
2 Australia's public hospital sector

Key points

- State and territory governments are assigned specific responsibilities in the delivery of public hospital services under the National Healthcare Agreement. These include the provision of free hospital (including emergency) services, with equitable access to all eligible persons regardless of geographic location, and a major role in clinical training. These responsibilities shape the volume and type of services that the public hospital sector can deliver.
- Australia currently has 768 public hospitals, which vary widely in size and location. However, most are small in size (with 50 beds or fewer) and most are located in regional areas.
- The main type of service provided by public hospitals is acute care, but their services extend to rehabilitation, palliative, geriatric, newborn and maintenance care. Around half of all public hospital separations are same-day admissions.
- Australia's public hospitals treated over 4 million admitted patients in 2007-08. Over one-third of patients treated in public hospitals are aged 65 or older, and 14 per cent of patients in public hospitals elect to be treated as private patients.
- Almost three-quarters of public hospital patients are admitted for medical treatment while 20 per cent are admitted for surgery. The most common inpatient treatment in public hospitals is same-day renal dialysis.
- Public hospitals delivered over 48 million occasions of service to non-admitted patients in 2007-08, including 7.1 million accident and emergency presentations.
- Over the past four years, the number of beds per capita has remained stable, while waiting times for elective surgery and the volume of emergency cases have risen.
- Given that the delivery of public hospital services is the responsibility of the state and territory governments, Australia effectively has eight different public hospital systems. The differing needs and preferences of the states and territories lead to diversity in structure and service provision within the public hospital sector. Variations among the states and territories are observed with respect to the:
 - centralisation of governance
 - mix of diagnoses treated and the share of same-day and overnight admissions
 - demographic profile of patients and the proportion admitted as private patients
 - number of teaching hospitals
 - average salaries of public hospital staff.

The provision of public hospital services in Australia is founded on the principle that all persons eligible for Medicare are entitled to choose to receive health and emergency services free of charge as a public patient. The principle of public hospital provision, as well as the responsibilities and governance arrangements of the public hospital sector, are specified in the current National Healthcare Agreement (NHA) (and formerly in the Australian Health Care Agreements (AHCAs)).¹

A public hospital is defined as one that is operated by, or on behalf of, the government of the state or territory in which it is established. This includes hospitals which are owned by private or charitable groups but are authorised or contracted by the government to deliver public hospital services (AIHW 2009c). Although the funding of public hospitals is shared between the Australian, state and territory governments, the delivery of public hospital services is the responsibility of each state and territory government. The decentralisation of management responsibility means that Australia effectively has eight different public hospital systems which reflect, at least partly, the different population needs, geography and resource capacity of each state and territory.

This chapter profiles the structure and activity of Australia's public hospital sector, including the types of services delivered, the characteristics of the patients treated, and the workforce of the sector. Recent developments in the public hospital sector are also reviewed.

2.1 Role and structure of public hospitals

Role of public hospitals

Public hospitals exist in order to fulfil the government's obligation to provide free hospital services to all members of the community who meet Medicare eligibility criteria. More broadly, governments have an incentive to provide public hospital services to reap the social benefits associated with the achievement of good health (such as higher workforce participation and productivity) and to minimise the social costs associated with poor health (such as the costs of infection outbreaks). More recently, the incentive for governments to provide public hospital services has been further driven by the community's growing expectations regarding accessibility to health services.

¹ The NHA replaced the bilateral state and territory AHCAs from July 2009.

Under the NHA and former AHCAs, it is the responsibility of state and territory governments to ensure all residents have equitable access to hospital services, meaning that a broad range of hospital (including emergency) services should be available, free of charge, throughout each state and territory. In regions where it is not feasible for local hospitals to provide some types of acute care, patient travel and accommodation services are often provided. Since funding for public hospitals is sourced primarily from general taxation — rather than fees for services — the volume of public hospital services demanded must be managed within the given budget constraint. Excess demand for services cannot be rationed by price, but by non-price mechanisms such as waiting lists.

The service responsibilities assigned to public hospitals have implications for their allocation of resources. First, the obligation to provide emergency services means that a certain volume of resources must be permanently on standby in public hospitals which receive emergency cases. Many study participants noted that the need to divert resources to emergencies can severely interrupt and constrain the delivery of other hospital services such as elective surgery.

However, detailed analysis undertaken by the NSW Health Surgical Services Taskforce suggested that this is a symptom of inadequate management rather than an inevitable consequence of treating emergency cases:

Our Taskforce has recently published the *Emergency Surgery Guidelines* ... In preparation for this publication, extensive data analysis was conducted and concludes that emergency surgical admissions were entirely predictable and could be managed more effectively with a planned approach thereby minimising disruption to elective surgical services. It is a failure of adequate management of the emergency load that is the problem. (sub. DR43, p. 1)

Provision of emergency services can have resource implications for infection control because, as noted by the Australian Healthcare and Hospitals Association (AHHA, sub. 33), patients undergoing emergency procedures are at greater risk of infection.

Second, the responsibility of public hospitals to invest in clinical teaching and research — while important for the training of the future hospital workforce and the advancement of hospital practice — imposes additional resource costs on the public hospital sector. It is acknowledged, however, that a hospital's engagement in clinical teaching and research also generates potential benefits, as Bio21 Australia Limited noted:

[T]he presence of any serious commitment to clinical research within a hospital or even of its staff having such a commitment elsewhere is likely to enhance the quality of professional service to patients. (sub. 35, p. 1)

Third, the responsibility assumed by governments to provide hospital services across all geographical regions means that a number of public hospitals are operating in regions where the degree of remoteness — and consequential small scale of operation — may make such establishments very costly to operate relative to the volume and type of services they can safely deliver. The Tasmanian Department of Health and Human Services commented on this point:

Providing hospital care in rural and remote communities is almost entirely the domain of the public sector which must absorb the scale disabilities imposed by this community service obligation. (sub. 37, p. 3)

Additionally, public hospitals in some remote areas may take on the responsibility of providing other public health services, such as aged care and community health services, which would otherwise not be available in these regions.

Ownership and management

The provision of health and emergency services through the public hospital system is the responsibility of the state and territory governments (COAG 2008d). State and territory governments typically divide the management of public hospitals along geographical lines (for example, metropolitan, regional and rural services), with a separate division generally established for ambulance services. In many jurisdictions, management structures have undergone frequent revision. For example, the number of health service districts in Queensland has been progressively reduced from 38 to 15 over recent years.

The degree to which the governance of public hospitals is centralised, however, varies widely among the states and territories, as noted by the Australian Government Department of Health and Ageing (DOHA, sub. 32). For example, public hospitals in New South Wales lie within eight area health services which report directly to the NSW Department of Health. In contrast, the governance of public hospitals in Victoria is more decentralised, with hospitals, or networks of hospitals, reporting to their own boards.

In some instances, governments facilitate the delivery of public hospital services by contracting or authorising a private company to build or operate a hospital establishment. In this type of arrangement, the hospital is privately owned but classified as a public hospital because it operates on behalf of the government. Examples of privately-owned government-contracted hospitals include Mercy Women's Hospital (Victoria), Noosa Hospital (Queensland) and Joondalup Hospital (Western Australia). In some of these arrangements, public hospitals may be

managed under the auspices of denominational groups (in many cases, Catholic religious orders) (DOHA, sub. 32).

Public hospital services can also be delivered in partnership with the private sector when private companies build private hospitals on public hospital campuses. These co-location arrangements allow for the shared use of infrastructure and facilitate teaching and research. Examples include the Jessie McPherson Private Hospital co-located with Monash Medical Centre (Victoria), Flinders Private Hospital co-located with Flinders Medical Centre (South Australia), and Holy Spirit Northside Hospital co-located with Prince Charles Hospital (Queensland). A private hospital co-located in a public establishment is not classified as a public hospital.

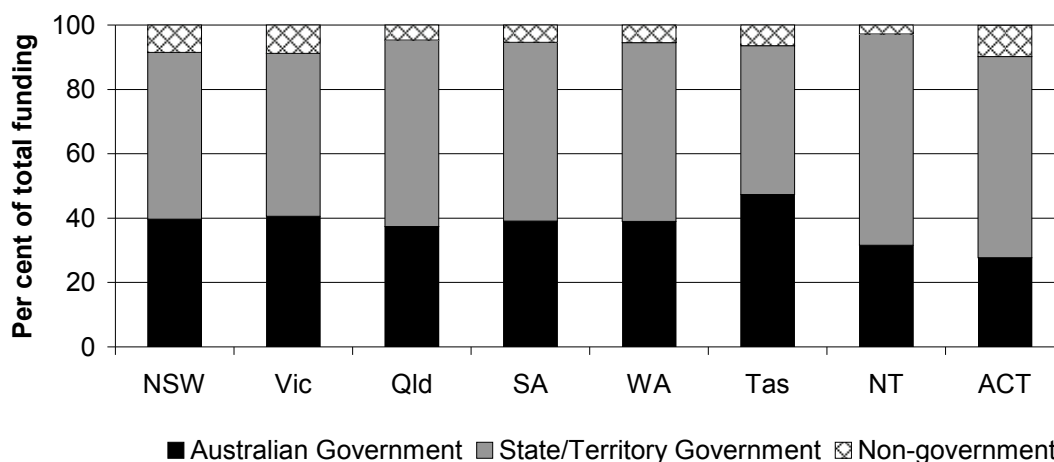
Funding arrangements

Although the delivery of public hospital services is the responsibility of the state and territory governments, funding is provided by both the federal and state or territory tiers of government.² Non-government sources, such as insurance funds and patients' out-of-pocket payments, also fund a small portion of public hospital services.

On average, the state and territory governments provide around 53 per cent of funding for public hospital services, while the Australian Government provides around 40 per cent and non-government sources contribute around 7 per cent (figure 2.1). However, there are variations between jurisdictions. In particular, funding in the Northern Territory and the ACT is more heavily sourced from the territory government, while funding in Tasmania is more heavily sourced from the Australian Government, relative to the average funding shares of all jurisdictions. The contribution of non-government sources also varies widely, comprising as high as 10 per cent of total funding in the ACT and Victoria, but no more than 4 per cent of total funding in Queensland, South Australia and the Northern Territory.

² Public hospital services exclude dental services, community health services, patient transport services, public health, and health research undertaken by the hospital, but can include services provided away from the hospital site such as dialysis (AIHW 2009a).

Figure 2.1 Funding sources for public hospital services, 2007-08



Source: AIHW (2009c).

Public hospital services constitute the largest item of total health expenditure for the state and territory governments, and the second-largest for the Australian Government. Between 2003-04 and 2007-08, the collective share of government funding coming from the states and territories increased, although the share of total public hospital funding from government sources declined (AIHW 2009c). Most of the Australian Government's expenditure on public hospitals is in the form of funding conferred to the state and territories through the NHA and formerly the AHCAs (AIHW 2009c).

In all states and territories except for the ACT, funding for acute inpatient services is distributed at least partly on the basis of a casemix scheme. Under casemix and similar activity-based funding schemes, each hospital is funded in relation to the types of services it provides as well as the severity of patients' conditions — factors that are indicative of the hospital resources required. Among the states that adopt casemix funding, all except for Western Australia use the AR-DRG (Australian Refined Diagnosis-Related Group) classification system to define the casemix. Victoria was the first jurisdiction to implement casemix funding in 1993, while Queensland was the most recent in 2007. New South Wales uses a two-tiered funding model, incorporating an activity-based funding component for specified admitted activity (NSW Department of Health, sub. DR64). In some states, particularly Victoria and South Australia, casemix funding is also applied to sub-acute and outpatient hospital services (Hurley et al. 2009). Across most jurisdictions, grant (or per day) funding is used for certain types of acute care where casemix funding is deemed unsuitable, such as mental health or intensive care. Some states supplement the casemix funding received by small hospitals in regional

and remote areas. For example, South Australia designates 35 country hospitals as ‘minimum volume hospitals’ and provides an additional \$115 million for their budget (SA Health, sub. 4, p. 2). In the ACT, the small scale of the public hospital sector means that budgets are largely allocated on the basis of historic costs.

Casemix and similar activity-based funding schemes are designed to promote operational efficiency in the delivery of hospital services. Among other advantages, casemix funding schemes:

- offer a way to link funding to the services delivered
- facilitate an assessment of hospital performance benchmarks and a comparison of similar or peer hospitals
- enable managers and clinicians to identify inefficiencies in the system and reallocate resources appropriately (Hurley et al. 2009; NHHRC 2009).

2.2 Characteristics of public hospitals

Traditionally, Australia’s public hospital sector has been typified by large, metropolitan establishments, whose explicit role was to provide acute medical care, including emergency services and complex specialist procedures, as well as to undertake the clinical research and training needed to sustain the hospital sector. A number of major teaching hospitals in capital cities still reflect this service approach.

However, it is evident that the role and features of public hospitals are changing over time, as the sector adapts to the changing needs and characteristics of the population, and as private hospitals adopt some of the functions traditionally reserved for the public sector (such as the provision of emergency services and clinical training). As Australia’s hospitals continue to evolve, there are now many public hospitals that do not typify the traditional public hospital establishment, just as there are now many private hospitals that resemble public hospital establishments.

The location, size and service characteristics of Australia’s public hospitals are now driven, in part, by the obligation borne by the state and territory governments to provide all residents with equitable access to hospital care (COAG 2008d). The existing profile of the public hospital sector, therefore, is very much shaped by the demographic profile of Australia’s population, as well as historical trends underlying population growth and patterns of regional dispersion.

Number and activity of public hospitals

The most recently available data from DOHA indicate that there are currently 768 acute and psychiatric public hospitals in Australia.³ Hospital activity for admitted patients is commonly measured in terms of separations, as explained in box 2.1.

Box 2.1 Measures of hospital activity

Data on hospital care are generally reported in terms of *separations*. A separation refers to an episode of care administered to an admitted patient, which ends by either discharge, death, transfer to another hospital or change in the type of care. During a hospital admission, a single patient may receive more than one episode of care — and therefore undergo more than one separation — if they transfer to another hospital or change their type of care (for example, from acute care to rehabilitation).

Separations only apply for patients who are admitted to hospital. Data on separations therefore exclude patients who are treated in emergency departments or receive outpatient services as a non-admitted patient. Care administered to patients in emergency departments is reported in terms of *presentations*. Care administered to all other non-admitted patients is reported in terms of *occasions of service*.

Australia's public hospitals recorded over 4 million separations in 2007-08 (table 2.1). Half of Australia's public hospitals are located in New South Wales and Victoria, reflecting these states' high population shares. Between them, these two states recorded the majority of separations (60 per cent) in Australia's public hospital sector. In per capita terms, however, the Northern Territory recorded the highest volume of admitted patient public hospital activity by a considerable margin, recording 486 separations per 1000 residents in 2007-08. This compares to the next highest rate of 256 separations per 1000 residents reported by the ACT. The lowest rates of separations per capita were administered in Tasmania and Queensland (184 and 196 separations per 1000 residents respectively).⁴

³ The data reported in this chapter refer to different time periods due to differences in data availability. The most recently available data on the total number and location of public hospitals are for September 2009 (DOHA 2009e). The most recently available data on public hospital separations, services and expenditure are for 2007-08 (AIHW 2009a, 2009c). Psychiatric hospitals are not included in the Commission's analysis due to the specialised nature and duration of psychiatric treatment and the difficulty of apportioning costs over time, but are commonly aggregated with acute hospitals in data collections.

⁴ The data does not capture the extent to which hospitals treat patients outside of their jurisdictions. Cross-border patient flows occur within all jurisdictions (AIHW 2009a). In particular, however, ACT Health (sub DR52) noted that 25 per cent of separations reported for ACT public hospitals are for New South Wales residents.

Table 2.1 Number and activity of public hospitals, 2007-08^a

	<i>Number of hospitals</i>	<i>Number of separations</i>	<i>Number of separations per 1000 residents</i>	<i>Proportion same-day separations^b</i>
New South Wales	228	1 466 737	203	44
Victoria	148	1 351 172	248	57
Queensland	177	831 965	196	49
South Australia	80	368 330	216	45
Western Australia	94	458 202	215	51
Tasmania	27	96 270	184	53
Northern Territory	5	90 258	486	62
ACT ^c	3	81 127	256	54
Australia	762	4 744 061	218	50

^a Acute and psychiatric hospitals. ^b Measured as a per cent of total separations. The remaining share of separations are overnight. ^c ACT Health (sub. DR52) advised that these data only include separations from the ACT's two major public hospitals.

Source: AIHW (2009a).

On average, half of all separations recorded by Australia's public hospitals are same-day admissions, while the remaining are overnight. Yet, some degree of variation is evident among the states and territories. Overnight admissions are more common in New South Wales and South Australia, while same-day admissions are more common in Victoria, Tasmania, the ACT and, in particular, the Northern Territory where over 60 per cent of all separations are same-day.

Size of public hospitals

Public hospitals vary widely in size: the majority have 50 beds or fewer, yet around 10 per cent have over 200 beds (table 2.2). Tasmania, South Australia, Western Australia and Queensland have the highest concentrations of small-scale hospitals: over 80 per cent of hospitals in each of these states have no more than 50 beds. In contrast, the Northern Territory and the ACT have relatively higher concentrations of large-scale hospitals, although they have fewer hospitals in total.

Table 2.2 Number of public hospitals by size, 2007-08^a

	<i>0–50 beds</i>	<i>51–100 beds</i>	<i>101–200 beds</i>	<i>Over 200 beds</i>
New South Wales	149	29	23	27
Victoria	90	21	19	18
Queensland	142	11	10	14
South Australia	65	6	2	7
Western Australia	73	5	8	8
Tasmania	24	–	1	2
Northern Territory	2	1	1	1
ACT	1	–	–	2
Australia	546	73	64	79

^a Acute and psychiatric hospitals. – Nil.

Source: AIHW (2009a).

Hospital size has implications for resource efficiency and reported cost differentials. Compared to large hospitals, small hospitals are less likely to be able to take advantage of economies of scale or reallocate their resources when workflows vary, thereby appearing relatively less efficient. At the same time, however, large hospitals may be constrained in their utilisation of resources due to the requirement that a certain level of capacity be reserved for emergencies. Large hospitals are also likely to treat a higher share of more complex — and therefore more costly — cases that are referred to them by smaller hospitals that are unequipped to treat the cases themselves. Queensland Health observed that this is a particular characteristic of the public hospital sector:

[T]here can be significant difference in the types of cases treated at different hospitals ... [T]he most complex cases are typically not undertaken in medium sized regional hospitals or private hospitals but are referred to the major (generally public) hospitals in large metropolitan centres. As such, the major tertiary hospitals will on average treat high complexity (and hence higher cost) cases within any given DRG [Diagnosis-Related Group] than regional hospitals or private hospitals. (sub. 27, p. 2)

Location of public hospitals

Public hospitals are widely dispersed geographically. Almost one-quarter of Australia's public hospitals are located in major cities, and a slightly smaller share are located in remote areas, yet the majority are located in regional areas (table 2.3). Exceptions are observed in the ACT, where all public hospitals are located in Canberra, and in the Northern Territory, where the majority are in remote areas. Queensland and Western Australia also have relatively high concentrations of public hospitals in remote areas. This pattern of dispersion reflects the share of each state or territory's population living outside of major cities.

Table 2.3 Number of public hospitals by location, 2009^a

	<i>Major cities</i>	<i>Inner regional</i>	<i>Outer regional</i>	<i>Remote</i>	<i>Very remote</i>	<i>All locations^b</i>
New South Wales	63	80	61	13	5	224
Victoria	56	57	36	2	..	151
Queensland	18	33	66	24	53	197
South Australia	12	15	27	14	5	73
Western Australia	12	8	28	23	14	85
Tasmania	..	12	15	1	2	30
Northern Territory	..	..	1	2	2	3
ACT	3	–	..	..	..	5
Australia	164	205	234	79	81	768

^a Acute and psychiatric hospitals. Location based on ABS (2001) Australian Standard Geographical Classification. ^b Includes two public hospitals in New South Wales and three public hospitals in Queensland that are unable to be geographically classified due to missing postcode data. .. Not applicable (state or territory does not contain the respective type of area). – Nil.

Source: DOHA (2009e).

The obligation for state and territory governments to provide all residents equitable access to public hospital services has particularly significant implications for highly regionalised states, such as Queensland and Western Australia, and to a lesser degree, South Australia, New South Wales and the Northern Territory. As noted by DOHA (sub. 32), the distance of hospitals from metropolitan and regional centres can affect estimated measures of hospital performance. For example, hospitals in remote areas are likely to incur a higher cost of transporting hospital supplies as well as greater difficulty attracting staff, which may necessitate higher wages. Furthermore, some hospitals in remote areas have an added responsibility to provide primary health and aged care services, which would otherwise not be provided in their areas. Additionally, as noted by Queensland Health (sub. 27), many regional and remote hospitals are very small in capacity, and therefore unable to benefit from economies of scale. ACT Health (sub. DR52) noted that relatively higher costs are incurred when jurisdictions provide a full range of hospital services for a small population. The SA Department of Health acknowledged the responsibility held by each of the state and territories governments, and the implications this bears for the operating efficiency of public hospitals:

Public hospitals have an obligation to provide all Australians who present to them with free public hospital care and access to services based on clinical need. Public hospital access also needs to be provided across the state to ensure reasonable access to hospital care by residents. This means providing the full range of specialist inpatient, outpatient, emergency and diagnostic services at all times. For South Australia, it also means operating minimum volume hospitals in country areas. Due to size and location, such country hospitals are often relatively expensive to operate, but their importance to communities cannot be underestimated. (sub. 4, p. 2)

The number of beds available per capita also appears to vary according to location. On average, Australia's public hospitals provide 2.7 beds per 1000 residents, but higher bed ratios are reported in New South Wales and South Australia, while lower bed ratios are reported in Victoria, Tasmania and the ACT (table 2.4).

Table 2.4 Number of public hospital beds per 1000 residents by location, 2007-08^a

	<i>Major cities</i>	<i>Inner regional</i>	<i>Outer regional</i>	<i>Remote</i>	<i>Very remote</i>	<i>All locations</i>
New South Wales	2.7	3.3	3.9	7.7	7.6	2.9
Victoria	2.4	2.7	2.9	2.9	..	2.5
Queensland	2.3	2.5	3.4	4.0	6.4	2.6
South Australia	2.8	2.4	5.0	7.7	7.5	3.2
Western Australia	2.6	1.8	3.5	3.3	3.1	2.6
Tasmania	..	3.1	1.5	2.9	3.5	2.6
Northern Territory	..	–	2.9	5.0	1.0	2.9
ACT	2.6	–	..	..	..	2.5
Australia	2.5	2.8	3.4	4.8	4.0	2.7

^a Acute and psychiatric hospitals. Location based on ABS (2001) Australian Standard Geographical Classification. .. Not applicable (state or territory does not contain the respective type of area). – Nil.

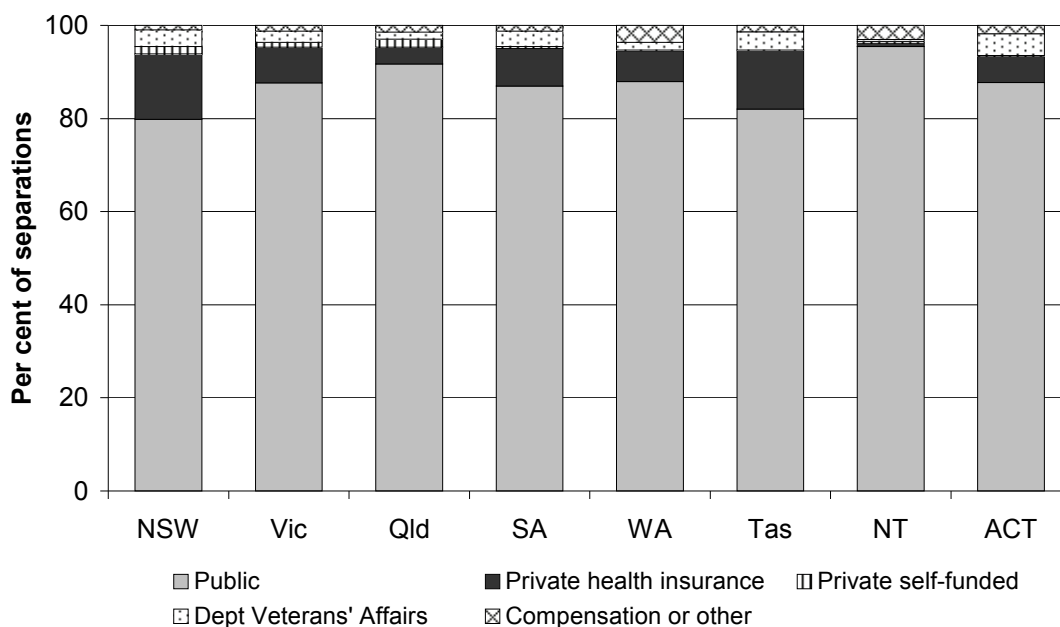
Source: AIHW (2009a).

A general feature of most states and territories is that more beds per capita are available in remote or very remote areas than in major cities or regional areas. However, this ratio still varies widely. In remote or very remote areas, there are at least seven public hospital beds available per 1000 residents in New South Wales and South Australia, while there are no more than 4 public hospital beds available per 1000 residents in Victoria, Tasmania and Western Australia.

Patients in public hospitals

Although public hospitals primarily treat public patients, they also treat patients who elect private status, entitling them to a choice of doctor and/or the offer of private ward accommodation. About 14 per cent of public hospital separations in 2007-08 were for patients electing private status, most of whom were funded by private health insurance (figure 2.2). New South Wales and Tasmania had the highest proportion of patients being treated and billed as private patients in their public hospitals (20 and 18 per cent respectively), while the Northern Territory and Queensland had the lowest (5 and 8 per cent respectively).

Figure 2.2 Share of public hospital separations by patient funding source, 2007-08^a



^a Acute and psychiatric hospitals. The share of self-funded patients may be underestimated as some are unable to be identified. *Compensation or other* includes workers compensation, other compensation, motor vehicle third party personal claims, other public authorities, and other funding sources. Data exclude patients whose funding source is not reported.

Source: AIHW (2009a).

The demographic profile of patients treated in public hospitals is generally similar across the states and territories (table 2.5). Around one-third of patients treated in public hospitals are aged 65 and older. An exception is the Northern Territory which has a relatively lower proportion of patients aged 65 and older, balanced by a relatively higher proportion of patients aged 35 to 64. This point of difference reflects the Northern Territory's distinctly lower share of residents aged 65 and older in its population (ABS 2008a).

The public hospital sector treats a disproportionately larger share of patients of relatively low socioeconomic status. Fifty per cent of public hospital patients come from the lowest 40 per cent of the population on a scale of socioeconomic advantage (figure 2.3).

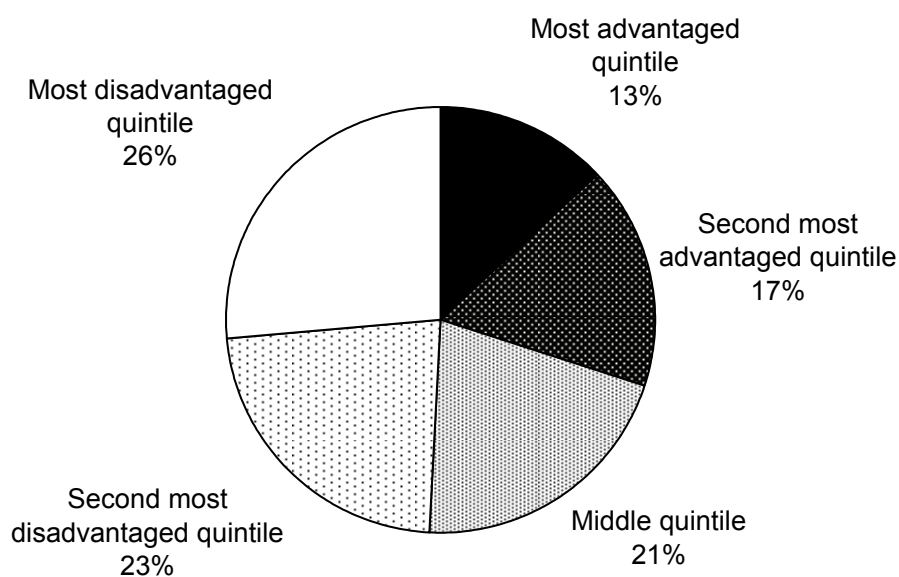
Table 2.5 Public hospital separations by patient profile, 2007-08^a

	Males				Females			
	0-14	15-34	35-64	65 & over	0-14	15-34	35-64	65 & over
NSW	5.8	6.0	16.9	19.7	4.2	11.8	16.1	19.6
Vic	4.9	5.8	18.4	20.1	3.5	11.4	18.4	17.5
Qld	6.1	7.1	19.3	16.4	4.5	14.2	18.1	14.5
SA	5.6	6.0	17.6	19.5	4.1	12.1	17.1	18.1
WA	5.3	6.3	19.6	17.6	3.8	12.2	18.7	16.4
Tas	4.5	6.4	19.4	18.1	3.2	12.2	19.9	16.2
NT	5.2	6.3	26.1	7.3	3.9	12.8	31.8	6.7
ACT	4.8	7.1	20.4	19.8	3.2	11.4	16.8	16.5
Australia	5.5	6.2	18.3	18.8	4.0	12.2	17.8	17.3

^a Acute and psychiatric hospitals. Per cent of total separations in each state or territory, according to patient's sex and age group. Each row sums to 100 per cent.

Source: AIHW (2009a).

Figure 2.3 Share of public hospital separations by socioeconomic status of patients, 2007-08^a



^a Quintile of socioeconomic status based on ABS (2008f) Index of Relative Socioeconomic Advantage/Disadvantage based on the patient's area of usual residence.

Source: AIHW (2009a).

Socioeconomically disadvantaged groups experience more ill health and have a risk factor profile consistent with their poorer health status (Turrell et al. 2006). As the public hospital sector treats a disproportionately large share of people of low socioeconomic status, patients treated in public hospitals are likely to be characterised by a relatively poor pre-existing health status and relatively more health-related risk factors. These factors affect not only the type of treatment

sought, but also the resources required to undertake any given procedure. For example, patients with comorbidities or chronic conditions may be more susceptible to infection or unplanned readmission.

2.3 Services provided by public hospitals

Admitted patient services

The main type of service provided to patients admitted to public hospitals is acute care, which constitutes over 90 per cent of public hospital separations (table 2.6). The next most common type of service is newborn care, followed by rehabilitation. This distribution is generally consistent across the states and territories.

Table 2.6 **Number of public hospital separations by type of care, 2007-08^a**

	<i>Acute care</i>	<i>Newborn care</i>	<i>Rehabilitation</i>	<i>Palliative care</i>	<i>Geriatric^b</i>	<i>Maintenance care^c</i>
NSW	1 409 636	77 326	25 954	8 273	2 813	6 065
Vic	1 305 676	55 476	13 400	5 128	13 033	870
Qld	794 041	44 600	16 853	4 266	1 037	5 778
SA	353 543	15 014	6 884	1 388	460	2 341
WA	441 410	22 023	8 496	1 392	1 273	2 211
Tas	93 173	3 933	1 141	268	53	589
NT	88 197	3 341	469	311	77	404
ACT	75 465	3 955	2 249	572	561	1 283
Australia	4 561 165	225 668	75 446	21 598	19 307	19 211

^a Acute and psychiatric hospitals. Excludes other and not reported care types. ^b Includes geriatric evaluation and management, and psychogeriatric care. ^c Maintenance care refers to the provision of accommodation and nursing care as a service itself. This can include respite care, care to patients awaiting placement, and care to inpatients designated as nursing home type, but excludes residential aged care. – Nil.

Source: AIHW (2009a).

More specifically, the type of services provided to admitted patients can be categorised according to patients' diagnoses. Box 2.2 explains the common system by which patients' diagnoses are classified in Australia.

Box 2.2 Australian Refined Diagnosis-Related Group (AR-DRG)

The Australian Refined Diagnosis-Related Group (AR-DRG) system categorises separations according to the patient's condition and the hospital resources expected to be used. The system provides a way to record the number and type of separations administered by a hospital in relation to the resources required.

Version 5.1 of the classification system defines 665 individual AR-DRGs. Each separation is assigned to an AR-DRG mainly on the basis of the medical diagnosis or surgical procedure involved, but also according to a patient's age, length of stay, mode of separation, the level of clinical complexity and the existence of complicating diagnoses or procedures.

Individual AR-DRGs are grouped under 23 Major Diagnostic Categories (MDCs) which are mostly defined by body system or disease type.

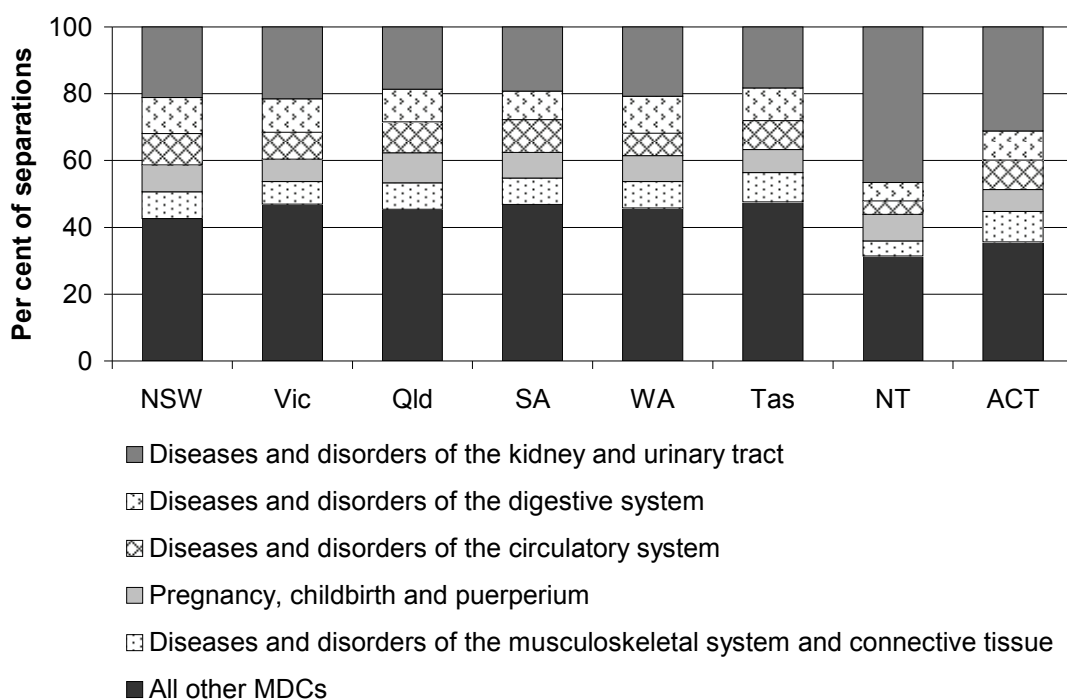
Within each MDC, individual AR-DRGs are assigned to a 'surgical', 'medical' or 'other' partition on the basis of the type of treatment involved. A separation is classified as surgical if it includes an operating-room procedure, medical if it does not include any type of procedure, and other if it includes a procedure performed outside of an operating room (such as dental extractions and colonoscopies). In this context, a procedure is defined as a clinical intervention that carries a procedural or anaesthetic risk, and/or requires specialised training, facilities or equipment available only in an acute-care setting.

Source: AIHW (2009a); DOHA (2004).

Among admitted patients, the most frequent type of diagnosis handled by Australia's public hospitals is a disease and disorder of the kidney or urinary tract (figure 2.4). This type of diagnosis comprises 21 per cent of all separations nationally, although the Northern Territory reports a considerably higher rate of 47 per cent of separations in this jurisdiction. The next most frequent types of diagnoses treated by Australia's public hospitals are diseases and disorders relating to the digestive, circulatory and musculoskeletal systems and separations relating to pregnancy and childbirth.

More broadly defined, medical cases comprise the majority (74 per cent) of separations handled by public hospitals nationally (figure 2.5). Surgical procedures comprise 20 per cent, while non-operating room procedures (classified as 'other') comprise the remaining 6 per cent. This pattern of distribution is generally consistent across the states and territories, with the notable exception of the Northern Territory which handles relatively more medical and fewer surgical cases than the national average.

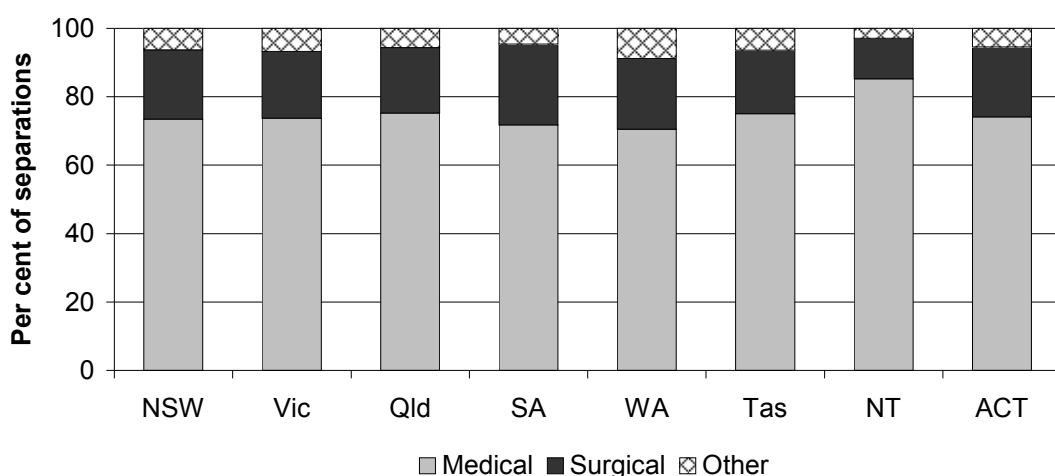
Figure 2.4 Share of public hospital separations by MDC, 2007-08^a



^a Acute and psychiatric hospitals. Per cent of total separations in each state or territory according to Major Diagnostic Category (MDC) as defined in AR-DRG version 5.1 (box 2.2).

Source: AIHW (2009a).

Figure 2.5 Share of public hospital separations by AR-DRG partition, 2007-08^a

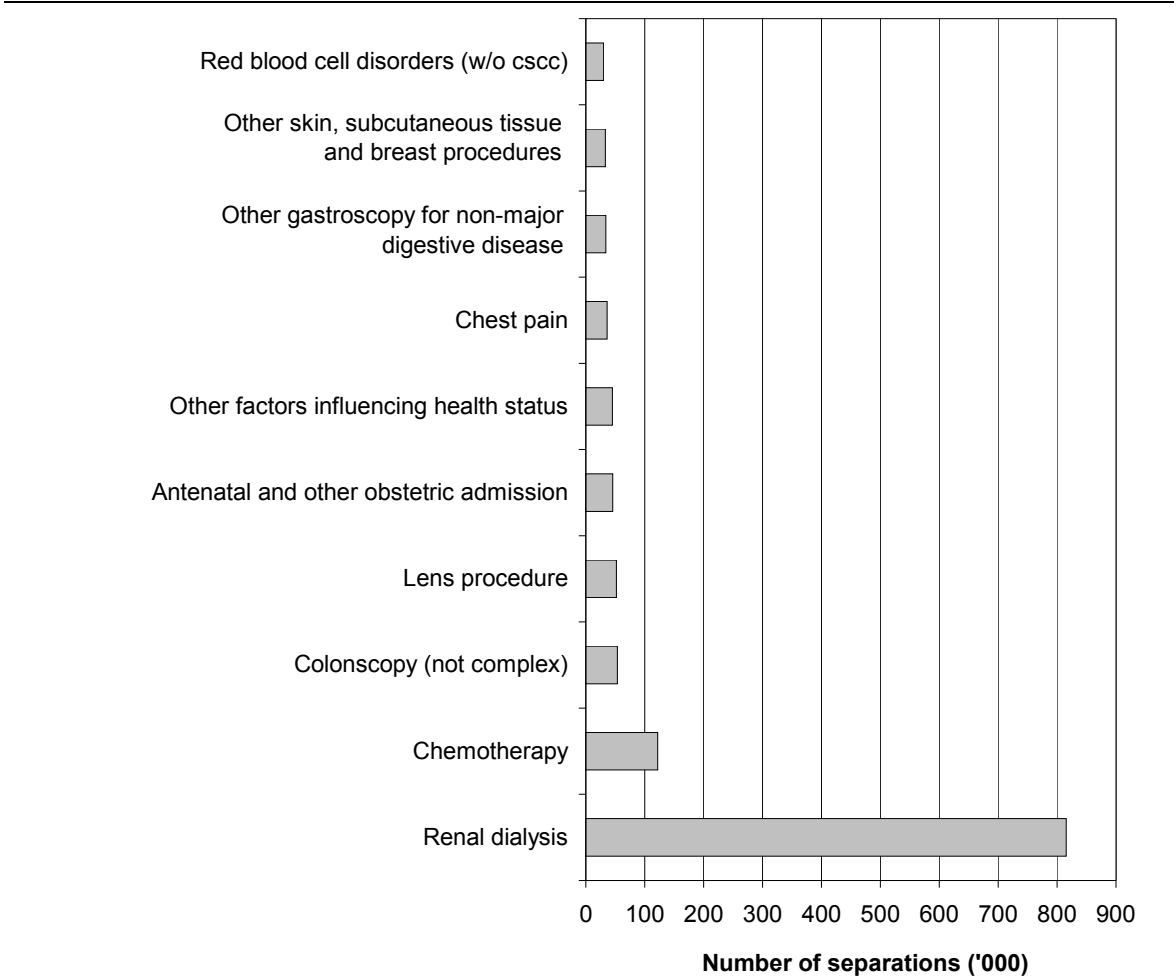


^a Acute and psychiatric hospitals. Per cent of total separations in each state or territory as defined in AR-DRG version 5.1 (box 2.2).

Source: AIHW (2009a).

The predominance of medical cases — and the specific frequency of kidney and urinary tract diseases and disorders — can be largely attributed to the high number of same-day renal dialysis admissions handled by the public hospital sector. This type of admission is the most frequent type of separation treated by public hospitals, constituting one-third of same-day separations and 18 per cent of separations in total (figures 2.6 and 2.7).⁵ The predominance of medical cases may also be explained by the high number of obstetric separations handled by the public hospital sector, which are also largely classified as medical cases.

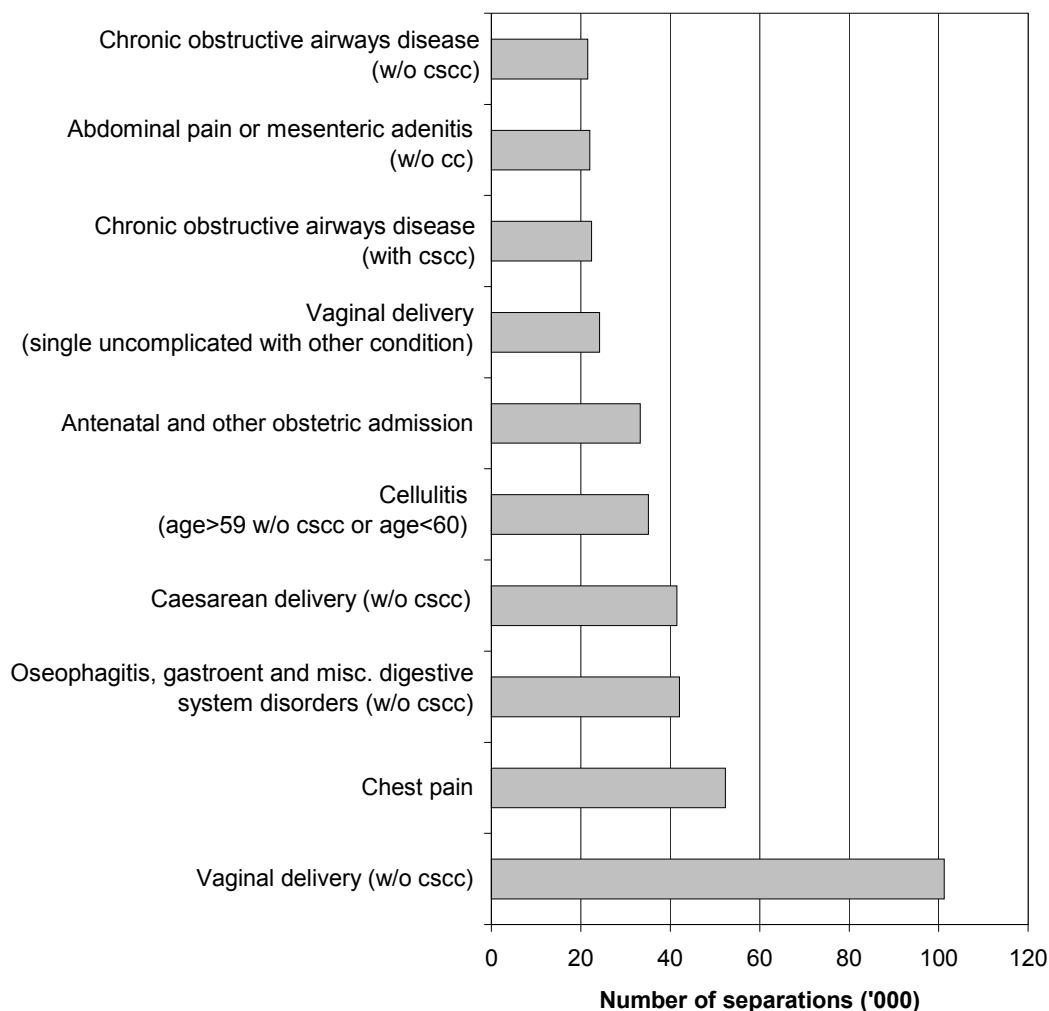
Figure 2.6 Most frequent same-day public hospital separations by AR-DRG, 2007-08^a



^a Acute and psychiatric hospitals. Ten most frequent same-day separations, as defined in AR-DRG version 5.1 (box 2.2). w/o: without. cc: complications and comorbidities. cs: catastrophic or severe.
 Source: AIHW (2009a).

⁵ The Australian Private Hospitals Association (APHA sub. DR65) suggested that the high number of same-day renal dialysis cases handled in the public sector may be due to some health insurance funds capping the benefits payable for renal dialysis. It is also acknowledged that a renal dialysis patient typically undergoes multiple same-day admissions as part of their ongoing treatment (NSW Department of Health, sub. 40).

Figure 2.7 **Most frequent overnight public hospital separations by AR-DRG, 2007-08^a**



^a Acute and psychiatric hospitals. Ten most frequent overnight separations, as defined in AR-DRG version 5.1 (box 2.2). w/o: without. cc: complications and comorbidities. cs: catastrophic or severe. misc.: miscellaneous.

Source: AIHW (2009a).

Another feature of Australia's public hospitals is their range of specialist units. The most common specialist unit in acute public hospitals is domiciliary care (assisting people with reduced ability to care for themselves in their own homes), followed by obstetrics and maternity facilities, and nursing home care (table 2.7). At the state or territory level, domiciliary care constitutes the most common specialist service in New South Wales, Victoria, Western Australia and South Australia, whereas obstetrics and maternity facilities constitute the most common specialist service in Queensland, Tasmania, the Northern Territory and the ACT. New South Wales provides a relatively large share of less common specialist services, having 75 of

Australia's 108 alcohol and drug units, 46 of Australia's 109 coronary care units, and 36 of Australia's 75 level-three intensive care units (AIHW 2009a).

Table 2.7 Number of specialist service units in public hospitals, 2007-08^a

	<i>Dom</i>	<i>Obs</i>	<i>Nurs</i>	<i>Ren</i>	<i>Ger</i>	<i>Rehab</i>	<i>Psych</i>	<i>Hspice</i>	<i>Paed</i>	<i>Oncon</i>
NSW	158	78	73	56	71	58	45	45	46	43
Vic	96	58	77	59	35	32	35	24	30	36
Qld	39	40	13	23	10	18	18	9	18	11
SA	47	31	43	14	12	9	9	16	8	8
WA	58	32	39	12	22	19	18	29	9	10
Tas	–	2	–	2	3	3	3	1	3	3
NT	1	5	–	4	–	2	3	1	2	–
ACT	–	2	–	1	2	2	2	1	2	2
Australia	399	248	245	171	155	143	133	126	118	113

^a Ten most common specialist service units in acute public hospitals in Australia. *Dom*: Domiciliary care service. *Obs*: Obstetrics and maternity facility. *Nurs*: Nursing home care unit. *Ren*: Maintenance renal dialysis centre. *Ger*: Geriatric assessment unit. *Rehab*: Rehabilitation unit. *Psych*: Psychiatric ward or unit. *Hspice*: Hospice care unit. *Paed*: Specialist paediatric unit. *Oncon*: Oncology unit. – Nil.

Source: AIHW (2009a).

Non-admitted patient services

In addition to treating admitted patients, public hospitals provide a considerable volume of services to non-admitted patients. The AIHW (2009a) reported that public hospitals administered over 48 million occasions of service to non-admitted patients in 2007-08, including 7.1 million accident and emergency presentations (table 2.8). The provision of emergency services fulfils the responsibility assigned to public hospitals under the NHA and former AHCAs.

Reported data on non-admitted patient services, however, are subject to wide variation in methods of collection and classification among the states and territories. For example, data reported by New South Wales under 'other individual patient care' include a large volume of pharmacy and district nursing services administered by Justice Health that would not typically occur in other hospitals. As the AIHW (2009a) cautioned, such variations preclude direct comparisons from being made.

Table 2.8 Services to non-admitted patients in public hospitals, 2007-08^a

	<i>Accident and emergency</i>	<i>Outpatient care</i>	<i>Other individual patient care^b</i>	<i>Group sessions</i>
New South Wales	2 417 721	6 400 364	12 414 382	242 174
Victoria	1 522 573	2 864 208	3 115 414	23 016
Queensland	1 471 377	3 324 742	5 867 454	17 853
South Australia	544 439	1 203 133	456 785	80 296
Western Australia	778 119	1 697 777	2 287 313	63 456
Tasmania	142 633	459 539	399 480	..
Northern Territory	125 315	296 259	194 087	300
ACT	98 441	122 694	150 878	1 756
Australia	7 100 618	16 368 716	24 885 793	428 851

^a Reported number of occasions of service to non-admitted patients in acute public hospitals. Due to widespread differences in the collection and coverage of non-admitted patient data among the states and territories, the AIHW advises that the reported data should be interpreted and compared with caution. ^b Other types of care include: mental health, alcohol and drug, pharmacy, community health, district nursing, pathology, radiology and organ imaging and other outreach services. There are large variations in the types of care reported in this category by each of the states and territories. .. Not applicable.

Source: AIHW (2009a).

As another broader point of difference in data reporting, a patient receiving a given type of treatment may be classified as an admitted patient in one jurisdiction, but as a non-admitted outpatient in another jurisdiction. For example, most chemotherapy patients are classified as non-admitted outpatients in New South Wales, South Australia and the ACT, but classified as admitted patients in other jurisdictions (AIHW 2009a). This point of difference must be considered when evaluating not only the volume of services reported for non-admitted patients, but also the volume of separations reported for admitted patients.

Data on hospital services delivered to non-admitted patients are further complicated by differences among the states and territories in the delivery of services to non-admitted patients outside of hospital settings. For example, outpatient hospital services delivered in community health centres by some states and territories are effectively excluded from reported hospital statistics (AIHW 2009a).

Research and training

Medical and health services research has traditionally been undertaken in public hospitals, and research remains an important function of the public sector. Likewise, under the NHA and former AHCAs, it is the responsibility of state and territory governments to provide clinical training for undergraduate students and specialists-in-training (COAG 2008d). DOHA commented on the value of this training role:

Public hospitals play a vital role in all health professional training programs by providing clinical placements and supervision. For medical education, on completion of university undergraduate or graduate education programs, graduates enter pre-vocational training [for one year] at a major public teaching hospital to become registered to practice. Most registered doctors then also complete another one to two years pre-vocational training, gaining experience in different clinical departments and in different hospital settings such as in rural hospitals. Most doctors then enter a four to six year vocational training toward becoming independent practitioners accredited by specialty colleges. For most specialties (other than general practice), this vocational training takes place largely in public hospital settings. (sub. 32, p. 8)

Australia's public hospital system includes 69 public teaching hospitals (excluding psychiatric hospitals). The majority of public teaching hospitals are located in Queensland and New South Wales, which have 22 and 20 respectively (AIHW 2009a).

The teaching role of hospitals has implications for their costs and resource allocation, as noted by study participants:

The cost structures in the large teaching hospitals in particular reflect the teaching and research components of the work that is done. Both these activities are inseparable from the provision of care. A doctor can be treating his patients, teaching his registrars and gathering material for research all at the same time, using all the same facilities and drawing on the same support staff and services ... It is universally understood and accepted that surgery will take longer if doctors in training are being taught during it. (Australian Medical Association, sub. 28, p. 1)

This point was also made by Access Economics, in their submission prepared for Medibank Private, Australian Unity, Bupa Australia and Ramsay Health Care:

Many public hospitals have a research and teaching role, which adds costs to the public sector Significant numbers of staff specialists in a teaching hospital devote a substantial proportion of their time to teaching, research, clinical management and service to specialist societies and professional colleges. These costs are ... not distinguished from the general budget of public hospitals. However, research and teaching do provide additional benefits to a hospital by granting access to students, collaborative research facilities, and personnel to undertake some tasks (at a small internalised cost) (sub. DR60, p. 12)

Although clinical training is increasingly being undertaken in the private hospital sector, the public hospital sector retains primary responsibility for this role (DOHA, sub. 32; Queensland Health, sub. 27; SA Department of Health, sub. 4). State and territory governments continue to direct the majority of funding for clinical training to public hospitals, although some states fund clinical training places in other healthcare settings.

2.4 Workforce characteristics

Nurses represent the largest share (45 per cent) of the public hospital sector workforce nationally (table 2.9). Diagnostic and allied health professionals, and administrative and clerical staff, each represent approximately 15 per cent of the workforce, medical officers represent 11 per cent, and domestic and other staff constitute the remaining 13 per cent.

Table 2.9 **Number of staff in public hospitals, by occupation, 2007-08^a**

	<i>Salaried medical officers</i>	<i>Nurses</i>	<i>Diagnostic and allied health professionals</i>	<i>Domestic and other staff</i>	<i>Administrative and clerical staff</i>	<i>Other personal care staff^b</i>
NSW	8 353	36 726	12 470	9 627	11 099	na
Vic	6 783	27 024	12 412	6 578	10 802	..
Qld	5 622	19 219	4 860	7 462	6 177	923
SA	2 190	9 152	2 043	1 848	3 071	787
WA	2 667	9 593	2 906	4 194	4 053	na
Tas	512	2 222	527	995	660	..
NT	342	1 212	321	558	432	15
ACT	526	1 945	474	173	614	181
Australia	26 996	107 089	36 013	31 434	36 909	na

^a Number of full-time equivalent staff in acute and psychiatric hospitals. Data exclude one hospital in Victoria, two hospitals in Tasmania, and pathology staff in Queensland. ^b For New South Wales and Victoria, *Other personal care staff* are classified as *Diagnostic and allied health professions* or *Domestic and other staff*. .. Not applicable. **na** Not available.

Source: AIHW (2009a).

Some variations from the national averages are apparent. For example, medical officers constitute a relatively larger share of the public hospital workforce in the ACT, and a relatively smaller share in New South Wales, Victoria and Tasmania. Nurses constitute a relatively larger share of the public hospital workforce in New South Wales, South Australia and the ACT, and a relatively small share in Victoria, Western Australia and the Northern Territory. Victoria is characterised by a relatively high share of diagnostic and allied health professionals.

Some notable differentials in the average salaries of public hospital staff are also evident between the states and territories. Although the average annual salaries of nursing staff are generally similar among the states and territories, the Northern Territory stands out for offering almost \$15 000 more than the national average (table 2.10). The average salaries of medical officers show relatively more variation. Comparatively high annual salaries are offered to medical officers in the Northern Territory and Western Australia (up to \$27 000 more than the national

average), while medical officers receive the lowest annual average salaries in New South Wales, South Australia and the ACT.⁶

Table 2.10 Average salaries of staff in public hospitals, 2007-08^a

	<i>Salaried medical officers</i>	<i>Nurses</i>	<i>Diagnostic and allied health professionals</i>	<i>Domestic and other staff</i>	<i>Administrative and clerical staff</i>	<i>Other personal care staff^b</i>
NSW	137 766	73 702	64 367	51 188	59 834	na
Vic	152 284	75 503	53 505	62 953	44 809	na
Qld	159 069	72 044	67 317	46 252	51 662	50 635
SA	141 196	72 152	72 019	35 312	52 568	41 722
WA	178 762	77 422	71 333	53 021	56 719	na
Tas	158 685	71 293	64 432	41 612	49 529	na
NT	181 065	89 656	76 490	53 233	58 693	67 279
ACT	142 171	76 261	74 449	45 284	58 995	49 758
Australia	151 211	74 237	62 259	51 491	52 910	47 020

^a Average salaries (in dollars) of full-time equivalent staff in acute and psychiatric hospitals. ^b For New South Wales and Victoria, *Other personal care staff* are classified as *Diagnostic and allied health professions* or *Domestic and other staff*. **na** Not available.

Source: AIHW (2009a).

2.5 Recent developments in public hospitals

From 2003-04 to 2007-08:

- The number of beds available in acute public hospitals increased, but only matched population growth. The system has maintained a ratio of around 2.6 beds per 1000 residents.
- The number of separations has increased by around 13 per cent, equivalent to 10 more separations per 1000 residents. The relative shares of same-day and overnight separations have stayed roughly constant.
- An increase in the annual number of separations per capita, alongside the fact that the number of beds per capita has remained stable, suggests that the average length of a separation per bed has shortened. This is supported by data showing that the average length of stay and the relative stay index have fallen slightly over these four years.

⁶ Salary comparisons in the other staff categories are not computed due to differences in data reporting.

- The waiting time for elective surgery has lengthened, although proportionally fewer patients are waiting more than one year.
- The number of occasions of service delivered to non-admitted patients has increased by 4.7 million, equivalent to more than 10 per cent over this four-year period (table 2.11).

Table 2.11 Changes in acute public hospitals, 2003-04 to 2007-08^a

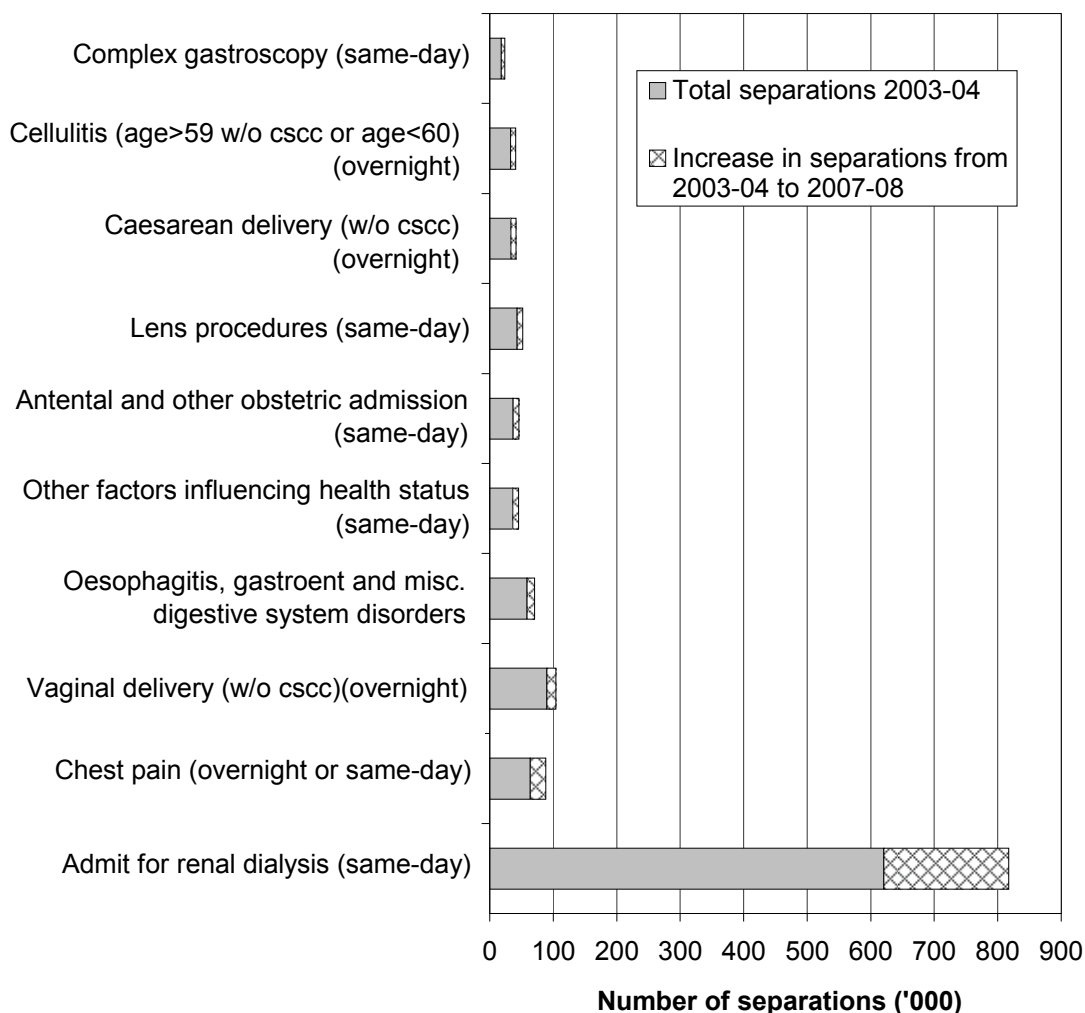
	2003-04	2004-05	2005-06	2006-07	2007-08
Number of hospitals	741	739	736	739	742
Number of beds available	51 038	52 806	52 236	53 563	53 137
Number of beds available per 1000 residents	2.55	2.61	2.54	2.57	2.55
Number of separations ('000)	4 183	4 261	4 451	4 646	4 729
Number of separations per 1000 residents	206.9	207.3	212.8	218.0	216.9
Per cent of same-day separations	49.1	49.2	49.7	50.2	49.9
Average length of stay for overnight separations (days)	6.4	6.4	6.3	6.2	6.2
Relative stay index ^b	1.02	0.99	0.99	0.98	0.98
Waiting times for elective surgery ^c					
Days waited at 50 th percentile	28	29	32	32	34
Days waited at 90 th percentile	193	217	237	226	235
Per cent patients waiting more than 365 days	3.9	4.8	4.9	3.1	3.0
Number of non-admitted occasions of service ('000)	43 660	42 759	44 750	46 141	48 355

^a Data refer to acute hospitals only, whereas data reported in previous tables refer to acute and psychiatric hospitals. ^b Directly standardised relative stay index. A value greater than 1 indicates that an average patient's length of stay is greater than expected for their type of separation, while a value less than 1 indicates that the length of stay is shorter than expected. ^c Data for reporting hospitals only, and include some private hospitals that are contracted to provide elective surgery to public patients.

Source: AIHW (2009a).

Growth in public hospital activity over this four-year period is mainly attributed to growth in medical cases, rather than surgical or other types of treatment (AIHW 2009a). Same-day admissions for renal dialysis (classified as medical) is the fastest growing type of separation in Australia's public hospital sector, increasing by over 30 per cent in the four-year period up to 2007-08 (figure 2.8). The next fastest growing types of separations in public hospitals are admissions for chest pain, childbirth and other obstetrics, and digestive disorders. The ten most rapidly growing types of separations in the public hospital sector were all among the ten most frequent types of overnight or same-day separations in public hospitals in 2007-08 (as illustrated earlier in figures 2.6 and 2.7).

Figure 2.8 Ten fastest increasing public hospital separations by AR-DRG, 2003-04 to 2007-08^a



^a Acute and psychiatric hospitals. Data for 2003-04 are defined according to AR-DRG version 5.0. Data for 2007-08 are defined according to AR-DRG version 5.1 (see box 2.2). Data classifications are subject to minor revision between years. w/o: without. cc: complications and comorbidities. cs: catastrophic or severe. misc.: miscellaneous.

Source: AIHW (2009a).

Emergency department services are one of the fastest growing type of services provided by public hospitals (AIHW 2009a). In the four-year period up to 2007-08, emergency department presentations in public hospitals grew by almost 30 per cent (table 2.12). Despite the higher volume of activity, the proportion of presentations treated in the clinically appropriate time and median waiting times have remained stable (although care needs to be exercised when interpreting waiting-time data for emergency departments, as there appears to be significant variation between hospitals in how waiting times are measured and in the assignment of clinical urgency categories).

Table 2.12 Public hospital emergency department activity, 2003-04 to 2007-08^a

	2003-04	2004-05	2005-06	2006-07	2007-08
Number of emergency department presentations ('000)	4 308	4 529	4 915	5 287	5 537
Per cent of presentations seen on time ^b					
Resuscitation	99	100	99	99	100
Emergency	76	76	77	78	76
Urgent	63	64	64	65	63
Semi-urgent	65	65	65	66	66
Non-urgent	87	88	87	88	87
Median waiting time (minutes)					
Resuscitation	–	–	–	–	–
Emergency	5	5	5	5	6
Urgent	22	21	21	20	21
Semi-urgent	38	37	37	36	36
Non-urgent	28	28	29	28	28

^a Data for reporting hospitals only. Not all hospitals include an emergency department. ^b Time period is specified according to the triage category. – Nil.

Source: AIHW (2009a).

The future governance, funding arrangements and delivery of services in the public hospital sector are set for reform under COAG's NHA and National Partnership Agreement on Hospital and Health Workforce Reform (COAG 2008b, 2008d, 2008e). The anticipated impact of these reforms, alongside the suite of recommendations recently proposed by the National Health and Hospital Reform Commission (NHHRC 2009), are further considered with the future direction of the private hospital sector in chapter 4.