0.76	1.00
Cost per casemix-adjusted separation (\$)	3,035	3,087	2,715	3,152	2,873	3,082	3,720	3,710	3,006

n.p. Not published because there was only one hospital in the peer group.

.. Not applicable.

(a) For details of the methods used see AIHW 2003a. Hospital counts refer to the lowest level of establishment with available financial data. As a result, the numbers of hospitals and beds will be different from those reported in Table 6.4.

Source: AIHW 2003a.

## Waiting times for elective surgery

Waiting times for elective surgery are an indicator of access to hospital services; that is, an indicator of the provision of timely care according to need. Waiting times are the focus rather than waiting lists. This is because, without knowledge of the rate of turnover of patients on a waiting list, its size is not a reliable indicator of access to the hospital system or the amount of time that a patient waits for surgery. In 2001–02, the AIHW National Elective Surgery Waiting Times Data Collection included data for an estimated 84% of public hospital elective surgery admissions (AIHW 2003a). Data were not available for smaller hospitals in several states; these hospitals may not have had waiting lists or may have had different waiting list characteristics compared with reporting hospitals.

Overall, the median waiting time for elective surgery was 27 days in 2001–02 (Table 6.7), ranging from 23 days in Queensland to 40 days in the Australian Capital Territory. The shortest median waiting time was for patients admitted for their surgery in Principal referral and specialist women's and children's hospitals. The longest median waiting time was for patients admitted for their surgery in Large hospitals.

In the Principal referral and specialist women's and children's hospitals peer group, 4.2% of patients were admitted after waiting more than 12 months. In the Large hospitals peer group 5.0% of patients waited more than 12 months and in Medium hospitals 4.7% of patients waited more than 12 months. Overall, the proportion of patients admitted after waiting more than 12 months varied among the states and territories, ranging from 3.6% in Queensland and South Australia to 9.0% in Tasmania.

## Emergency department waiting times

Emergency department waiting times are regarded as indicators of responsiveness of the acute care sector (NHPC 2002). This information is summarised as the proportions of patients who wait longer for care than is clinically appropriate in public hospital emergency departments, by triage category (Figure 6.4).

The triage category indicates the urgency of the patient's need for medical and nursing care. Triage nurses usually assign a category to patients when, or shortly after, the patient presents to the emergency department, in response to the question 'This patient should wait for medical care no longer than...?'. The National Triage Scale has five categories that incorporate the time by which the patient should receive care:

- Resuscitation: immediate (within seconds)
- Emergency: within 10 minutes
- Urgent: within 30 minutes
- Semi-urgent: within 60 minutes
- Non-urgent: within 120 minutes.

The comparability of the data between hospital peer groups may be influenced by variation in the coverage of the data collection (AIHW 2003a). Coverage was 97% of estimated emergency department visits for the Principal referral and specialist women's and children's hospitals peer group (labelled 'Principal referral hospitals' in Figure 6.4), 80% for Medium hospitals, 31% for Small hospitals and 64% overall.

**Table 6.7: Patients admitted from waiting lists, by public hospital peer group, 2001-02**

Peer group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>Principal referral and women's &amp; children's hospitals</b>									
Number of admissions <sup>(a)</sup>	89,299	83,257	79,135	21,784	24,796	10,612	4,460	3,932	317,275
Estimated coverage (%) <sup>(b)</sup>	100	100	100	100	100	100	100	100	100
Days waited at 50th percentile	22	27	21	23	32	33	n.p.	n.p.	24
% waited more than 12 months	3.4	5.0	3.7	4.8	3.3	8.6	n.p.	n.p.	4.2
<b>Large hospitals</b>									
Number of admissions <sup>(a)</sup>	51,313	25,620	22,301	n.a.	9,881	2,447	3,566	1,754	116,882
Estimated coverage (%) <sup>(b)</sup>	100	60	100	0	100	100	100	100	84
Days waited at 50th percentile	34	29	27	n.a.	41	n.p.	n.p.	n.p.	33
% waited more than 12 months	6.6	2.4	3.4	n.a.	4.4	n.p.	n.p.	n.p.	5.0
<b>Medium hospitals</b>									
Number of admissions <sup>(a)</sup>	38,286	2,084	5,012	17,048	n.a.	..	..	..	62,430
Estimated coverage (%) <sup>(b)</sup>	100	6	77	72	0	..	..	..	53
Days waited at 50th percentile	35	n.p.	29	27	n.a.	..	..	..	32
% waited more than 12 months	5.8	n.p.	1.4	3.3	n.a.	..	..	..	4.7
<b>Total<sup>(c)</sup></b>									
Number of admissions <sup>(a)</sup>	186,229	112,309	108,844	38,832	34,677	13,059	8,026	6,395	508,371
Estimated coverage (%) <sup>(b)</sup>	100	70	98	72	61	99	100	100	84
Days waited at 50th percentile	28	28	23	25	34	34	40	29	27
% waited more than 12 months	5.0	4.4	3.6	4.1	3.6	9.0	6.8	4.4	4.5

.. Not applicable.

n.a. Not available

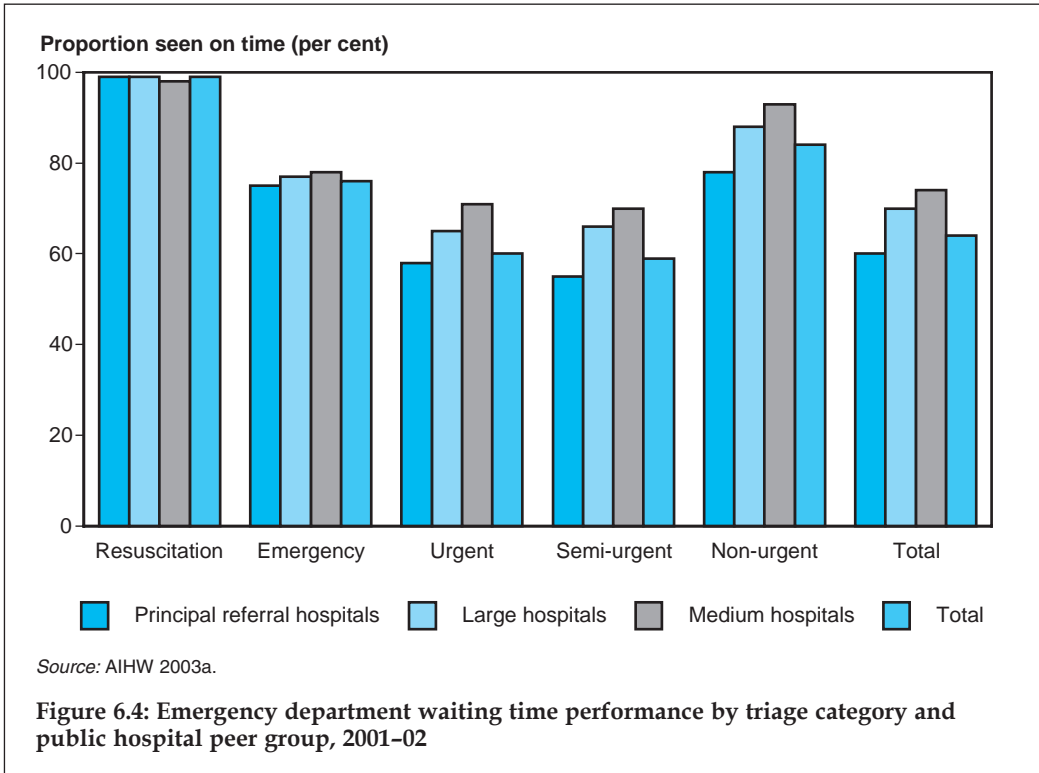
n.p. Not published because there was only one hospital in the peer group.

(a) Number of admissions for elective surgery reported to the AIHW National Elective Surgery Waiting Times Data Collection.

(b) Based on separations reported to the AIHW National Hospital Morbidity Database. See AIHW 2003a for more detail.

(c) Includes data for public hospitals not included in the specified hospital peer groups, and data for two private hospitals contracted to provide elective surgery in New South Wales.

Source: AIHW 2003a.



The proportion of patients receiving care on time varied by triage category, from 99% for resuscitation patients to 59% for semi-urgent patients. Overall, the proportion of patients receiving emergency department care within the required time was 64%, varying from 60% in the Principal referral and specialist women’s and children’s hospitals peer group to 74% in the Medium hospitals peer group. For the non-urgent triage category, the proportion of patients seen on time was 84% overall, and ranged from 78% in the Principal referral and specialist women’s and children’s hospitals peer group to 93% in the Medium hospitals peer group.

## Adverse events

Adverse events are defined as incidents in which harm resulted to a person receiving health care. They include infections, falls and other injuries, and medication and medical device problems, some of which may be preventable. The Australian Council for Safety and Quality in Health Care estimates that an adverse event is associated with about 10% of hospital separations in Australia and other developed countries (ACSQHC 2001). About 2% of separations are estimated to be associated with serious adverse events causing major disability (1.7%) or death (0.3%) (Runciman et al. 2000).

Data are not available to measure the number of adverse events in Australian hospitals accurately. However, hospital separations data can be used as an indication, as they include information on ICD-10-AM diagnoses and external causes of injury and

poisoning (see Box 6.2) that indicate that an adverse event was treated and/or occurred during the hospitalisation. Adverse events as recorded in hospital separations data have been used as an indicator of safety for the National Health Performance Framework (NHPC 2002).

In 2001–02, there were 264,950 separations reported to the AIHW National Hospital Morbidity Database that included an ICD-10-AM code for an adverse event, 4.1% of the total (Table 6.8). Included were 68,008 separations with adverse drug effects (when the drug had been used correctly), 7,510 with misadventures (such as an accidental cut, perforation or laceration during a surgical operation), 191,773 with a procedure such as a surgical operation described as the cause of a complication, and 147,700 with complications described as a diagnosis (including post-operative infections and haemorrhages).

**Table 6.8: Hospital separations with an adverse event<sup>(a)</sup>, 2001–02**

	Separations with adverse events	Adverse event separations per 100 separations
Adverse drug effects	68,008	1.1
Misadventures	7,510	0.1
Procedures causing abnormal reactions/ complications	191,773	3.0
Diagnoses of complications of medical and surgical care	147,700	2.3
<b>Total</b>	<b>264,950</b>	<b>4.1</b>

(a) Other ICD-10-AM codes may also indicate that an adverse event occurred, and some adverse events are not identifiable using ICD-10-AM codes. Hence these data will underestimate the total number of adverse events. Categories do not sum to the totals, because multiple diagnoses and external causes can be recorded for each separation.

Source: AIHW National Hospital Morbidity Database.

Other ICD-10-AM codes may also indicate that an adverse event occurred, and some adverse events are not identifiable using ICD-10-AM codes. Hence, 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.

## 6.2 Private medical practice

The 2001–02 ABS survey of private medical practices and pathology businesses found that, at the end of June 2002, there were 19,464 medical practices (general practices and specialist medical practices) and 50 pathology laboratory businesses in Australia (ABS 2003b). Their key characteristics are described in this section, and information on the services they provide is presented in the sections on services funded by Medicare and the Department of Veterans' Affairs, general practice activity and private psychiatry services.

Medical practices were defined for the ABS survey as medical businesses, and any associated administrative service business. A medical business may be supported by an administrative service business used to manage the finances and secretarial activities of

the medical business. In that situation, the administrative service business and all medical businesses it supported were defined as a single medical practice. Medical businesses without administrative service businesses were treated as single-business medical practices.

There were 9,864 specialist practices in June 2002, with a total employment of 45,046 people at 16,585 locations. The specialties of surgery, internal medicine and psychiatry accounted for 61% of the practices, and surgery, diagnostic imaging and internal medicine accounted for 59% of the employment. The 9,864 specialist practices comprised 2,971 administrative service businesses (associated with 4,267 specialist medical businesses) and 6,893 specialist practices operating without an administrative service business. About 90% were single-practitioner practices. There was an increase in the number of specialist practices compared with the end of June 1995 (9,583) but a fall in employment (from 51,477).

Total income generated by specialist practices in 2001–02 was \$5,911 million and total expenditure was \$3,973 million. They had an operating profit before tax of \$1,653 million, and an operating profit margin of 28.1%.

The 50 pathology laboratory businesses operated at 213 laboratory locations and 1,363 collection centres (some colocated with the laboratories). They employed 14,534 people, including 397 pathologists, 6,683 nurses/pathology collectors and 2,291 medical scientists/technologists. Total income in 2001–02 was \$1,243 million and expenditure totalled \$1,152 million. The operating profit before tax was \$92.9 million, representing an operating profit margin of 7.5%.

There were 9,600 general practice businesses at the end of June 2002, incorporating 13,305 practices with a total employment of 56,911 people at 12,091 locations. There were 2,302 administrative service businesses (associated with 6,007 general practices) and 7,298 general practices operating without an administrative service business. About 69% were single-practitioner practices and about 6% had six or more practitioners. Businesses that included 10 or more medical businesses with an administrative service business (and could be regarded as a corporate general practice) operated at 211 locations.

The number of general practice businesses was lower in 2002 than at the end of June 1995 (10,349), possibly reflecting the corporatisation of general practices in recent years. Employment had grown from 54,657.

Total income generated by general practices in 2001–02 was \$10,335 million and total expenditure was \$3,146 million. They had an operating profit before tax of \$1,107 million, and an operating profit margin of 26.4%.

## **Medicare-funded private medical services**

Data on the operation of Medicare, Australia's system of universal health insurance, provide an overview of the use of private medical services (DoHA 2004). These include services provided outside hospitals as well as medical services for private patients in public and private hospitals. Note, however, that Medicare data do not provide a complete view of the use of private medical services (see Box 6.3).

### **Box 6.3: Medicare and Medicare benefits**

*Medicare, Australia's universal health insurance scheme, came into operation on 1 February 1984. Administered by the Health Insurance Commission (HIC), the scheme provides free or subsidised treatment by medical practitioners, participating optometrists and for certain services provided by other health professionals. All Australian residents are eligible for Medicare. Short-term visitors are not eligible unless they are covered by a reciprocal healthcare agreement and the services are of immediate medical necessity. Medicare is funded through taxation, which includes the Medicare levy (see Box 5.3).*

*The term Medicare is also often used to refer to arrangements whereby people can access free public hospital outpatient and emergency department treatment, and admitted patient care as public (Medicare) patients in hospitals. These arrangements are agreed by the Australian Government and the state and territory governments under the Australian Health Care Agreements. Under them, doctors appointed by the hospitals provide medical care for public patients (at no cost to the patient). Patients who choose to be treated as private patients in public or private hospitals are liable for hospital accommodation and other charges, and for medical fees charged by private practitioners. Private health insurance can be purchased to cover these private hospitalisation costs (see Section 5.3 and Box 5.2).*

*The Pharmaceutical Benefits Scheme (see Box 6.5) can also be referred to as part of Medicare.*

*Medicare benefits provide financial assistance to people who incur medical expenses for selected professional services rendered by medical practitioners, participating optometrists and practice nurses, dentists and allied health professionals. A schedule of fees has been established, and Medicare benefits (the amounts paid by Medicare) are set as a proportion of those fees.*

*Practitioners are not obliged to adhere to the schedule fees, except in the case of optometrists. However, if they direct-bill (bulk-bill) the HIC for any service rather than issuing patients with accounts, the amount payable then is the Medicare benefit, and additional charges cannot be raised for the service.*

*Some types of medical services do not qualify for Medicare benefits. These include services provided to entitled veterans and their dependants by the Department of Veterans' Affairs. Interim Medicare benefits may be paid for services for which claims may be lodged under motor vehicle third-party insurance and workers compensation schemes. These benefits are recovered by the HIC at the time when claims are settled. Other services which do not qualify for Medicare benefits include services provided by public authorities (including services to public patients in hospital) and most government-funded community health services, as well as services not necessary for patient care (such as examinations for employment purposes, cosmetic surgery and health screening services). To attract benefits, services must be 'clinically relevant', that is, reasonably required for the treatment of the patient's condition.*

*(continued)*

### **Box 6.3 (continued): Medicare and Medicare benefits**

*For private patients who are admitted to hospitals or day-hospital facilities, the Medicare benefit is 75% of the schedule fee and the gap between the benefit and the schedule fee is insurable with private health insurance organisations. Amounts paid in excess of the schedule fee may be the subject of a private health insurance contract or no-gaps arrangement.*

*For non-hospital services, from 1 November 2003, the Medicare benefit is 85% of the schedule fee for schedule fees up to \$390.70. For higher schedule fees, the Medicare benefit is the schedule fee less the maximum gap, which was \$58.60 from 1 November 2003, and is indexed annually. The patient is responsible for the gap between the benefit paid and the fee charged, including amounts charged above the schedule fee.*

*General practitioners can claim an additional \$5 for every bulk-billed service they provide to children under the age of 16 years and to Commonwealth concession card holders, and \$7.50 for those categories of patients in regional, rural and remote Australia and in Tasmania.*

*A number of safety net arrangements apply in relation to non-hospital services. For Commonwealth concession card holders and families who receive Family Tax Benefit (A), once \$300 has been paid as out-of-pocket expenses (the difference between the Medicare benefits and the amount charged by the doctor), Medicare covers 80% of the out-of-pocket costs (calculated in the same way) for the rest of the calendar year. For other families and individuals Medicare covers 80% of out-of-pocket costs after a threshold of \$700 in a calendar year is reached. In addition, when gap amounts paid (the difference between the Medicare benefits and the schedule fees for services received) reach \$328 per individual or family, Medicare benefits increase to up to 100% of the schedule fee for the remainder of the calendar year.*

Medicare items cover a range of different services, from a single-doctor consultation to multiple pathology tests for a single patient episode, each of which is counted as a separate item. Consequently, it is not possible to directly compare different types of services based on the number of Medicare items. Also for this reason, the terms 'items' or 'items of service' are generally used when referring to Medicare services. The count of items is subject to changes in the bundling and unbundling of services so the count of items is not always completely comparable between years.

In 2002–03, Medicare provided benefits for 221.4 million services (Table 6.9). Non-referred (mainly GP) attendances accounted for 96.9 million services (43.8%) and pathology for 70.5 million (31.8%).

The 221.4 million services represented an increase of 0.3% over the 220.7 million services in 2001–02 and an increase of 3.5% over the 213.9 million in 2000–01. Item types that increased in number between 2000–01 and 2002–03 include those for pathology and assistance at operations, and there were decreases for non-referred attendances and obstetric items. The fall in the number of anaesthetic items recorded was affected by the introduction of the Relative Value Guide for anaesthetics in November 2001. This meant that episodes (rather than individual Medicare item numbers) were counted for anaesthetics.

**Table 6.9: Medicare items processed, by broad type of service, 2000–01 to 2002–03**

	Items per person				Items in 2002–03	
	2000–01	2001–02	2002–03	Average annual change (per cent)	Number	Per cent
Non-referred attendances <sup>(a)</sup>	5.22	5.12	4.90	–2.1	96,919,246	43.8
Specialist attendances	1.00	1.01	1.02	0.4	20,095,345	9.1
Obstetrics	0.08	0.08	0.07	–1.2	1,441,096	0.7
Anaesthetics	0.11	0.10	0.10	–3.1	1,913,847	0.9
Pathology	3.22	3.48	3.56	3.5	70,482,000	31.8
Diagnostic imaging	0.64	0.65	0.67	1.6	13,228,360	6.0
Operations	0.30	0.31	0.32	1.9	6,339,792	2.9
Assistance at operations	0.01	0.01	0.02	5.7	301,157	0.1
Optometry	0.22	0.23	0.23	1.6	4,572,650	2.1
Radiotherapy and therapeutic nuclear medicine	0.03	0.03	0.03	1.2	665,675	0.3
Other	0.26	0.27	0.28	1.9	5,447,016	2.5
<b>Total</b>	<b>11.10</b>	<b>11.30</b>	<b>11.19</b>	<b>0.3</b>	<b>221,406,184</b>	<b>100.0</b>
Pathology PEI items <sup>(b)</sup>	1.02	1.08	1.09	2.3	21,612,252	9.8
<b>Total excluding pathology PEI items</b>	<b>10.08</b>	<b>10.22</b>	<b>10.10</b>	<b>0.1</b>	<b>199,793,932</b>	<b>90.2</b>

(a) Includes GP attendances, emergency attendances, attendances after hours, other prolonged attendances, group therapy and acupuncture.

(b) Patient episode initiation items, covering the administrative costs associated with the collection of specimens.

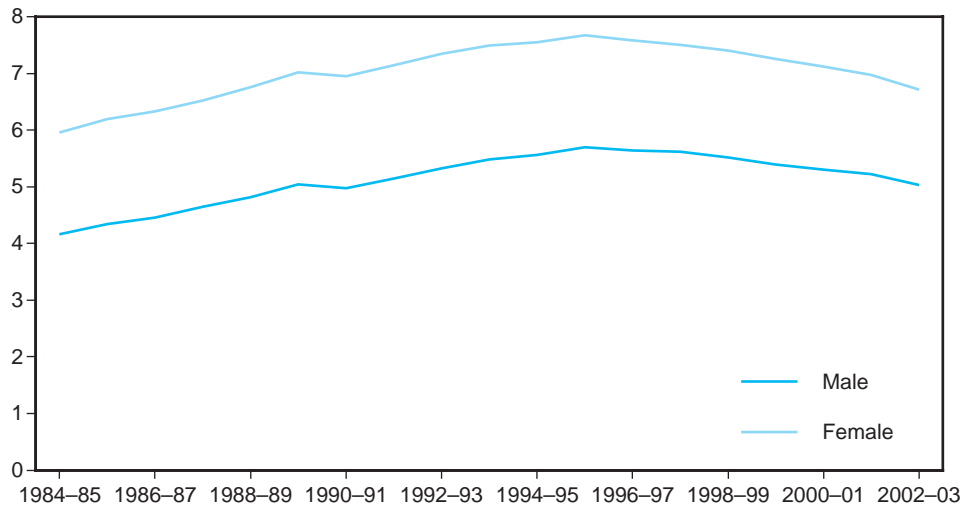
Source: DoHA 2004.

In 2002–03, each person in Australia received, on average, 11.2 services under Medicare (or 10.1 services, if excluding pathology collection items that cover the administrative costs associated with collection of specimens for pathology). This was a decline of 1.0% compared with 2001–02 and an increase of 0.8% compared with 2000–01. In 2002–03, the services included an average of 4.9 non-referred attendances per person, 1.0 specialist attendance and 3.6 pathology services.

The number of services used per person varied considerably. For example, in 2002–03, approximately 3% of the population received 51 or more services each, and these accounted for 19.7% of total services and 22.2% of benefits paid. Between one and five services were received by approximately 34% of the population, and these accounted for 8.2% of services and 7.0% of the total benefits. No services were received by approximately 13% of the population (DoHA, unpublished data).

The average number of attendances with GPs and specialists per person per year increased steadily from 1984–85 to 1995–96, and has since declined (Figure 6.5). The data exclude obstetrics, pathology, radiology, anaesthetics, optometry and surgery. On an age-standardised basis, in 1984–85 males consulted a GP or specialist on average 4.2 times per year and the female population averaged 6.0 times per year. The peak was in 1995–96 (5.7 and 7.7, respectively) and in 2002–03 these rates were 5.0 and 6.7, respectively.

### Consultations

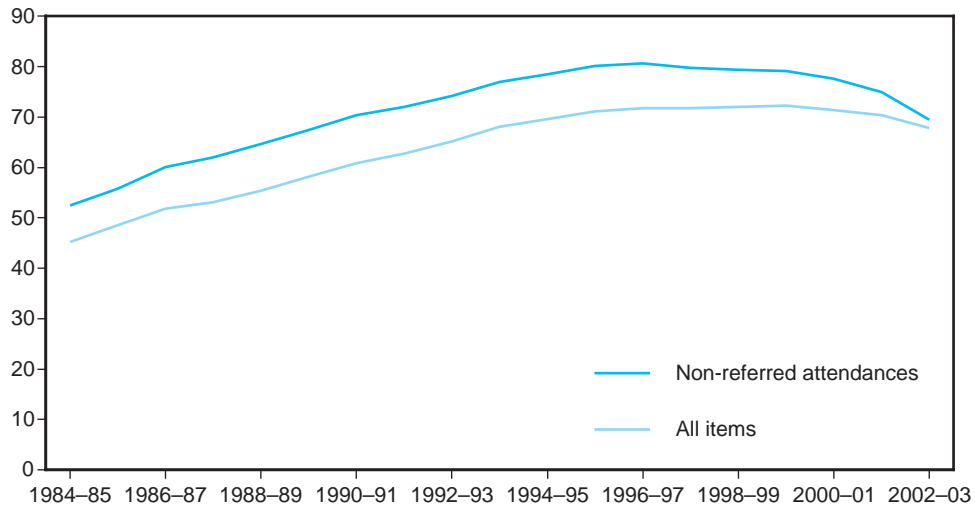


Note: Rates are age-standardised to the 2001 Australian population.

Source: DoHA 2004.

**Figure 6.5: GP and specialist consultations per person, 1984-85 to 2002-03**

### Per cent



Source: DoHA 2004.

**Figure 6.6: Proportions of all Medicare items and non-referred attendance items that were bulk-billed, 1984-85 to 2002-03**

Bulk-billing rates (for all items combined) increased from 45.2% in 1984–85 to a high of 72.3% in 1999–2000 and have been lower since then, to 70.4% in 2001–02, 67.8% in 2002–03 (Figure 6.6) and 67.9% in the quarter ending 31 March 2004. Bulk-billing rates for non-referred attendances increased from 52.5% in 1984–85 to a high of 80.6% in 1996–97. They were 74.9% in 2001–02, 69.5% in 2002–03 and 68.3% (excluding practice nurse services) in the quarter ending 31 March 2004.

## Use of Medicare-funded services by state

The use of medical items varies among the states and territories. In 2002–03, the highest number of services (on an age-standardised basis) was recorded in New South Wales with 11.7 services per person. This was followed by Victoria (11.2) and South Australia (10.9). The Northern Territory recorded the lowest per person use of medical services with 7.5. This lower use in the Northern Territory is partly offset by services being provided to Aboriginal and Torres Strait Islander peoples through programs other than Medicare, and these services are not included in the data reported here.

## DVA-funded medical services

The Department of Veterans' Affairs (DVA) funds medical services provided by local medical officers (GPs who are registered with DVA) and specialists for eligible veterans, war widows/widowers and their dependants. DVA issues each eligible veteran with a gold or white health card. The gold card is issued to veterans who are entitled to the full range of health care services funded by DVA. The white card provides access to the services for service-related conditions only.

There were 11,661,281 medical services funded by DVA in 2000–01, 11,919,510 in 2001–02, and 12,446,634 during 2002–03, increases of 2.2% and 4.4% respectively. Total expenditure was \$634 million (DVA unpublished data).

The proportion of the eligible DVA population (335,160 as at 30 June 2003) using medical services was 94.7% in 2001–02 and 95.2% in 2002–03.

## General practice activity

This section provides an overview of results from the fifth year of the BEACH (Bettering the Evaluation and Care of Health) program, a continuous study of general practice activity in Australia, and presents measures of changes in practice patterns from 1998–99 to 2002–03. The BEACH program provides insight into the patients and problems managed in general practice and how GPs manage a wide range of problems. From April 2002 to March 2003, inclusive, a random sample of 1,008 GPs from across Australia provided details of 100,800 GP-patient encounters (100,987 encounters, weighted by GP age-sex and GP activity) (AIHW: Britt et al. 2003).

### The encounters

Most of the 100,987 encounters (98.4%) were direct (patient seen, face-to-face). The vast majority (95.0%) of these were claimable from Medicare or the DVA, and 82.9% were standard surgery consultations.

Of the encounters, 14% were with children aged less than 15 years, 10.1% were with young adults (15 to 24 years) and 24.2% with older adults (65 years and over). The patient was

female at 57.8% of encounters, held a Commonwealth Health Care card at 40.4%, and came from a non-English-speaking background at 10.6% of encounters. The patient identified themselves as an Aboriginal person or a Torres Strait Islander at 1.0% of encounters.

### Box 6.4: The BEACH survey of general practice activity

*The BEACH (Bettering the Evaluation and Care of Health) study is conducted by the General Practice Statistics and Classification Unit (an AIHW collaborating unit within the Family Medicine Research Centre, University of Sydney). BEACH began in April 1998 and each year about 1,000 GPs from a random sample participate, providing details of about 100,000 GP-patient encounters which represent the approximately one hundred million such encounters across the country each year. No information identifying patients is collected.*

*GPs who claimed at least 375 general practice Medicare items of service in the previous three months form the source population. This equates with 1,500 Medicare claims a year and ensures inclusion of the majority of part-time GPs while excluding those who are not in private practice but may claim for a few consultations a year. Each participating GP completes details of about 100 consecutive patient encounters on structured, paper encounter forms and provides information about themselves and their practice. Questions about selected patient health risk factors are asked of a subsample of patients.*

For every 100 encounters there was an average 151 patient reasons for encounter (RFEs) recorded. The most common RFEs were those of a general and unspecified nature (22.9 per 100 encounters). Approximately half the RFEs related to the respiratory, musculoskeletal, skin, circulatory and digestive systems. The 20 most commonly recorded RFEs accounted for 48.1% of all RFEs. The need for a check-up was the most common RFE (13.6 per 100 encounters), followed by requests for medication (10.8). RFEs of a symptomatic nature, such as cough, were also commonly reported (Table 6.10).

Table 6.10: GP consultations: 20 most frequent patient reasons for encounter, 2002–03

Patient reason for encounter	Per cent of total RFEs	Rate per 100 encounters	Patient reason for encounter	Per cent of total RFEs	Rate per 100 encounters
Check-up	9.0	13.6	Headache	1.4	2.1
Prescription	7.1	10.8	Abdominal pain	1.3	1.9
Cough	4.5	6.7	Depression	1.3	1.9
Test results	3.6	5.4	Hypertension	1.2	1.8
Immunisation/vaccination	3.1	4.7	Nasal congestion/sneezing	1.2	1.7
Throat complaint	2.5	3.8	Ear pain	1.1	1.7
Back complaint	2.3	3.5	Diarrhoea	1.0	1.6
Rash	1.9	2.8	Weakness/tiredness	1.0	1.5
Fever	1.5	2.2	Administrative procedure	1.0	1.4
Upper respiratory tract infection	1.4	2.2	Knee complaint	0.9	1.3

Note: RFE—reason for encounter. Based on 152,341 RFEs at 100,987 encounters.

Source: AIHW: Britt et al. 2003.

## The problems managed

Problems were managed at an average rate of 145 per 100 encounters. Those relating to the respiratory system, musculoskeletal system and skin accounted for almost 40% of all problems managed. The 20 problems most frequently managed accounted for 39.5% of all problems managed. The most common individual problems were hypertension (8.9 per 100 encounters), upper respiratory tract infection (6.4 per 100), immunisation/vaccination (4.6 per 100) and depression (3.5 per 100) (Table 6.11).

**Table 6.11: GP consultations: 20 most frequently managed problems, 2002–03**

Problem managed	Per cent of total problems	Rate per 100 encounters	Problem managed	Per cent of total problems	Rate per 100 encounters
Hypertension	6.1	8.9	Prescription	1.4	2.0
Upper respiratory tract infection	4.4	6.4	General check-up	1.3	1.9
Immunisation/vaccination	3.2	4.6	Contact dermatitis	1.3	1.9
Depression	2.4	3.5	Oesophageal disease	1.3	1.9
Lipid disorder	2.1	3.0	Female genital check-up/Pap smear	1.2	1.8
Diabetes (non-gestational)	2.0	2.9	Sprain/strain	1.2	1.7
Asthma	1.9	2.7	Urinary tract infection	1.2	1.7
Back complaint	1.8	2.6	Sleep disturbance	1.1	1.6
Acute bronchitis/bronchiolitis	1.8	2.6	Anxiety	1.1	1.6
Osteoarthritis	1.8	2.6	Menopausal complaint	1.0	1.5

*Note:* Based on 146,336 problems managed at 100,987 encounters.

*Source:* AIHW: Britt et al. 2003.

From 1998–99 to 2002–03, there were increased management rates of endocrine and metabolic problems, partly explained by increases in the management of lipid disorders and diabetes. There was a significant decrease in the management of respiratory problems, in particular asthma and acute bronchitis. There were also marginal decreases in the management of problems related to the ear, and to the blood and blood-forming organs.

## Management

There was no specific treatment recorded for 8.7% of problems managed. The most common treatment was medication alone (33.8% of problems) followed by medication plus clinical treatments (12.1%) and then by clinical treatment alone (7.2%).

GPs undertook a total of 211,283 management activities in the 100,987 encounters, at a rate of 209 per 100 encounters and 144 per 100 problems. The most common management activity was medication prescribed, advised or supplied, at a rate of 103.8 per 100 encounters or 71.6 per 100 problems. Other treatments took place at the rate of 51.8 per 100 encounters, referrals at a rate of 11.1, pathology orders at a rate of 32.9 and imaging at a rate of 8.6 per 100 encounters (Table 6.12).

**Table 6.12: GP consultations: management activities, 2002–03**

<b>Management type</b>	<b>Rate per 100 encounters</b>	<b>Rate per 100 problems</b>
Medications	103.8	71.6
Prescribed	84.3	58.2
Advised for over-the-counter purchase	10.2	7.0
GP supplied	9.3	6.4
Other treatments	51.8	35.7
Clinical	37.2	25.7
Procedural	14.6	10.1
Referrals	11.1	7.7
Specialist	7.7	5.3
Allied health	2.5	1.7
Pathology	32.9	22.7
Imaging	8.6	5.9
<b>Total management activities</b>	<b>209.2</b>	<b>144.4</b>

*Note:* Based on 146,336 problems managed at 100,987 encounters.

*Source:* AIHW: Britt et al. 2003.

There were 104 medications recorded per 100 encounters, or 72 per 100 problems. These medications could be prescribed (81.3% of all medications), advised for over-the-counter purchase (9.8%), or supplied by the GP (9.0%).

- Medications were prescribed at a rate of 84.3 per 100 encounters or 58.2 per 100 problems managed, at least one being prescribed at 54.9% of encounters and for 47.2% of problems managed. The most commonly prescribed medication groups and generic medications are detailed in Section 6.5 Use of medications.
- Medications were recommended for over-the-counter purchase at a rate of 10.2 per 100 encounters and 7.0 per 100 problems managed. For medications supplied by the GP, the rates were 9.3 per 100 encounters and 6.4 per 100 problems. Medications most often recommended for over-the-counter purchase and supplied by the GP are detailed in Section 6.5 Use of medications.

Over the five years of the BEACH program there has been a significant decrease in the overall rate at which medications were prescribed, but not in the rates at which medications were advised for over-the-counter purchase or supplied by the GP. Changes in patterns of prescribing included:

- decreased rates of prescribing of antibiotics (from 17.3 per 100 encounters in 1998–99 to 13.8 per 100 encounters in 2002–03);
- decreased rates of overall prescribing of respiratory medications (from 6.9 per 100 encounters in 1998–99 to 5.3 per 100 encounters in 2002–03), in particular bronchodilators (from 3.7 per 100 encounters in 1998–99 to 2.5 per 100 encounters in 2002–03); and

- decreased rates of prescribing of simple and compound analgesics (from 4.7 and 3.3 per 100 encounters in 1998–99, respectively, to 3.9 and 2.4 per 100 encounters in 2002–03). In contrast there was an increase in prescription rates for narcotic analgesics (from 1.1 per 100 encounters in 1998–99 to 2.2 per 100 encounters in 2002–03).

Non-pharmacological treatments provided by the GP were classified as clinical and procedural. At least one non-pharmacological treatment was provided for 30.9% of problems. Clinical treatments were more frequent (37.2 per 100 encounters or 25.7 per 100 problems) than procedures (14.6 and 10.1 respectively). General advice and education (6.9 per 100 encounters) was the most common clinical treatment followed by counselling about the problem managed. The most frequent procedure was excision or removal of tissue (2.9 per 100 encounters).

At least one referral was given at 10.6% of encounters for 7.7% of problems. Referrals to medical specialists arose at a rate of 7.7 per 100 encounters, the most frequent being to orthopaedic surgeons. Referrals to allied health professionals were made at a rate of 2.5 per 100 encounters, the majority being to physiotherapists. Admissions to hospital and referrals to the emergency department were rare. Pathology was ordered for more than one in ten problems (at a rate of 32.9 tests per 100 encounters). Imaging was ordered for approximately one in 20 problems, at a rate of 8.6 per 100 encounters.

## 6.3 Dental services

This section presents information on use of dental care, using data from the National Dental Telephone Interview Survey conducted in 2002 (AIHW: Carter and Stewart 2003).

### Children's use of dental care

In 2002, nationally, 81.6% of children aged 5–14 years had made a dental visit in the previous 12 months (Table 6.13). This proportion varied from 72% in the Australian Capital Territory and 74% in Victoria to 89% in Queensland and Western Australia. Just over 60% of children visited for a check-up, while 21% visited for pain or other problem (likely to include fillings and orthodontic consultations) and 18.4% recorded no visit in the previous 12 months. The proportion whose visits were for pain or other problem, rather than for a check-up, ranged from 15.9% in the Northern Territory to 28.0% in Queensland (calculated from Table 6.13).

In 2002, the school dental service provided care within the previous 12 months to more than 60% of children aged 5–9 years in Queensland, South Australia, Western Australia, Tasmania and the Northern Territory (Figure 6.7). The corresponding figures were 34% in Victoria and less than 30% in New South Wales and the Australian Capital Territory. A lower proportion of children aged 10–14 years visited a school dental service in the previous 12 months. Around 50% of children 10–14 in Queensland, South Australia, Tasmania and the Northern Territory, and about 70% in Western Australia had made a dental visit within the previous 12 months at a school dental service. Coverage of this age group (comprising both primary and

secondary students) is affected by variations among the states and territories in eligibility of card holders and secondary students, and in requirements for copayments.

Among children aged 5–14 years who were covered by a government concession card, 72% made their last visit at a school dental service compared with 43% of non-card holders; however, a higher proportion of card holders had not visited in the last year, 27% compared to 16% of non-card holders.

**Table 6.13: Last dental visit in the previous 12 months, children 5–14 years, 2002 (per cent)**

	Reason for visit			No visit	At school dental service
	Check-up	Pain	Other problem		
<b>Age group</b>					
5–11 years	60.7	6.1	16.0	17.1	54.0
12–14 years	59.9	6.5	11.9	21.7	38.9
<b>State/territory</b>					
New South Wales	58.5	6.4	15.3	19.8	31.7
Victoria	55.2	3.5	15.5	25.8	40.1
Queensland	64.0	10.6	14.3	11.1	67.5
South Australia	62.9	6.0	15.3	15.8	66.1
Western Australia	70.2	3.6	15.7	10.5	78.7
Tasmania	59.0	7.4	11.7	21.9	64.3
Australian Capital Territory	57.8	7.1	6.8	28.3	34.4
Northern Territory	73.9	3.0	11.0	12.1	77.5
<b>Government concession card</b>					
Yes	51.2	6.7	14.8	27.3	71.7
No	63.4	6.0	15.0	15.6	43.0
All	60.5	6.2	14.9	18.4	49.7

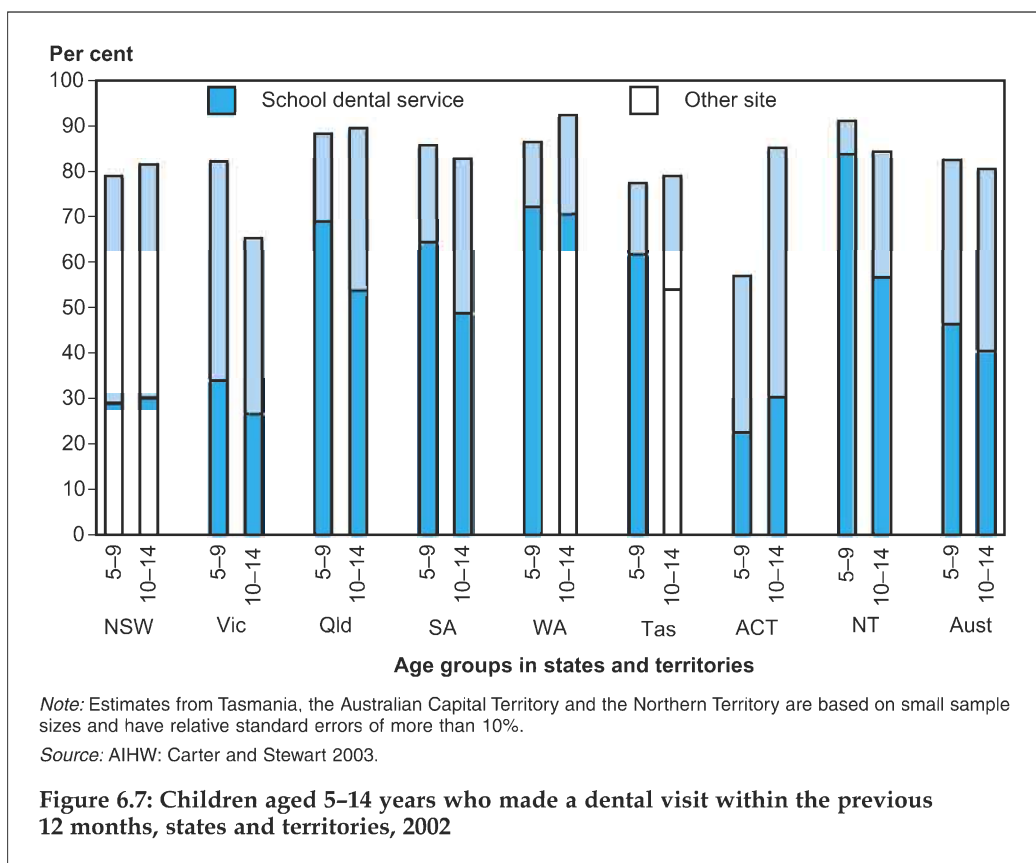
Source: AIHW: Carter and Stewart 2003.

## Adult use of dental care

In 2002, over half of dentate Australians (that is, persons with at least one natural tooth) had made a dental visit within the previous 12 months, with 49% of those visiting making their last visit for a dental problem, rather than for a check-up. Problem visits were almost equally split between pain and non-pain problems (Table 6.14). Pain-related problem visits are likely to be made in response to toothache or trauma. Problem visits that are not pain-related are likely to be due to lost or broken fillings and other problems such as sensitivity, staining, chipped teeth and bleeding gums.

Large differences were observed between income groups: the proportion of people last visiting for a check-up increased with income, from 20% for people in households with an annual income of less than \$12,000 to 35% for people in households with an annual income of \$60,000 or more. Pain- or other problem-related visits, in contrast, did not

vary with income group. The proportions of people not making a dental visit at all in the previous year was higher for the lowest income group (51%), decreasing to 37% of the highest income group.



The proportion of government concession card holders last visiting for a check-up was lower than that for non-card holders, and reflected with the proportions of card holders and non-card holders not making a dental visit.

There were differences in the visiting rate and services received by card holders who received publicly-funded care and those card holders and non-card holders who received private care at their own expense (Table 6.14). The frequency of check-up visits in the last 12 months ranged from 14% of public-funded card holders to 34% of non-card holders, indicating differences in use of services and the likelihood of receiving ongoing preventive care.

Dental extractions and fillings were more frequent among card holders who received publicly-funded care than other groups. For every 100 card holders receiving publicly-funded dental care within the previous year, 42 had one or more teeth extracted and 53 had one or more fillings. In comparison, of card holders who received private care, 17% had extraction(s) and 46% received filling(s) (Table 6.15).

**Table 6.14: Last dental visit in the previous 12 months, dentate persons aged 15 years or more, 2002 (per cent)**

	Check-up	Pain	Other problem	No visit
<b>Age group</b>				
15–17 years	53.9	6.0	10.9	29.2
18–24 years	33.3	10.8	8.6	47.3
25–44 years	27.0	16.5	9.7	46.8
45–64 years	27.6	15.9	20.1	36.4
65+ years	29.8	10.6	21.3	38.3
<b>Annual household income</b>				
<\$12,000	20.2	14.6	14.5	50.7
\$12,000–20,000	21.5	15.7	14.2	48.6
\$20,000–40,000	26.8	16.6	13.8	42.8
\$40,000–60,000	30.3	14.0	13.4	42.3
\$60,000+	35.3	13.3	14.5	36.9
<b>Government concession card</b>				
Yes	20.4	15.4	15.4	48.8
No	33.0	14.0	13.4	39.6
<b>Care provider for last dental visit</b>				
Card holders; publicly-funded care	13.5	24.3	11.5	50.7
Card holders; private care	24.4	11.6	17.9	46.1
Non-card holders; private care	34.1	14.8	14.0	37.1
<b>All</b>	<b>29.9</b>	<b>14.3</b>	<b>14.0</b>	<b>41.8</b>

Source: AIHW: Carter and Stewart 2003.

**Table 6.15: Treatment at last dental visit, by care provider, dentate persons aged 15 years or more, 2002**

	Dental visit within previous 12 months	Extraction within previous 12 months <sup>(a)</sup>		Filling within previous 12 months <sup>(a)</sup>	
	Per cent	Per cent	Average number of extractions	Per cent	Average number of fillings
Card holders; publicly-funded care	49.5	41.8	0.71	52.7	1.41
Card holders; private care	53.9	16.9	0.30	46.0	0.85
Non-card holders; private care	62.9	14.9	0.28	43.8	0.83
<b>All</b>	<b>58.4</b>	<b>17.0</b>	<b>0.31</b>	<b>43.9</b>	<b>0.86</b>

(a) Subset of dental visit within previous 12 months.

Source: AIHW: Carter and Stewart 2003.