10   Primary and community health

Editions of this report before 2004 included a chapter on general practice. In the 2004 Report, the chapter was expanded to include community health, to achieve a more comprehensive coverage of the primary health services supported by government. This chapter now covers general practice, primary healthcare services for Indigenous people, drug and alcohol treatment, public dental services, maternal and child health, and a range of other community health services. The scope of this chapter does not extend to:

- Home and Community Care program services (see chapter 12, 'Aged care')
- public hospital emergency departments and outpatient services (see chapter 9, 'Public hospitals')
- community mental health services (see chapter 11, 'Health management issues')
- government funding of pharmacies or the Pharmaceutical Benefits Scheme (PBS).

The primary and community health sector is the part of the healthcare system most frequently used by Australians. It is important in providing preventative care, diagnosis and treatment of illness, and referral to other healthcare services.

Descriptive information about primary and community health services is contained in section 10.1. A framework of performance indicators is presented in section 10.2, and key performance indicator results are discussed in section 10.3. Future directions for reporting are covered in section 10.4, and relevant terms are defined in section 10.5.

Supporting tables

Supporting tables for chapter 10 are provided on the CD-ROM enclosed with the Report. The files are provided in Microsoft Excel format as \Publications\Reports\2005\Attach10A.xls and in Adobe PDF format as \Publications\Reports\2005\Attach10A.pdf.

Supporting tables are identified in references throughout this chapter by an 'A' suffix (for example, table 10A.3 is table 3 in the electronic files). These files can be found on the Review web page (www.pc.gov.au/gsp). Users without Internet access

can contact the Secretariat to obtain these tables (see details on the inside front cover of the Report).

10.1 Profile of primary and community health

Definitions, roles and responsibilities

General practitioners (GPs) are a significant part of the medical practitioner workforce. The medical practitioner workforce comprises doctors trained in a specialty (including general practice) and other medical practitioners (OMPs). The Royal Australian College of General Practitioners (RACGP) defines a GP as 'a medical practitioner who provides primary comprehensive and continuing care to patients and their families within the community' (Britt *et al.* 2004, p. 135). Most of the data in this chapter include two types of medical practitioner who provide GP services:

- registered GPs — medical practitioners who are vocationally registered under s.3F of the *Health Insurance Act 1973* (Cwlth), hold Fellowship of the RACGP or equivalent (Fellowship of the RACGP has been required since 1996, to achieve vocational registration), hold a recognised training placement, or are otherwise entitled to bill Group A1 Medicare Benefits Schedule (MBS) items.

- OMPs — medical practitioners who have at least half of the schedule fee value of their Medicare billing from non-referred attendances, consisting solely or predominantly of Group A2 MBS items.

One exception to this scope is the data from the Bettering the Evaluation and Care of Health (BEACH) survey, which includes registered GPs but not OMPs. For this reason, data from the BEACH survey may not be directly comparable with the other data on medical practitioners that are reported in this chapter.

While the majority of GPs provide services as part of a general practice, some GPs are also employed by hospitals or other organisations in full time or part time capacities. General practice is the business structure within which one or more GPs and other staff such as practice nurses provide and supervise healthcare for a group of patients. General practices are predominantly privately owned, by either the GPs or corporate entities. In Australia, general practices are an important source of primary healthcare. The services they provide include: diagnosing and treating illness (both chronic and acute); providing preventative care through to palliative care; referring patients to consultants, allied health professionals, community health services and hospitals; and acting as gatekeepers for other healthcare services (DHFS 1996). Definitions for common health terms are provided in section 10.5.

The Australian Government provides the majority of general practice income through Medicare fee-for-service and other payments, with the remainder coming from insurance schemes, patient contributions, and State and Territory government programs. Through its funding role, the Australian Government seeks to influence the supply, regional distribution and quality of general practice services. State and Territory governments are responsible for registering and licensing GPs in their jurisdiction. Some provide additional incentives for GPs to locate in rural and remote areas.

Community health services usually consist of multidisciplinary teams of salaried health professionals who aim to protect and promote the health of particular communities (Quality Improvement Council 1998). They are either provided directly by governments (including local governments) or funded by government and managed by a local health service or community organisation. State and Territory governments are responsible for most community health services. There is no national strategy for community health, and there is considerable variation in the services provided across jurisdictions. The Australian Government's main role in the community health services covered in this chapter is in health services for Indigenous people.

Funding

General practice

Almost all of the services provided by private GPs are at least partly funded by the Australian Government through Medicare and the Department of Veterans' Affairs (DVA). This is illustrated by data from the annual BEACH survey of general practice activity in Australia. The BEACH survey found that 93.8 per cent of all encounters with GPs in 2003-04 were for services at least partly funded by Medicare or the DVA (table 10.1). The Australian Government also provides payments to GPs through the Divisions of General Practice Program, the Practice Incentives Program (PIP) and the GP Immunisation Incentives Scheme (DHAC 2000). These payments are included in the data for Australian Government expenditure presented below (figure 10.1).

The Australian Government spent approximately $3.6 billion on general practice in 2003-04, including through Medicare, non-Medicare funding, expenditure by the DVA and other funding programs. This was equivalent to expenditure of $178 per person in 2003-04 (figure 10.1). Figure 10.1 does not give a complete picture of government expenditure on primary health because it does not include expenditure on Aboriginal Community Controlled Health Services (ACCHSs), other community

health services, and services delivered through hospital accident and emergency departments. These types of primary healthcare are more prevalent in rural and remote areas. Accordingly, figure 10.1 understates expenditure on primary health, particularly in jurisdictions with larger proportions of Indigenous people and people living in rural and remote areas.

Table 10.1   **GP encounters, by source of funding, 2003-04[a, b]**

	Number[c]	Rate[d]	95% LCL	95% UCL
	no.	no./100	no./100	no./100
GPs participating in the BEACH survey	1 000	..	..	..
Total encounters for which BEACH data were recorded	98 877	..	..	..
Encounters with missing data	6 912	..	..	..
Direct consultations	89 160	97.0	96.6	97.3
No charge	463	0.5	0.3	0.7
Medicare paid[e]	86 244	93.8	93.3	94.2
Workers compensation	1 872	2.0	1.8	2.3
Other paid (hospital, State, etc.)	581	0.6	–	1.4
Indirect consultations[f]	2 805	3.1	2.5	3.6

UCL = upper confidence limit. LCL = lower confidence limit. [a] April 2003 to March 2004. [b] An 'encounter' is any professional interchange between a patient and a GP (Britt *et al.* 2000). [c] Number of encounters after post-stratification weighting for GP activity and GP age and sex. [d] Missing data removed. Percentage base (N = 91 965). [e] Includes Australian Government payments made through the DVA. [f] Indirect consultations are those at which the patient is not seen by the GP but that generate a prescription, a referral, a certificate or another service. They are usually the result of a phone call by a patient. .. Not applicable. – Nil or rounded to zero.

Source: Britt *et al.* (2004); table 10A.1.

State and Territory governments also provide funding for general practice through a number of programs. Generally, this funding is provided indirectly through support services for GPs (such as assistance with housing and relocation, education programs and employment assistance for spouses and family members of doctors in rural areas), or education and support services for public health issues such as diabetes management, smoking cessation, sexual health, and mental health and counselling. Non-government sources — insurance schemes (such as private health insurance, workers compensation and third party insurance) and private individuals — also provide payments to GPs.

Figure 10.1   **Australian Government real expenditure per person on GPs (2003-04 dollars)a**
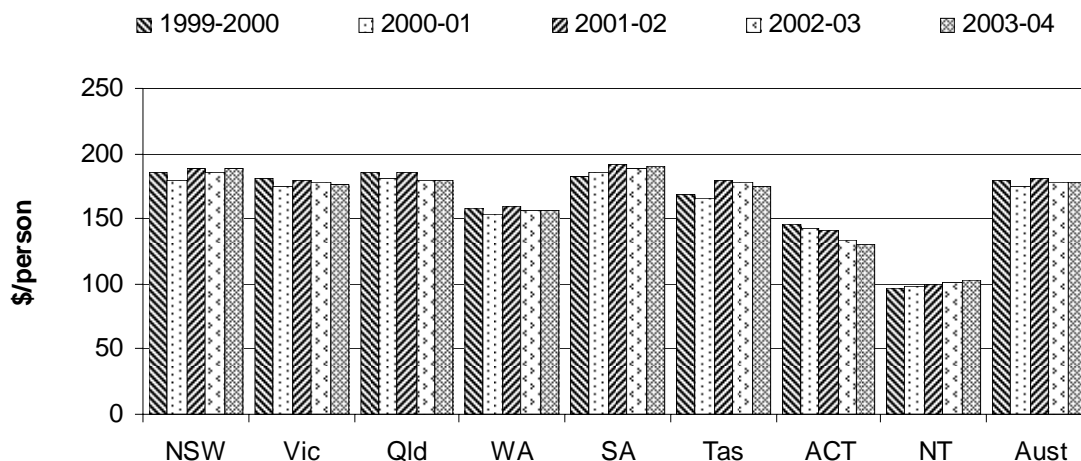
a The data include Medicare, PIP, DVA, Divisions of General Practice and General Practice Immunisation Incentives Scheme payments. DVA data cover consultations by local medical officers (LMOs), whether vocationally registered GPs or not. From available files, it is not possible to extract the amounts paid to LMOs (as opposed to specialists) for procedural items. It is expected, however, that the amounts for these services are small compared with payments for consultations.

Source: Department of Health and Ageing (DHA) (unpublished); table 10A.2.

Community health services

Expenditure data are not available for all of the community health services covered in this chapter. The Australian Institute of Health and Welfare (AIHW) publishes expenditure data on community and public health, and dental services. The former category, however, includes public health activities that are not covered in this chapter, such as food safety regulation and media campaigns to promote health awareness. The dental services category includes private dental services (funded by insurance premium rebates and non-government expenditure) that are also not reported in this chapter. In 2002-03, government expenditure on community and public health was $4.4 billion, with State, Territory and local government providing 74.7 per cent and the Australian Government providing 25.3 per cent of this expenditure (table 10.2). Australian Government direct outlay expenditure on dental services was $78 million in 2002-03, and State, Territory and local government expenditure was $342 million (table 10.2).

Table 10.2 **Estimated expenditure on community and public health, and dental services, 2002-03 ($ million)[a, b]**

| | Australian Government | | | | | | |
	Direct outlays	Premium rebates	Total	State and local govt	Total govt	Non-govt	Total
Community and public health[c]	1 100	–	1 101	3 249	4 351	8	4 358
Dental services[d]	78	298	376	342	718	3 656	4 374

a Preliminary estimates. **b** Government expenditure on premium rebates relates to private health and dental services that are not within the scope of this chapter. **c** Includes some expenditure that was previously classified as 'other non-institutional (not elsewhere classified)', as well as expenditure on community and public health services. **d** The Australian Government direct outlays on dental services are for services provided to veterans through DVA. – Nil or rounded to zero.

Source: AIHW (2004c).

Size and scope

General practice

There were 24 323 registered GPs and OMPs billing Medicare in Australia in 2003-04. On a full time workload equivalent (FWE) basis, there were 16 872 registered GPs and OMPs. This was equal to 83.8 registered GPs and OMPs per 100 000 people — a decline from 85.5 per 100 000 people in 1999-2000 (table 10A.3). These data exclude services provided by GPs working with the Royal Flying Doctor Service and GPs working in ACCHSs and public hospitals without the right of private practice. In addition, the data are based on Medicare claims, which for some GPs (particularly in rural areas) pay for only part of their workload. Compared with metropolitan GPs, those in rural or remote areas spend more of their time working in local hospitals, for which they are not paid through Medicare. In 2003-04, the highest number of FWE registered GPs and OMPs per 100 000 people was in NSW (89.3) and the lowest was in the NT (49.2) (figure 10.2).

A national survey conducted by the Australian Bureau of Statistics (ABS) in 2001 found that 24 per cent of people had consulted a GP in the two weeks before the survey. This was an increase from 23 per cent in 1995 and from 20 per cent in 1989-90 (ABS 2002). The average consultation with a GP lasted just under 15 minutes (Britt *et al*. 2002).

Figure 10.2 **Availability of GPs (full time workload equivalent)[a, b]**
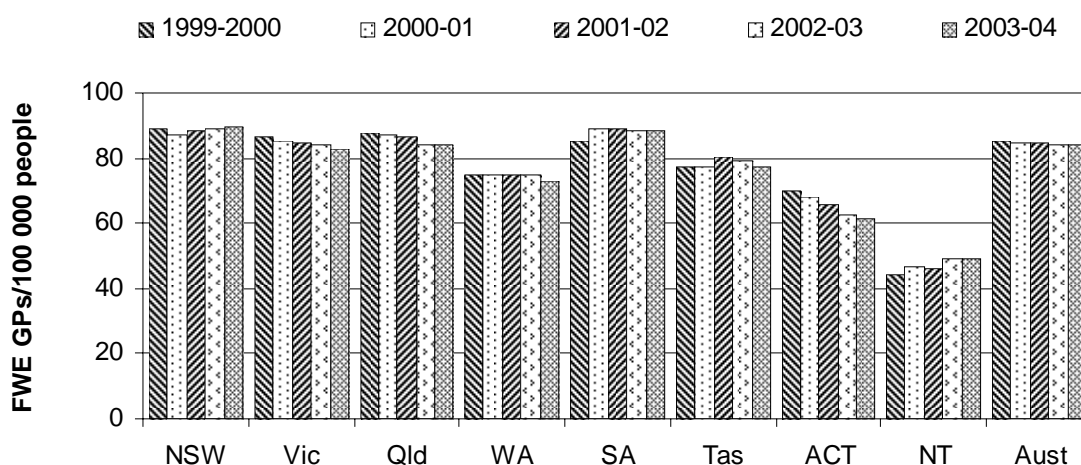
a Data include registered GPs and OMPs who are allocated to a jurisdiction based on the postcode of their practice. b Data for 2002-03 have been revised.

Source: DHA (unpublished); table 10A.3.

Community health services

The range of community health services available varies considerably across jurisdictions. Tables 10A.39–10A.47 provide information on community health programs in each jurisdiction. The more significant of these programs are described below. Other community health programs provided by some jurisdictions include:

- women's health services that provide services and health promotion programs for women across a range of health related areas

- men's health programs, including mainly promotional and educational programs

- allied health services

- community rehabilitation programs.

Community health programs that address mental health, home and community care, and aged care assessments are reported in chapters 11 and 12.

Maternal and child health

All jurisdictions provide maternal and child health services through their community health programs. These services include: parenting support programs (including antenatal and postnatal programs); early childhood nursing programs; disease prevention programs (including childhood immunisations); and early

intervention and treatment programs related to child development and health. Some jurisdictions also provide specialist programs through child health services, including hearing screening programs, and mothers and babies residential programs. Performance indicators for maternity services in public hospitals are reported in chapter 9.

Public dental services

All jurisdictions provide some form of public dental service for primary school children. Some jurisdictions also provide dental services to secondary school students. In SA, Tasmania, and the NT, for example, general dental care (including preventative care) is provided for school children up to 18 years of age (tables 10A.44, 10A.45 and 10A.47). States and Territories also provide some general dental services and a limited range of specialist dental services to disadvantaged adults (holders of concession cards issued by Centrelink). In some States, specialist dental services are provided mainly by qualified dental specialists; in others, they are provided in dental teaching hospitals as part of training programs for dental specialists (National Advisory Committee on Oral Health 2004).

Alcohol and other drug treatment

Alcohol and other drug treatment activities range from a brief intervention to long term residential treatment. Types of treatment include detoxification, pharmacological treatment (also known as substitution or maintenance treatment), counselling and rehabilitation. The data included here have been sourced from a report on the Alcohol and Other Drug Treatment Services National Minimum Data Set (AIHW 2004a). This report excluded some treatment activities, including opioid pharmacotherapy treatment where it is the only treatment provided. The report also excluded data for the majority of Indigenous substance use services and Indigenous community healthcare services that also provide alcohol and other drug treatment services and are funded by the Australian Government.

A total of 587 alcohol and other drug treatment services contributed 2002-03 data for the National Minimum Data Set. Of these, 264 (45.0 per cent) identified as government providers and 323 (55.0 per cent) identified as non-government providers (table 10A.8). All of the non-government providers received some government funding for 2002-03. A total of 108 042 clients were registered for treatment in 2002-03, of whom 65.8 per cent were male (AIHW 2004a). Alcohol was reported as the most common principal drug of concern for which clients sought treatment (38.0 per cent of treatment episodes). Cannabis was the next most common drug of concern (22.0 per cent of treatment episodes), followed by heroin

(18.4 per cent of treatment episodes) and amphetamines (10.7 per cent of treatment episodes) (AIHW 2004a). Further information on alcohol and other drug treatment services funded by governments is included in tables 10A.40–10A.47.

Indigenous community healthcare services

Primary healthcare services are delivered to Indigenous people through ACCHSs and government provided community health services. (The use of general practice services by Indigenous people is discussed separately below.) There are ACCHSs in all jurisdictions. These services are planned and governed by local Indigenous communities and aim to deliver holistic and culturally appropriate health and health-related services. Funding for ACCHSs is provided by Australian, State and Territory governments.

In addition to the ACCHSs, specific health programs for Indigenous Australians are funded by jurisdictions:

- NSW provides Indigenous health services, including health information and promotion programs, pre- and post-natal programs, and early childhood nursing programs (table 10A.40).

- Victoria provides Indigenous-specific and mainstream community health services funded by the Department of Human Services. They provide medical, alcohol and drug, maternity and early childhood services (table 10A.41).

- Queensland provides primary and community healthcare services and activities that address prevention and health management/maintenance for Indigenous communities. Services offered include: health prevention and promotion services; men's and women's health programs; child and adolescent health services; alcohol, tobacco and other drug services; sexual health services; allied health services; and patient transport provided to increase access to healthcare (table 10A.42).

- Western Australia provides community health services that are also available to Indigenous people in various age groups (table 10A.43).

- South Australia provides Indigenous health services that include: strategies to improve the outcomes for females giving birth, home support, and programs that provide health screenings and diabetes care (table 10A.44).

- Tasmania provides population and health priorities programs to prevent and manage chronic conditions, and to promote nutrition, physical activity and injury prevention in identified population groups, including the Indigenous population (table 10A.45).

- The NT provides primary care for the Indigenous population directly and by funding community controlled Indigenous health services. It also provides remote health services such as 24 hour emergency services, medical and allied health specialist services, and access to essential medications (table 10A.47).

- The ACT provides funding for a non-government Aboriginal Health Service and a variety of programs for Aboriginals and Torres Strait Islanders.

The Australian Government also funds Aboriginal and Torres Strait Islander primary healthcare services. Information on these services is collected through service activity reporting (SAR) surveys. Many of the surveyed services receive additional funding from State and Territory governments and other sources. The SAR data reported here represent the health-related activities, episodes and workforce that are funded from all sources.

For 2001-02, SAR data are reported for 128 Indigenous primary healthcare services (table 10A.4). Of these services, 53 (41.4 per cent) were located in remote or very remote areas (table 10A.5). They provided a wide range of primary healthcare services, including the diagnosis and treatment of illness and disease, the management of chronic illness, immunisations and transportation to medical appointments (table 10A.6).

An episode of healthcare is defined in the SAR data collection as contact between an individual client and a service by one or more staff to provide healthcare. Over 1.4 million episodes of healthcare were provided by participating services in 2001-02 (table 10.3). Of these, 573 340 (40.8 per cent) were in remote or very remote areas (table 10A.5).

The services included in the SAR data collection employed approximately 1601 full time equivalent health staff (on 30 June 2002). Of these health staff, 1036 were Indigenous (64.7 per cent). The proportions of doctors and nurses employed by surveyed services who were Indigenous, however, were relatively low (2.3 per cent and 15.1 per cent respectively) (table 10A.7).

Table 10.3   **Estimated episodes of healthcare by surveyed services[a, b]**

	NSW and ACT	Vic and Tas	Qld	WA	SA	NT	Aust
	'000	'000	'000	'000	'000	'000	'000
1998-99	265.8	143.5	149.3	247.1	131.4	124.2	1 061.3
1999-2000	286.8	172.5	176.3	295.0	129.7	163.0	1 223.2
2000-01	348.6	143.5	186.9	326.7	147.4	189.4	1 342.5
2001-02	356.9	154.3	214.1	313.1	144.3	233.1	1 415.7

a An episode of healthcare involves contact between an individual client and a service by one or more staff, for the provision of healthcare. Group work is not included. Transport is included only if it involves provision of healthcare/information by staff. Episodes of healthcare provided at outreach locations are included — for example, episodes at outstation visits, park clinics and satellite clinics — as are episodes delivered over the phone. **b** 2001-02 data are estimates.

Source: DHA SAR (unpublished).

Use of general practice services by Indigenous people

An overview of health factors and outcomes for Indigenous people is provided in the 'Health preface'. Data on national expenditure on general practice services for Indigenous people in 1998-99 (the most recent year for which expenditure data are available by Indigenous status) indicate:

- expenditure on Medicare and the PBS per Indigenous person was about 39 per cent of expenditure per non-Indigenous person

- Indigenous Australians used secondary/tertiary care (such as hospitals) at a higher rate than they used primary care and at a higher rate than used by non-Indigenous people (AIHW 2001; see 'Health preface').

Data from the annual BEACH survey indicate the nature of encounters between Indigenous people and GPs. This survey relies on the self-reporting of an individual's Indigenous status to the GP, so is likely to underestimate the actual number of GP encounters with Indigenous people. In addition, these data need to be treated with care because the BEACH survey was not designed to produce statistically significant results for Indigenous people and may under-identify them. Further, the Indigenous Australians included in the BEACH survey do not necessarily have the same characteristics as other Indigenous Australians. For these reasons, the 2003 BEACH survey aggregated Indigenous data over a five year period to improve reliability.

Over the period 1998-99 to 2002-03, 5476 encounters between Indigenous patients and GPs were recorded in the BEACH survey (table 10A.9). This represented 1.1 per cent of GP encounters in the study over this period. By comparison, the proportion of Indigenous people in the Australian population was 2.4 per cent at

June 2001 the midpoint of this period (tables A.2 and A.7). Extrapolating these results to all GP/patient encounters across Australia suggests there was an annual average of around 1.1 million encounters between Indigenous patients and GPs over the five years to 2002-03 (Britt *et al.* 2003).

The most common health problem managed in GP encounters with Indigenous people over the five years of the BEACH survey was diabetes, which accounted for 7.1 per 100 GP encounters with Indigenous people, compared with 2.8 per 100 GP encounters with all people. Other problems with significantly higher management rates in GP encounters with Indigenous people included acute otitis media/myringitis, asthma, and pre- and post-natal care (table 10.4). Further information about the location, remoteness and management activities of BEACH survey encounters between Indigenous patients and GPs is included in tables 10A.10, 10A.11 and 10A.12.

Table 10.4   **Selected health problems in encounters with GPs, by Indigenous status, 1998-99 to 2002-03**

Problems managed	Indigenous people's encounters			All encounters		
	Rate (*n*=5476)	95% LCL	95% UCL	Rate (*n*=502 100)	95% LCL	95% UCL
	no./100	no./100	no./100	no./100	no./100	no./100
Diabetes[a]	7.1	6.0	8.2	2.8	2.7	2.9
Hypertension[a]	6.7	5.7	7.7	8.8	8.6	9.0
Upper respiratory tract infection	5.7	4.8	6.5	6.0	5.9	6.2
Asthma	4.3	3.6	5.0	2.9	2.8	3.0
Acute bronchitis/ bronchiolitis	3.8	3.2	4.5	2.8	2.7	2.8
Depression[a]	3.4	2.9	3.9	3.8	3.7	3.9
Immunisation (all)[a]	3.3	2.6	3.9	4.8	4.6	5.0
Acute otitis media/ myringitis	3.1	2.5	3.6	1.4	1.4	1.5
Back complaint[a]	2.2	1.7	2.6	2.6	2.5	2.7
Pre- and post-natal check[a]	2.1	1.5	2.5	1.0	0.9	1.0
Subtotal	41.7	..	..	..	..	..
Total problems[b]	**147.7**	**143.7**	**151.6**	**148.1**	**147.3**	**148.9**

LCL = lower confidence level. UCL = upper confidence level. [a] Includes multiple primary care classification codes. [b] Total problems managed is greater than 100, because more than one problem can be managed per encounter. .. Not applicable.

Source: Britt *et al.* (2003); table 10A.9.

10.2 Framework of performance indicators

The performance indicator framework is based on the shared government objectives for primary and community health (box 10.1). The framework provides information on equity, effectiveness and efficiency, and distinguishes outputs from outcomes. This approach is consistent with the general performance indicator framework for this Review that has been agreed by the Steering Committee (see chapter 1). The framework will evolve as better indicators are developed and as the focus and objectives for primary and community health change. In particular, the Steering Committee plans to develop and report against more indicators relating to community health services.

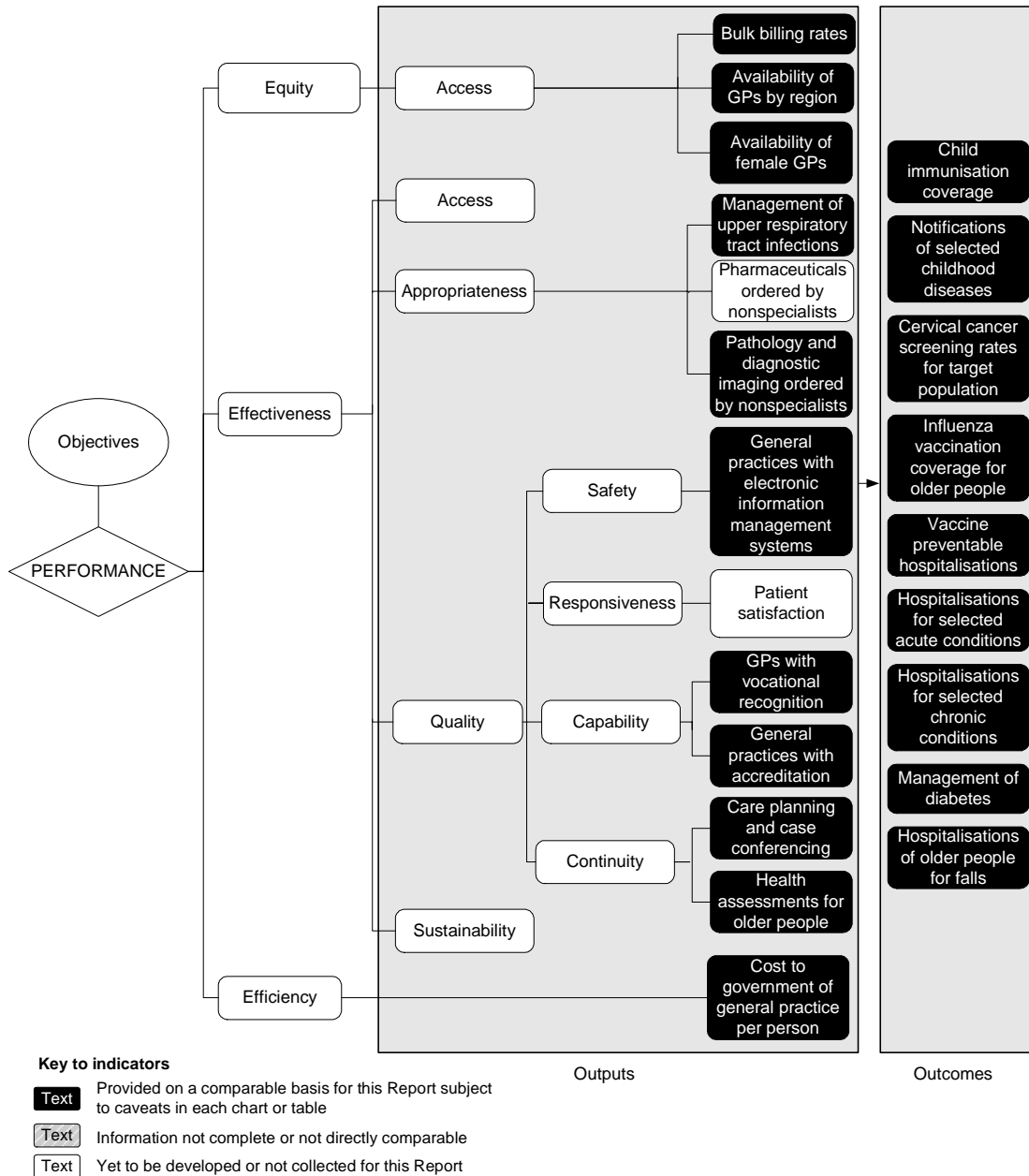Box 10.1   **Objectives for primary and community health**

Primary and community health services aim to promote the health of Australians by:

- acting as the first point of entry to the healthcare system
- providing healthcare that promotes changes in lifestyle behaviour and prevents possible illness
- coordinating and integrating healthcare services on behalf of clients
- providing continuity of care

in an equitable and efficient manner based on the best available evidence of the effectiveness of healthcare interventions.

The performance indicator framework shows which data are comparable in the 2005 Report (figure 10.3). For data that are not considered directly comparable, the text includes relevant caveats and supporting commentary. Chapter 1 discusses data comparability from a Report-wide perspective (see section 1.6). The 'Health preface' explains the performance indicator framework for health services as a whole, including the subdimensions for quality and sustainability that have been added to the standard Review framework for health services.

Figure 10.3 **Performance indicators for primary and community health**

Figure 10.3 Performance indicators for primary and community health

Objectives

PERFORMANCE

Equity — Access — Bulk billing rates / Availability of GPs by region / Availability of female GPs

Effectiveness — Access

Appropriateness — Management of upper respiratory tract infections / Pharmaceuticals ordered by nonspecialists / Pathology and diagnostic imaging ordered by nonspecialists

Quality — Safety — General practices with electronic information management systems

Responsiveness — Patient satisfaction

Capability — GPs with vocational recognition / General practices with accreditation

Continuity — Care planning and case conferencing / Health assessments for older people

Sustainability

Efficiency — Cost to government of general practice per person

Outputs

Outcomes: Child immunisation coverage / Notifications of selected childhood diseases / Cervical cancer screening rates for target population / Influenza vaccination coverage for older people / Vaccine preventable hospitalisations / Hospitalisations for selected acute conditions / Hospitalisations for selected chronic conditions / Management of diabetes / Hospitalisations of older people for falls

Key to indicators

Text — Provided on a comparable basis for this Report subject to caveats in each chart or table

Text — Information not complete or not directly comparable

Text — Yet to be developed or not collected for this Report

10.3   Key performance indicator results

Different delivery contexts, locations and types of client may affect the effectiveness, equity and efficiency of health services. Appendix A contains detailed statistics and short profiles on each State and Territory, which may assist in interpreting the performance indicators presented in this chapter.

Equity

Problems with accessing primary health services have contributed to the generally poor health status of Indigenous people relative to other Australians (see the 'Health preface'). Financial, geographic and other barriers can also have an impact on the equity of access to primary health services for other groups, including people with low socioeconomic status and people living in rural and remote areas.

Access

Three indicators of equity of access in GP service delivery are reported here: bulk billing rates (box 10.2), the availability of FWE GPs by region (box 10.3) and the availability of female GPs (box 10.4).

Bulk billing rates

Box 10.2   **Bulk billing rates**

Patient visits to GPs are classed as non-specialist non-referred attendances under Medicare. Patients are either bulk billed or required to pay part of the cost of the non-referred attendance. In most cases where a patient is bulk billed, the GP bills the Health Insurance Commission (Medicare) directly and currently receives 85 per cent of the Schedule fee (the patient's rebate) as full payment for the service. The patient makes no out-of-pocket contribution. The bulk billed proportion of non-specialist non-referred attendances indicates the affordability of GP services.

The indicator is defined as the number of non-specialist non-referred attendances that were bulk billed as a proportion of all non-specialist non-referred services.

A higher proportion of bulk billed attendances indicates greater affordability of GP services. This indicator, however, does not provide information on whether the services are appropriate for the needs of the people receiving them.

In 2003-04, NSW had the highest proportion of non-specialist non-referred attendances that were bulk billed (76.7 per cent), while the ACT had the lowest (36.8 per cent). Australia-wide, the bulk billed proportion of non-specialist non-referred attendances declined from 79.1 per cent in 1999-2000 to 68.5 per cent in 2003-04 (figure 10.4).

Figure 10.4 **Non-specialist non-referred attendances that were bulk billed[a]**
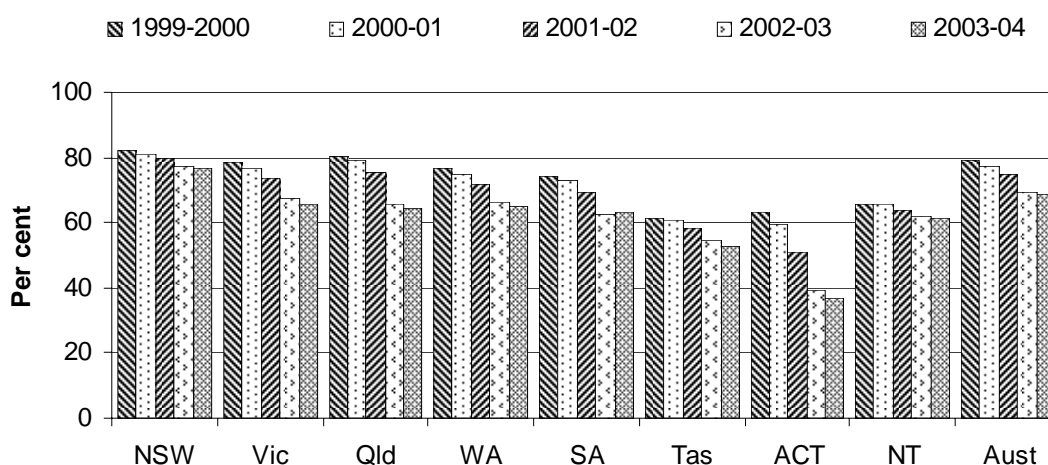
a Data for 2003-04 include attendances by practice nurses.

Source: DHA (unpublished); table 10A.13.

The bulk billed proportion of non-specialist non-referred attendances was generally lower in rural and remote centres than in capital cities or other metropolitan centres. In 2003-04, 73.0 per cent of attendances in capital cities were bulk billed, compared with 54.7 per cent in large rural centres and 55.7 per cent in other rural areas (table 10A.14).

Availability of GPs by region

Box 10.3   **Availability of GPs by region**

The availability (or supply) of GPs by region affects people's access to general practice services, particularly in rural and remote areas. Low availability can result in increased travel distance to a practice, increased waiting times to see a GP, and difficulty in booking long consultations. Low availability may also reduce bulk billing rates because there is less competition for patients. Australian, State and Territory governments seek to influence the availability of GPs by providing incentives for the recruitment and retention of GPs in rural and remote areas.

The indicator is defined as the number of FWE GPs per 100 000 people by region.

An increase in the availability of GPs indicates improved access to GP services. This indicator, however, does not provide information on whether the services are appropriate for the needs of the people receiving them.

There were 83.8 FWE GPs per 100 000 people in Australia in 2003-04. By region the rate was 87.8 FWE GPs per 100 000 in capital cities, 61.5 FWE GPs per 100 000 in remote centres, and 54.3 per 100 000 in other remote areas

(figure 10.5). Over the five years to 2003-04, the number of FWE GPs per 100 000 people fell in metropolitan areas and rose in rural and remote regions (except in large rural centres, where FWE GP numbers per 100 000 remained relatively constant up to 2002-03, then increased in 2003-04) (figure 10.5).

Figure 10.5   Availability of GPs (full time workload equivalent), by region[a, b, c]
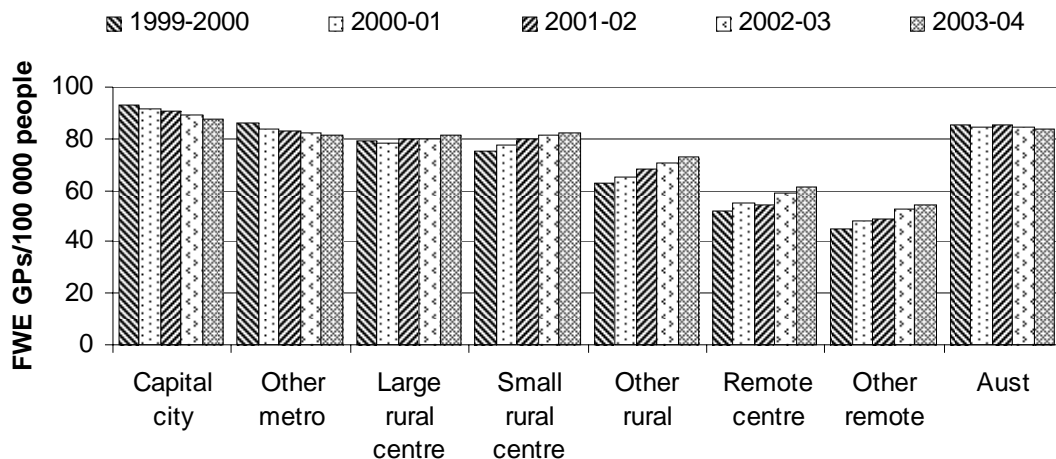
a Capital city = State and Territory capital city statistical divisions; other metropolitan centre = one or more statistical subdivisions that have an urban centre with a population of 100 000 or more; large rural centre = statistical local areas (SLAs) where most of the population resides in urban centres with a population of 25 000 or more; small rural centre = SLAs in rural zones containing urban centres with populations between 10 000 and 24 999; other rural area = all remaining SLAs in the rural zone; remote centre = SLAs in the remote zone containing populations of 5000 or more; other remote area = all remaining SLAs in the remote zone. b Data for 2002-03 have been revised. c FWE GP numbers include registered GPs and OMPs, who are allocated to a jurisdiction based on the postcode of their practice.

Source: DHA (unpublished); table 10A.15.

Availability of female GPs

Box 10.4   **Availability of female GPs**

This indicator measures equity of access, recognising that some female patients prefer to discuss health matters with, and to receive primary healthcare from, a female GP.

The indicator is defined as the number of female FWE GPs per 100 000 females.

A higher rate means it is more likely that female patients who prefer to visit female GPs will have their preference met. This indicator, however, does not provide information on whether the services are appropriate for the needs of the people receiving them.

Approximately one third of Australia's GPs were female in 2003-04 (8805 of 24 323). This represented approximately one quarter of FWE GPs (tables 10A.15

and 10A.16). In 2003-04, there were 44.2 female FWE GPs per 100 000 females in Australia, with the rate highest in NSW (46.9 per 100 000 females) and lowest in WA (38.9 per 100 000 females) (figure 10.6).

Figure 10.6   **Availability of female GPs (full time workload equivalent)a, b**
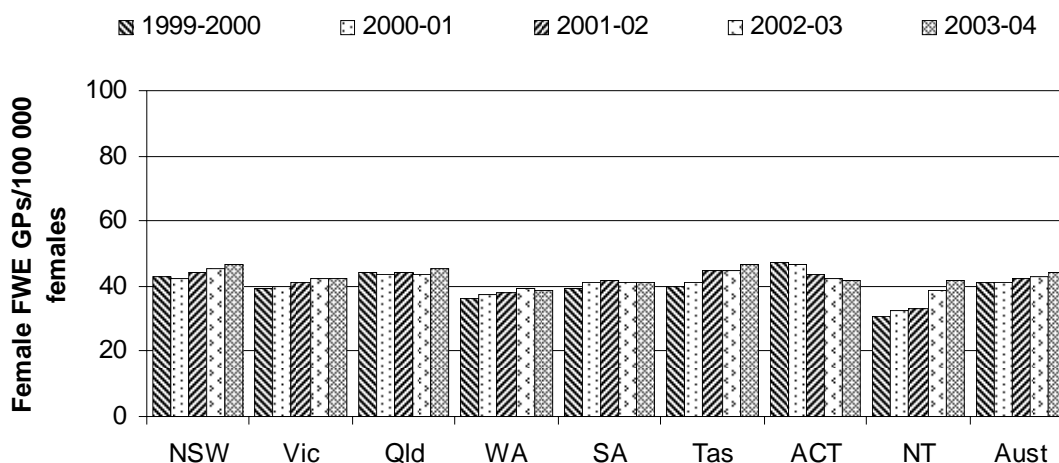
a Data for 2002-03 have been revised. **b** Data relate to registered GPs and OMPs.

Source: DHA (unpublished); table 10A.16.

Effectiveness

Appropriateness

Two indicators of the appropriateness of GP services are reported here: the 'management of upper respiratory tract infections' (box 10.5), and 'pathology tests and diagnostic imaging ordered by non-specialists' (box 10.7).

The Steering Committee has also identified 'pharmaceuticals ordered by non-specialists' as an indicator of the appropriateness of GP services (box 10.6). Data for this indicator, however, were not available for the 2005 Report.

Management of upper respiratory tract infections

The prescription rate for the oral antibiotics used most commonly to treat upper respiratory tract infection in 2003-04 was highest in NSW (1443.3 per 1000 PBS concession card holders) and lowest in the NT (477.3 per 1000 PBS concession card holders) (figure 10.7). Australia-wide, the prescription rate decreased by 14.2 per cent between 1999-2000 and 2003-04 (but increased slightly between 2002-03 and 2003-04). All jurisdictions experienced a decrease over the first four

years of this period, although the rate increased between 2002-03 and 2003-04 in all jurisdictions except Queensland and the NT (figure 10.7).

**Box 10.5   Management of upper respiratory tract infections**

Upper respiratory tract infections without complications are most often caused by viruses. Antibiotics have no efficacy in the treatment of viral infections but are still frequently prescribed when viruses occur. Unnecessarily high antibiotic prescription rates for upper respiratory tract infections have the potential to increase pharmaceutical costs and to increase antibiotic resistance in the community.

Ideally, this indicator would be based on the total population, but data restrictions mean it is based only on PBS concession card holders. The indicator is defined as the number of prescriptions for the oral antibiotics used most commonly to treat upper respiratory tract infection provided to PBS concession card holders per 1000 PBS concession card holders.

A reduction in the prescription rate may indicate that GPs are offering more appropriate treatment for viral infections.

Due to the effects of population ageing, the complexity of pharmaceutical needs of concession card holders may increase. In addition, the selected oral antibiotics may be prescribed for illnesses other than upper respiratory tract infections. The trend in the prescription of oral antibiotics should nevertheless be downwards if GPs more closely follow guidelines for the treatment of upper respiratory tract infections.

Figure 10.7   **Rate of prescription of the oral antibiotics used most commonly to treat upper respiratory tract infections**
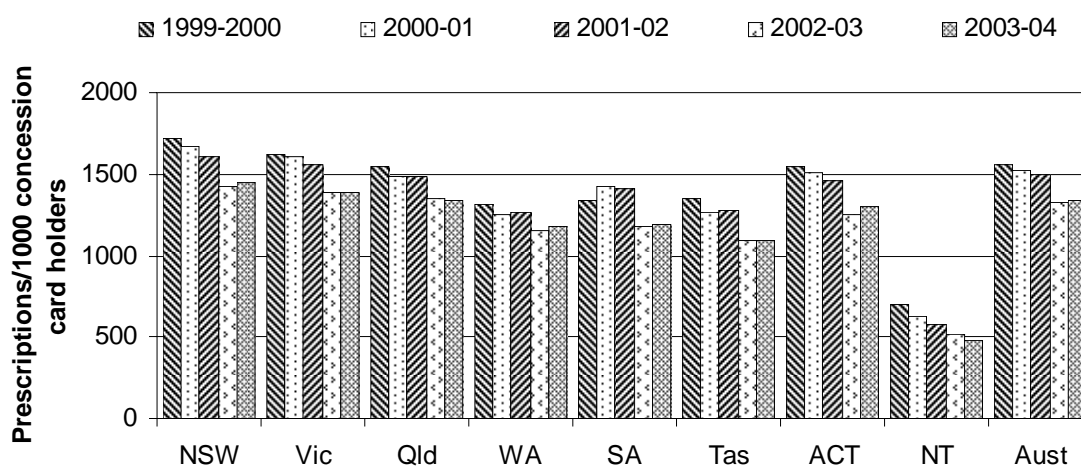
Source: DHA (unpublished); table 10A.17.

Pharmaceuticals ordered by non-specialists

Box 10.6   **Pharmaceuticals ordered by non-specialists**

'Pharmaceuticals ordered by non-specialists' has been identified as an indicator of appropriateness, but no data are currently available.

Pathology tests and diagnostic imaging ordered by non-specialists

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Box 10.7   **Pathology tests ordered and diagnostic imaging referrals by non-specialists (registered GPs and OMPs)**

The number of pathology tests ordered and diagnostic imaging referrals by registered GPs and OMPs per person in the population is used to report on the appropriateness of diagnosis and prescribing patterns.

Four measures are reported:

- pathology tests ordered by registered GPs and OMPs per person
- diagnostic imaging referrals from registered GPs and OMPs per person
- benefits paid per person for pathology tests
- benefits paid per person for diagnostic imaging.

In all cases, the data include only tests and referrals rebated through Medicare.

Differences across jurisdictions and over time may indicate inappropriate use of these services in diagnosis and treatment. While high levels may indicate GPs' over-reliance on these diagnostic tools, low levels may also indicate underuse. It is not possible to determine what might be the appropriate levels. Reporting these data contributes to the discussion of such issues.

Nationally, the number of pathology tests ordered per person increased from 2.5 in 1999-2000 to 2.9 in 2003-04 (figure 10.8). In 2003-04, Queensland had the highest rate of pathology tests ordered (3.1 per person) and the NT had the lowest (2.1 per person). These data represent only pathology tests paid through Medicare. In general, Medicare benefits are payable for a maximum of three tests performed on a specimen. Data on the number of tests performed but not rebated are not available. Pathology services for some areas of WA, SA, the ACT and the NT were funded by the Australian Government through health program grants until 2001-02, so these data may underestimate the number of pathology tests ordered in some jurisdictions before 2002-03 (although the amounts are relatively insignificant).

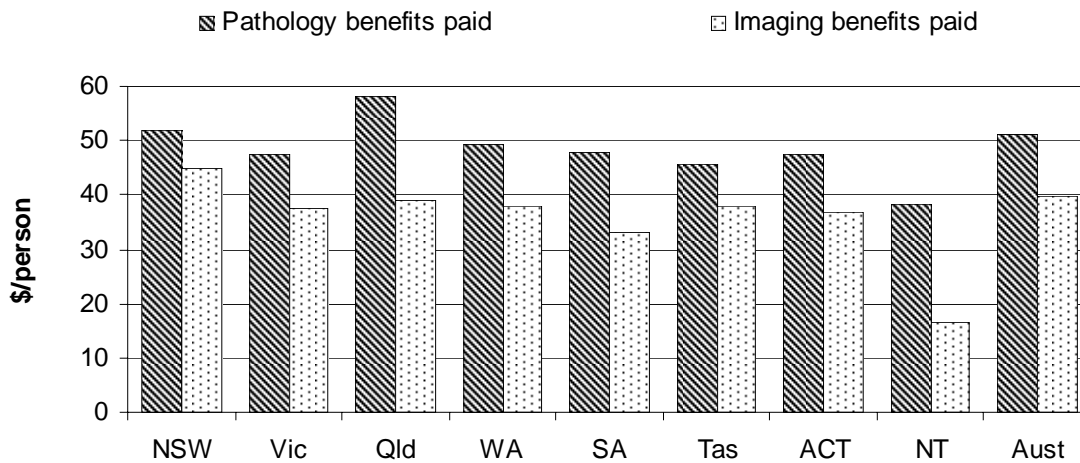Figure 10.8   **Pathology tests ordered by GPs^a**
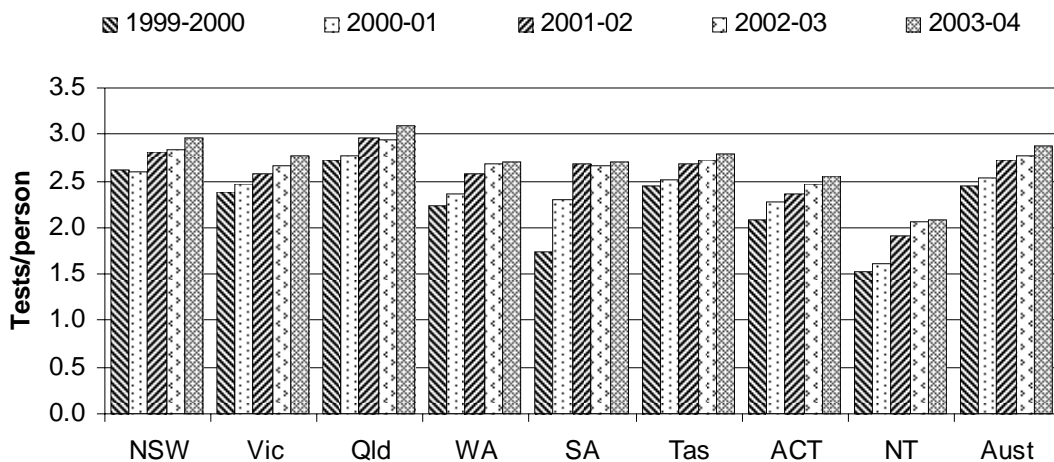
a Data include tests ordered by registered GPs and OMPs. Data include tests ordered at the request of a patient (patient episode initiated items).

Source: DHA (unpublished); table 10A.18.

Australian Government expenditure (under Medicare) on pathology tests amounted to over $1 billion in 2003-04, equal to $51 per person. The benefits paid per person for pathology tests in 2003-04 were highest in Queensland ($58) and lowest in the NT ($38) (figure 10.9). Nationally, these benefits per person increased in real terms by 4.8 per cent over the five years to 2003-04 (table 10A.18). Nationally, Medicare benefits worth over $800 million were paid for diagnostic imaging in 2003-04, equal to $40 per person. Across jurisdictions, the benefits paid per person were highest in NSW ($45) and lowest in the NT ($17) (figure 10.9). Nationally, these benefits decreased in real terms by 5.1 per cent over the five years to 2003-04 (table 10A.19).

Nationally, the number of diagnostic imaging referrals per person remained relatively constant over the five years to 2003-04 (figure 10.10). In 2003-04, NSW had the highest number of referrals per person (0.5) and the NT had the lowest (0.2). The marked difference in the number of pathology tests ordered per person and the imaging referrals per person might be because up to three tests can be ordered with one pathology specimen, whereas each imaging referral results in only one test.
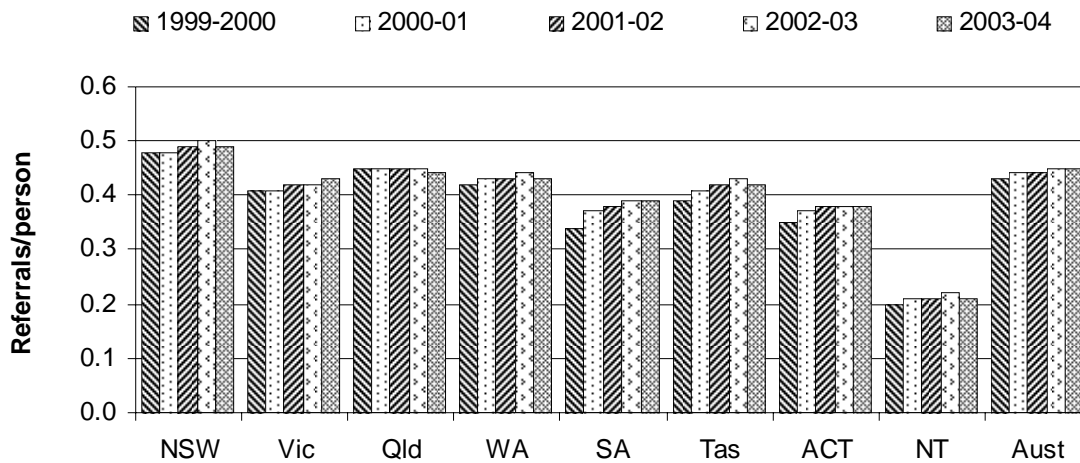
Figure 10.9 **Benefits paid for pathology tests and diagnostic imaging, 2003-04[a]**

a Includes benefits paid through Medicare (including DVA data) for pathology tests ordered, and diagnostic imaging referred, by registered GPs and OMPs.

Source: DHA (unpublished); tables 10A.18 and 10A.19.

Figure 10.10 **Diagnostic imaging referrals from GPs[a]**

a Data relate to registered GPs and OMPs.

Source: DHA (unpublished); table 10A.19.

General practices with electronic information management systems

The PIP provides payments to general practices based on patients' ongoing healthcare needs (rather than on service volumes), promoting activities such as: the use of electronic information management systems; after-hours care, the teaching of medical students; the employment of practice nurses; and improved chronic disease management.

Under the PIP Information Management, Information Technology program, two incentives encourage the computerisation of practices: first, the electronic prescribing incentive paid for the use of bona fide electronic prescribing software to generate the majority of prescriptions, and second, an incentive paid for the use of computer systems to send and/or receive clinical information. Computerisation of general practices can improve the safety (in terms of quality and effectiveness) of GP services (box 10.8).

Box 10.8   General practices with electronic clinical information management systems

The proportion of general practices with electronic information management systems is an indicator of safety because such systems can reduce prescribing and dispensing errors. Reductions in these types of error reduce the likelihood of harm to patients from adverse drug reactions. Electronic information management systems can also improve other aspects of quality by providing access to timely clinical data and improving the maintenance of patient health records. Use of such technology can, for example, facilitate the management of screening and other preventive health activities for patients (DHAC 2000).

Two measures of this indicator are reported:

• the proportion of PIP practices that use electronic prescribing

• the proportion of PIP practices that use computers to send/or receive clinical information.

An increase in these proportions may indicate an improvement in the level of safety in patient management by general practices.

The PIP does not include all practices in Australia. PIP practices covered around 80 per cent of Australian patients (measured as standardised whole patient equivalents) in May 2004 (DHA unpublished).

Australia-wide, 92.0 per cent of PIP practices used electronic prescribing systems in May 2004 (an increase from 90.5 per cent in May 2003). Of PIP practices, 91.0 per

cent had the capacity to send and/or receive clinical information via use of computer technology in May 2004 (an increase from 89.7 per cent in May 2003) (table 10A.21).

In May 2004, PIP practices in the ACT were the most likely to use computers to send and/or receive clinical information and to use electronic prescrib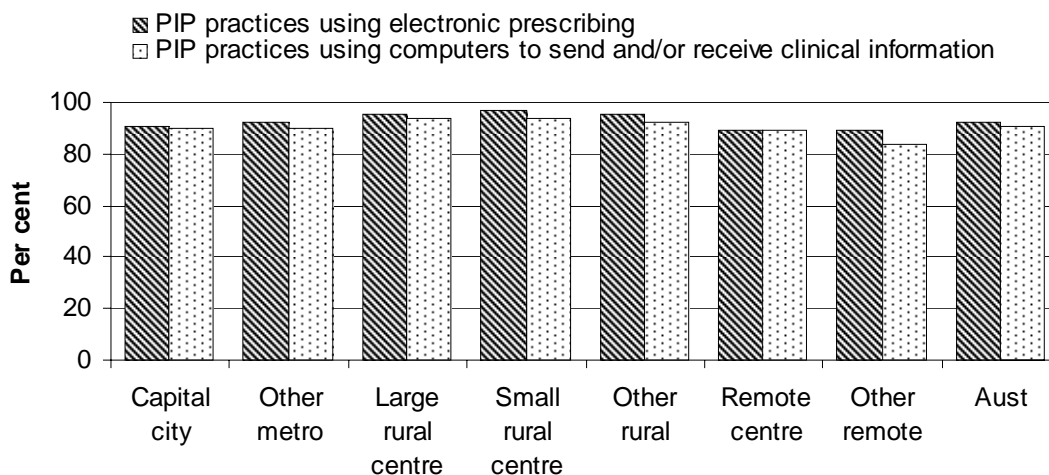ing software (94.0 per cent and 99.0 per cent respectively). PIP practices in the NT were the least likely to send and/or receive clinical information electronically and to use electronic prescribing software (83.0 per cent and 72.0 per cent respectively) (figure 10.11).

Figure 10.11 **PIP practices using computers for clinical purposes, May 2004**

⊠ PIP practices using electronic prescribing
☐ PIP practices using computers to send and/or receive clinical information
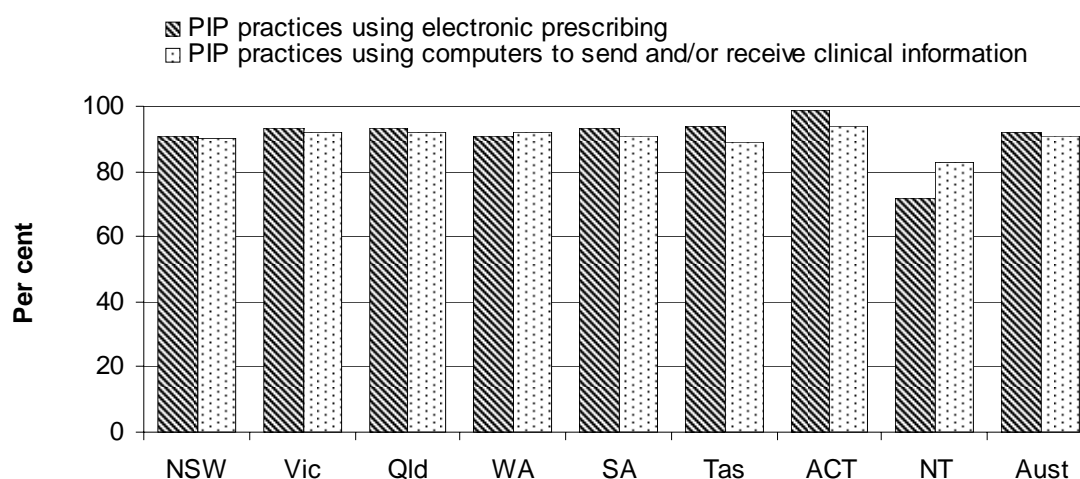
Source: DHA (unpublished); table 10A.21.

In May 2004, PIP practices in rural areas were more likely than PIP practices in metropolitan areas or remote areas to use computers to send and/or receive clinical information and to use electronic prescribing. PIP practices in remote areas were the least likely to use electronic prescribing systems (figure 10.12). Remote practices in the NT have difficulty meeting the accreditation requirements to qualify for the PIP, which affects the coverage of these data.

Figure 10.12 **PIP practices using computers for clinical purposes, by area, May 2004a**

☒ PIP practices using electronic prescribing
☐ PIP practices using computers to send and/or receive clinical information

a Capital city = State and Territory capital city statistical divisions; other metropolitan centre = one or more statistical subdivisions that have an urban centre with a population of 100 000 or more; large rural centre = SLAs where most of the population resides in urban centres with a population of 25 000 or more; small rural centre = SLAs in rural zones containing urban centres with populations between 10 000 and 24 999; other rural area = all remaining SLAs in the rural zone; remote centre = SLAs in the remote zone containing populations of 5000 or more; other remote area = all remaining SLAs in the remote zone.

Source: DHA (unpublished); table 10A.20.

Quality — responsiveness

Patient satisfaction

The Steering Committee has identified 'patient satisfaction' as an indicator of the quality of GP services in terms of their responsiveness to patients (box 10.9). Data for this indicator, however, were not available for the 2005 Report.

Box 10.9   **Patient satisfaction**

'Patient satisfaction' has been identified as a indicator of responsiveness, but no data are currently available.

Quality — capability

Two indicators of the quality of GP services, in terms of the GPs' capability to provide services, are reported here: first, the proportion of GPs with vocational

registration (box 10.10) and second, the proportion of general practices with accreditation (box 10.11).

GPs with vocational registration


Box 10.10   **GPs with vocational registration**

Since 1996, a GP can only achieve vocational registration by attaining Fellowship of the RACGP. GPs can attain Fellowship through the successful completion of a formal general practice training program or through the 'practice eligible' route. Once vocational registration is achieved, GPs must demonstrate ongoing involvement in continuing professional development activities in order to maintain their Fellowship status (DHA unpublished).

The measure reported is the proportion of FWE GPs with vocational registration.

An increase in the proportion of GPs with vocational registration may indicate an improvement in the ability of the GP workforce to deliver high quality services. GPs without vocational registration, however, do not necessarily deliver services of a lower quality.

The proportion of GPs with vocational registration remained relatively constant over the five years to 2003-04 (figure 10.13). In 2003-04, the ACT had the highest proportion of GPs with vocational registration (95.5 per cent) and the NT had the lowest proportion (82.7 per cent) (figure 10.13). Across regions, the proportion of GPs with vocational registration was highest in capital cities (93.7 per cent) and lowest in other remote areas (68.3 per cent) in 2003-04 (table 10A.22).

Figure 10.13 **GPs (full time workload equivalent) with vocational registration[a]**

a Data for 2002-03 have been revised.
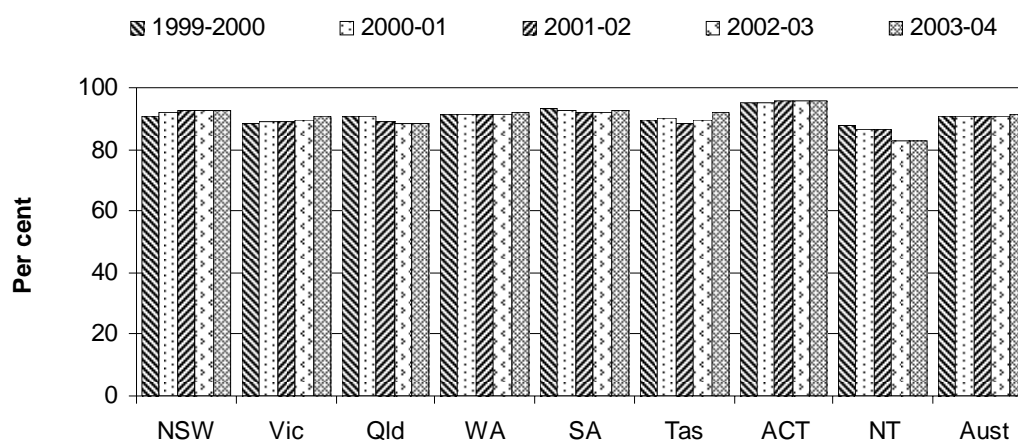
Source: DHA (unpublished); table 10A.23.

General practices with accreditation

Box 10.11　**General practices with accreditation**

Accreditation of general practice is a voluntary process of peer review that involves the assessment of general practices against a set of standards developed by the RACGP. Accredited practices, therefore, have been assessed as complying with a set of national standards.

The two providers of general practice accreditation services are Australian General Practice Accreditation Limited (AGPAL) and Quality Practice Accreditation (QPA). This indicator is defined as the number of general practices accredited by AGPAL as a proportion of all general practices in Australia. Data on general practices accredited by QPA are not available for publication in this Report.

While an increase in the proportion of practices with accreditation may indicate an improvement in the capacity of general practices to deliver high quality services, the exclusion of QPA accredited practices from the indicator makes this interpretation uncertain.

A further caveat is that general practices without accreditation might not deliver lower quality services. For a particular general practice, the decision to seek accreditation might be influenced by perceived costs and benefits unrelated to its quality standards. Accreditation affects eligibility for some government programs (such as PIP), so there are financial incentives for gaining accreditation.

In June 2004, 4300 general practices (representing 72.5 per cent of general practices) were accredited with AGPAL. Across jurisdictions, Tasmania had the highest proportion of practices accredited (88.9 per cent) and the ACT had the lowest (49.5 per cent) (figure 10.14).

Figure 10.14 **Australian general practices that are AGPAL accredited, June 2004**
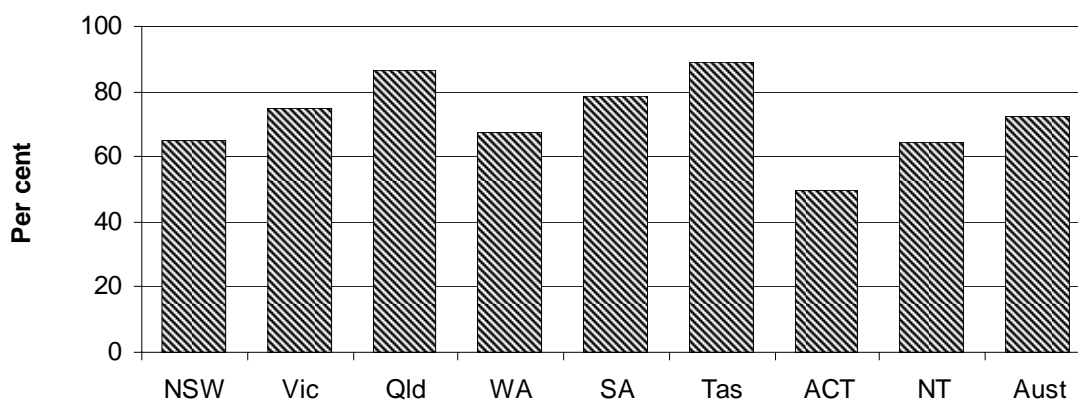
Source: AGPAL (unpublished); table 10A.24.

Quality — continuity

The continuity aspect of the quality of primary healthcare services relates to the sector's ability to provide uninterrupted, coordinated services across programs, practitioners, organisations and levels over time. Two indicators of this aspect of quality are reported here: first, the use of care planning and case conferencing (box 10.12) and second, the use of health assessments for older people (box 10.13).

Care planning and case conferencing

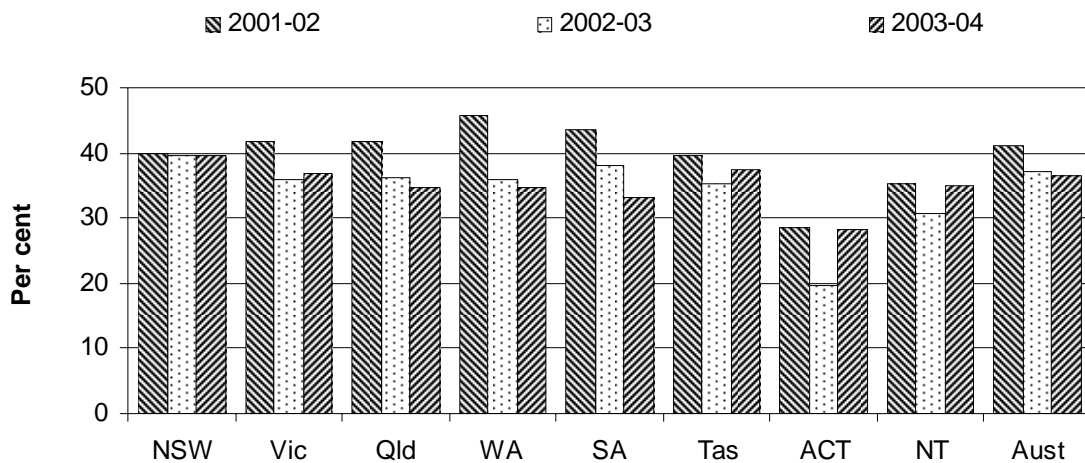Box 10.12   **Care planning and case conferencing**

Care planning and case conferencing are Enhanced Primary Care (EPC) items in the MBS. They provide a framework for a multidisciplinary approach to healthcare for people with chronic or terminal medical conditions and complex, multidisciplinary care needs. The rationale for the indicator is that GPs with some experience using care planning and case conferencing are more likely to continue to use these options when they have the potential to improve patient care.

This indicator is defined as the proportion of GPs who used the EPC items for care planning and case conferencing at least once during a 12 month period.

An increase in the proportion of GPs who used these EPC items may indicate an improvement in the continuity of care provided to people with chronic or terminal medical conditions and complex, multidisciplinary care needs.

In 2003-04, the proportion of GPs who used the EPC items for care planning and case conferencing was highest in NSW (39.5 per cent) and lowest in the ACT (28.1 per cent). Nationally, the proportion of GPs using these EPC items declined from 41.3 per cent in 2001-02 to 36.6 per cent in 2003-04 (figure 10.15). Three policy changes occurred during this period that might have affected the use of EPC items for care planning and case conferencing: first, the tightening of the criteria for Medicare funding of EPC items in 2001; second, the clarification of the Medicare requirements for care planning services in May 2002; and third, the withdrawal of a specific care planning incentive payment under the PIP from November 2002.

Figure 10.15 **GP use of EPC Medicare items for care planning and case conferencing[a]**

a The number of active GPs who claimed at least one of the EPC items for care planning and case conferencing during the financial year, as a proportion of all active GPs. Active GPs are registered GPs or OMPs who claimed 375 or more non-referred attendances on average per quarter.

Source: DHA (unpublished); table 10A.25.

Health assessments for older people

Box 10.13   **Health assessments for older people**

An annual voluntary assessment for older people is an MBS item that allows a GP to undertake an in-depth assessment of a patient's health. Health assessments cover the patient's health and physical, psychological and social function, and aim to facilitate more timely preventive actions or treatments to enhance the health of the patient.

(Continued on next page)

In 2003-04, the proportion of older people who received a voluntary health assessment was highest in SA (19.8 per cent) and lowest in the NT (6.0 per cent). Nationally, the proportion increased from 15.4 per cent in 2001-02 to 18.2 per cent in 2003-04 (figure 10.16). Between 2002-03 and 2003-04, the proportion increased in all jurisdictions except the ACT.

Figure 10.16 **Older people who received a voluntary health assessment[a]**
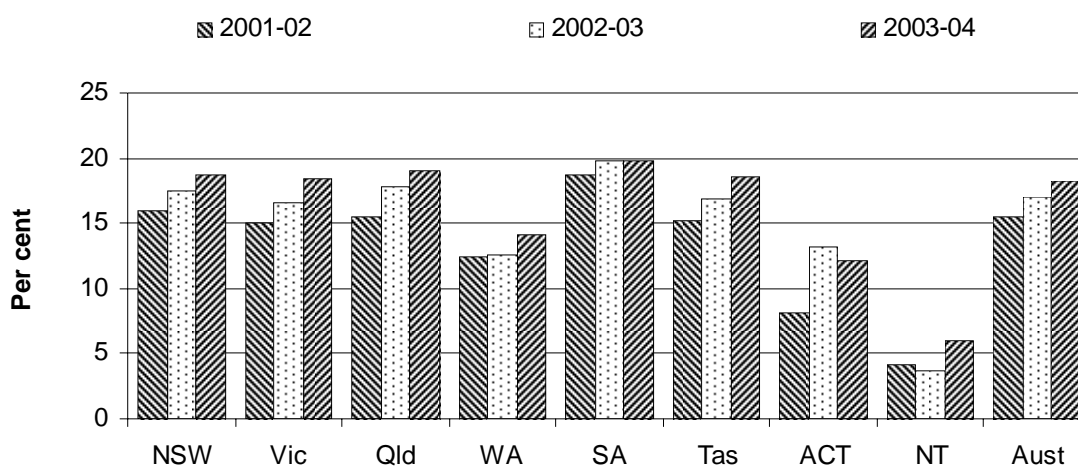
a Older people are defined as non-Indigenous people aged 75 years or over and Indigenous people aged 55 years or over, excluding hospital inpatients and people living in aged care facilities.
Source: DHA (unpublished); table 10A.26.

Sustainability

No indicator of sustainability has been developed. The Steering Committee has identified sustainability as a key area for development in future reports.

Efficiency

Cost to government of general practice per person

The 'cost to government of general practice per person' is one indicator of the efficiency of general practice (box 10.14). Nationally, the recurrent cost to the Australian Government of general practice was $178 per person in 2003-04 (figure 10.1). Across jurisdictions, it was highest in SA ($190 per person) and lowest in the NT ($103 per person) (table 10A.2).

Box 10.14   Cost to government of general practice per person

The 'cost to government of general practice per person' is an indicator of efficiency. It is defined as the cost to government of general practice (including the cost of Medicare, non-Medicare funding such as for the PIP, and expenditure by the DVA) per person in the population.

A lower cost per person may indicate higher efficiency. This is likely to be the case, however, only where the lower cost is associated with services of equal or superior effectiveness.

This indicator needs to be interpreted with care because a lower cost per person may reflect service substitution between primary healthcare and hospital services or specialist services (the latter two both being potentially higher cost than primary care). Further, the indicator also does not include costs for all primary healthcare services. Some primary healthcare services are provided by salaried GPs in community health settings, particularly in rural and remote areas through accident and emergency departments and ACCHSs. Consequently, this indicator will understate costs for primary care in jurisdictions with larger proportions of rural and remote populations, and where a salaried GP delivery model pertains.

Outcomes

Indicators of both intermediate and final primary and community health outcomes are reported here. 'Child immunisation coverage', for example, indicates the intermediate outcome of immunisation against disease (box 10.15). 'Notifications of selected childhood diseases' indicate the final outcome — the incidence of diseases — that child immunisation can prevent (box 10.16). The other reported outcome indicators relate to cervical screening (box 10.17), influenza vaccinations (box 10.18) and potentially preventable hospitalisations (box 10.19).

Child immunisation coverage

Box 10.15 **Child immunisation coverage**

The 'child immunisation coverage' indicator is an indicator of outcomes for primary and community health services because one of the objectives of GPs and community health services is the achievement of high immunisation coverage levels for children. Many providers deliver child immunisation services (table 10.5). GPs are encouraged to achieve high immunisation coverage levels under the General Practice Immunisation Incentives Scheme, which provides incentives for the immunisation of children under seven years of age.

Two measures of this indicator are reported:

- the proportion of children aged 12 months to less than 15 months who are fully immunised. Children assessed as fully immunised at 12 months are immunised against diphtheria, tetanus, whooping cough, polio, *Haemophilus influenzae* type b and hepatitis B.

- The proportion of children aged 24 months to less than 27 months who are fully immunised. Children assessed as fully immunised at 24 months are immunised against diphtheria, tetanus, whooping cough, polio, *Haemophilus influenzae* type b, hepatitis B, and measles, mumps and rubella.

An increase in the proportion of children who are fully immunised indicates a reduction in the risk of children contracting a range of diseases, including measles, whooping cough and *Haemophilus influenzae* type b.

Data from the Australian Childhood Immunisation Register (ACIR) suggest GPs have played a major role (since data were first collected in 1996) in immunising children under 7 years of age in NSW, Queensland, WA, SA and Tasmania. In Victoria, local governments share the main immunisation provider role with GPs. In the ACT and the NT, governments are the significant immunisation providers through community health centres (table 10.5).

Around 90.9 per cent of Australian children aged 12 months to less than 15 months at 30 June 2004 were assessed as fully immunised, down from 91.2 per cent at 30 June 2003. Tasmania recorded the highest proportion of children aged 12 months to less than 15 months at 30 June 2004 who were assessed as being fully immunised (93.4 per cent), while the NT recorded the lowest (85.2 per cent) (figure 10.17).

Table 10.5 **Valid vaccinations supplied to children under 7 years of age, by provider type, 1996–2004 (per cent)[a, b]**

Provider	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
GP	83.0	51.0	66.0	63.0	68.0	85.0	37.0	3.0	67.0
Council	7.0	48.0	15.0	8.0	18.0	14.0	–	–	20.0
State or Territory health department	–	–	–	5.0	–	–	31.0	–	1.0
Flying doctor service	–	–	1.0	–	–	–	–	–	–
Public hospital	3.0	–	6.0	5.0	4.0	–	1.0	8.0	3.0
Private hospital	–	–	–	–	–	–	–	1.0	–
Indigenous health service	–	–	1.0	1.0	–	–	–	7.0	1.0
Indigenous health worker	–	–	1.0	–	–	–	–	–	–
Community health centre	7.0	1.0	10.0	18.0	10.0	1.0	31.0	81.0	8.0
Community nurse	–	–	–	–	–	–	–	–	–
Total[c]	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

a On 30 June 2004. Data collected since 1 January 1996. Data relates to the State or Territory in which the immunisation provider was located. **b** A valid vaccination is a National Health and Medical Research Council's Australian Standard Vaccination Schedule vaccination administered to a child under the age of 7 years. **c** Data for Australia include 4161 vaccinations (less than 0.1 per cent of the total) for which State or Territory is unknown. – Nil or rounded to zero.

Source: DHA (unpublished); table 10A.27.

Figure 10.17 **Children aged 12 months to less than 15 months who were fully immunised[a, b, c]**
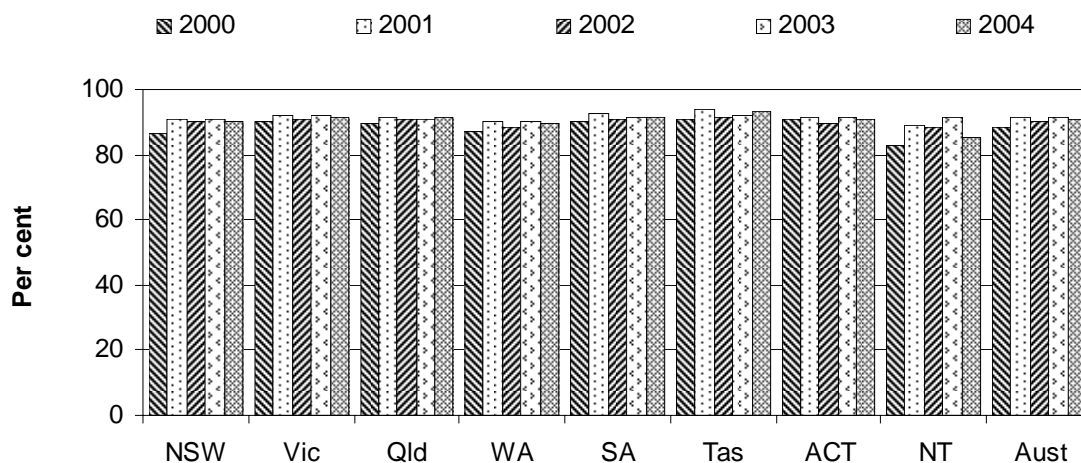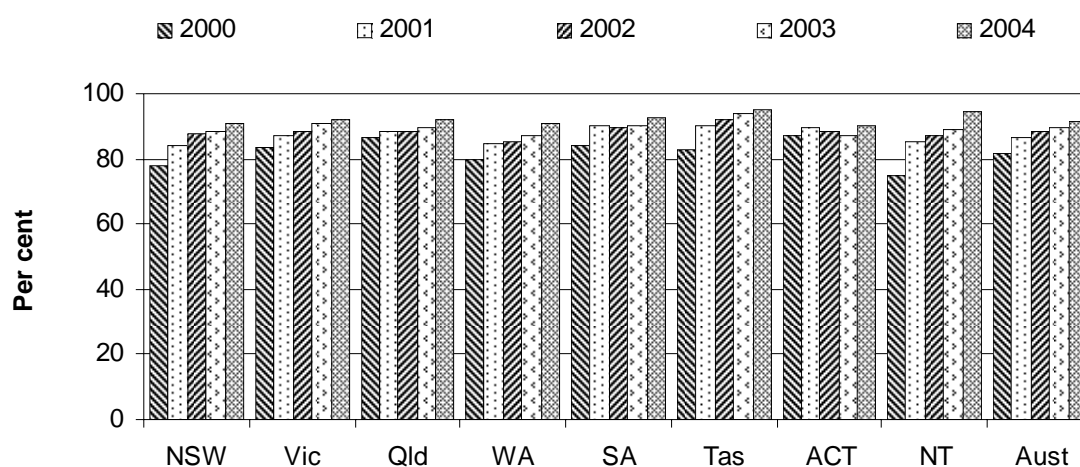

a Coverage measured at 30 June for children turning 12 months of age by 31 March, by State or Territory in which the child was located. **b** The ACIR includes all children under 7 years of age who are registered with Medicare. By the age of 12 months, over 98 per cent of Australian children have been registered with Medicare (NCIRS 2000). **c** There may be some under-reporting by providers, so vaccine coverage estimates calculated using ACIR data are considered minimum estimates (NCIRS 2000).

Source: DHA (unpublished); table 10A.28.

Nationally, 91.7 per cent of children aged 24 months to less than 27 months at 30 June 2004 were assessed as being fully immunised — an increase from 89.3 per cent at 30 June 2003. Tasmania recorded the highest proportion of children aged 24 months to less than 27 months at 30 June 2004 who were assessed as being fully immunised (94.9 per cent), while the ACT recorded the lowest (90.0 per cent) (figure 10.18).

Figure 10.18 **Children aged 24 months to less than 27 months who were fully immunised**[a, b, c]

a Coverage measured at 30 June for children turning 24 months of age by 31 March, by State or Territory in which the child was located. **b** The ACIR includes all children under 7 years of age who are registered with Medicare. By the age of 12 months, over 98 per cent of Australian children have been registered with Medicare (NCIRS 2000). **c** There may be some under-reporting by providers, so vaccine coverage estimates calculated using ACIR data are considered minimum estimates (NCIRS 2000).

Source: DHA (unpublished); table 10A.29.

Notifications of selected childhood diseases

In 2004, there was only one notification of measles in Australia. This represented a national notification rate for measles of 0.1 per 100 000 children aged 0–14 years (figure 10.19) — a large decline from the high rates of the mid-1990s (table 10A.30). In 1994, for example, there were 3088 notifications of measles for children aged 0–14 years, representing a rate of 80.0 per 100 000 children in that age group. Since 2000, the number of annual notifications for measles in Australia has been below 100, with some jurisdictions reporting no notifications in some years.

Box 10.16 **Notifications of selected childhood diseases**

Notification rates for selected childhood vaccine preventable diseases (measles, pertussis [whooping cough] and *Haemophilus influenzae* type b) are an outcome indicator of primary and community health because the activities of GPs and community health services can influence the prevalence of these diseases through immunisation (and consequently the notification rates). These childhood diseases are nationally notifiable diseases — that is, if they are diagnosed, there is a requirement to notify the relevant State or Territory authorities. The debilitating effects of these diseases can be long term or even life threatening. The complications from measles, for example, can include pneumonia, which occurs for one in 25 cases.

For each disease, the rate of notifications is defined as the number of notifications for children aged 0–14 years per 100 000 children in that age group.

A reduction in the notification rate for the selected diseases indicates the effectiveness of the immunisation program.

Figure 10.19 **Notifications of measles among children aged 0–14 years[a, b]**
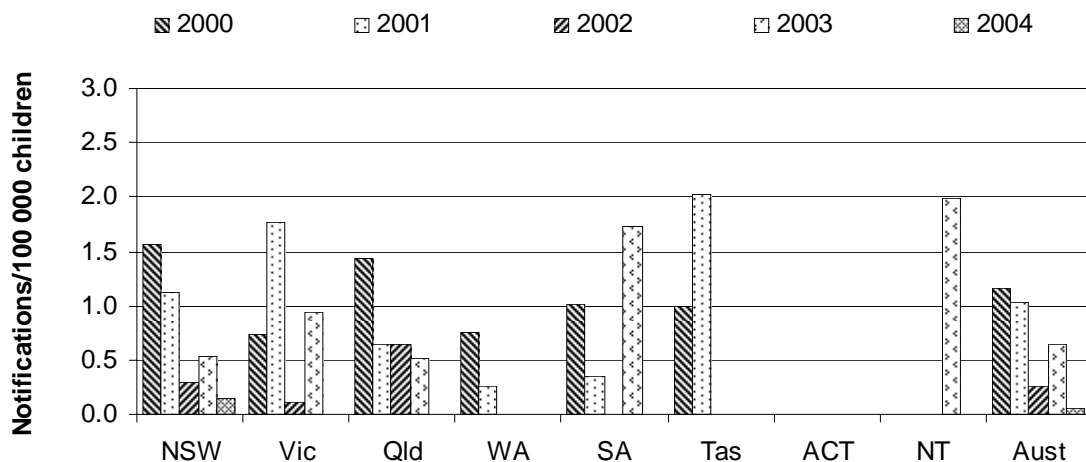
a Notifications for 2004 are to June only and have been adjusted to annual rates for comparison. **b** Where a notification rate for a particular year is nil, no notifications were made in that jurisdiction.

Source: DHA (unpublished); table 10A.30.

In 2004, there were 439 notifications of pertussis (whooping cough) across Australia. This represented a notification rate of 22.1 per 100 000 children aged 0–14 years. Across jurisdictions, the notification rate was highest in NSW (42.1), and lowest in Queensland and the NT (zero) (figure 10.20).

Figure 10.20 **Notifications of pertussis (whooping cough) among children aged 0–14 years[a, b]**
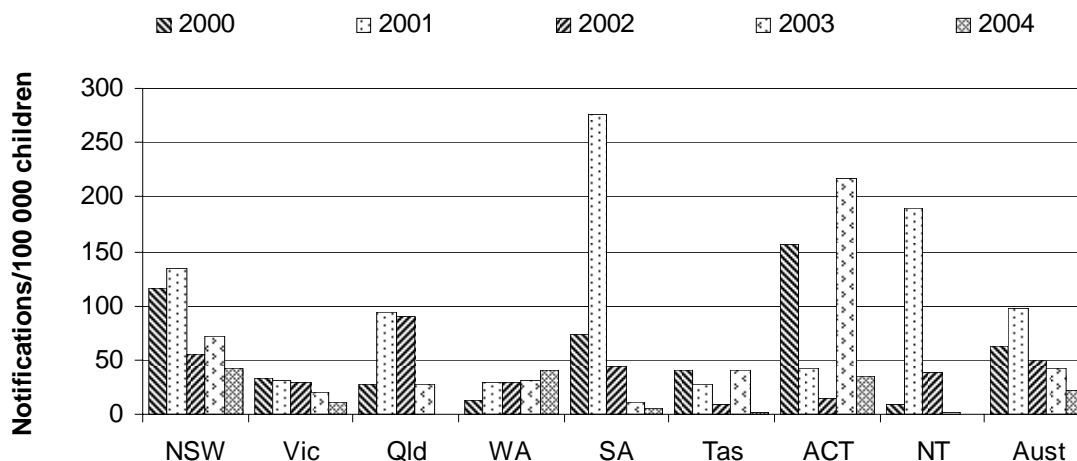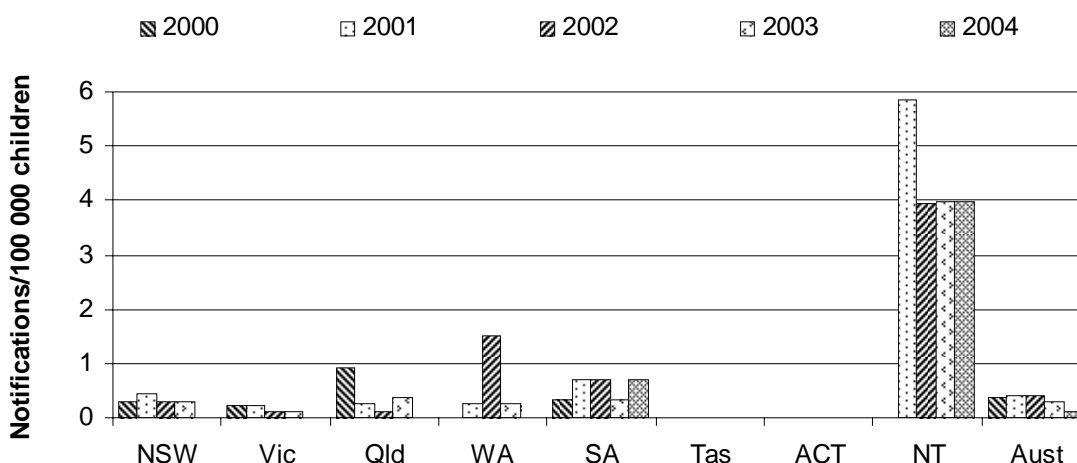

a Notifications for 2004 are to June only and have been adjusted to annual rates for comparison. **b** Where a notification rate for a particular year is nil, no notifications were made in that jurisdiction.

Source: DHA (unpublished); table 10A.31.

In recent years, notification rates for *Haemophilus influenzae* type b have remained low in all jurisdictions except the NT. In 2004, the notification rate Australia-wide was 0.1 per 100 000 children aged 0–14 years. South Australia and the NT each had one case; all other jurisdictions had zero notifications (figure 10.21)

Figure 10.21 **Notifications of *Haemophilus influenzae* type b among children aged 0–14 years[a, b]**

a Notifications for 2004 are to June only and have been adjusted to annual rates for comparison. **b** Where a notification rate for a particular year is nil, no notifications were made in that jurisdiction.

Source: DHA (unpublished); table 10A.32.

Cervical cancer screening rates for target population

The 'cervical cancer screening rates for target population' is an indicator of primary and community healthcare outcomes (box 10.17).

**Box 10.17   Cervical cancer screening rates for women aged 20–69 years**

The 'cervical cancer screening rate for target population' (women aged 20–69 years) is an outcome indicator for primary and community healthcare. It is estimated that up to 90 per cent of the most common type of cervical cancer (squamous cervical cancer) may be prevented if cell changes are detected and treated early. As for child immunisation, a range of healthcare providers offer cervical cancer screening tests (Pap smears). The National Cervical Screening Program involves GPs, gynaecologists, family planning clinics and hospital outpatient clinics.

This indicator is defined as the number of women aged 20–69 years who are screened for cervical cancer over a two year period, as a proportion of all women aged 20–69 years. Adjustments are made to account for differences in the female age distribution across states and territories, and to remove from the population of women 20–69 years old (the rate denominator) those who have had a hysterectomy.

An increase in the proportion of women aged 20–69 years who have been screened for cervical cancer would be expected to result in a reduction in the number of women dying from this disease.

During 2002 and 2003, the age standardised proportion of women aged 20–69 years who were screened for cervical cancer was highest in SA (65.1 per cent) and lowest in Queensland (56.6 per cent). Nationally, the proportion declined from 64.8 per cent in the 1998 and 1999 period to 60.6 per cent in the 2002 and 2003 period (figure 10.22). As explained in the notes to figure 10.22, at least part of this decline is likely to be due to changes in the method used to calculate the cervical screening rates.

Figure 10.22 **Age standardised proportion of women aged 20–69 years screened for cervical cancer[a, b, c, d, e, f]**

▨ 1998 and 1999 ▢ 1999 and 2000 ▨ 2000 and 2001 ▢ 2001 and 2002 ▨ 2002 and 2003
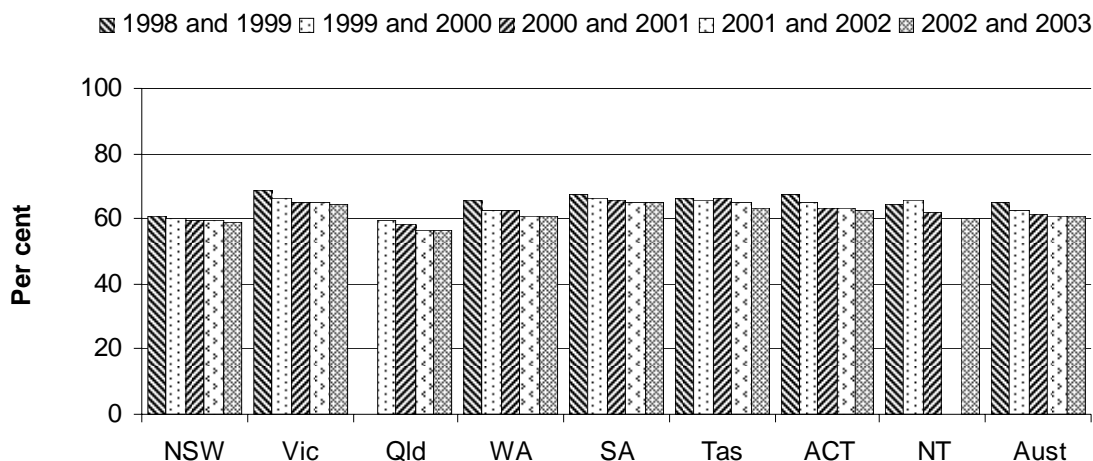
a In 2001, the ABS carried out a full population Census and a National Health Survey. These led to the revision of the ABS estimated resident population (ERP) data, the introduction of a new Australian standard population for use in age standardisation, and the production of new estimates of hysterectomy status among Australian women. The denominators for participation rates for 2001 and 2002, and 2002 and 2003 have been calculated using the 2001 ABS National Health Survey hysterectomy fractions and the revised ERP values, and age adjusted using the 2001 Australian standard population. The denominators for the equivalent rates for previous years were calculated using the 1995 ABS National Health Survey hysterectomy fractions and unrevised ERP values, and age adjusted using the 1991 Australian standard population. The combined effect of these changes is that participation rates before 2001 and 2002 are on average 1–2 percentage points higher than equivalent rates for subsequent years. **b** Recent fluctuations in participation rates over time and across jurisdictions may be influenced by improvements in record linkage procedures in the State and Territory screening registers. These allow more accurate tracking of individual screening participants over time and may lead to an apparent decrease of up to 3 percentage points in recorded participation rates. **c** NT data were unavailable for 2001 and 2002. **d** Rates for Australia before 1999 and 2000 have been calculated excluding Queensland because the Queensland Health Pap Smear Register did not start operating until February 1999. **e** Some State and Territory cervical cytology registers register only women with a valid address in that State or Territory. Victoria began registering resident women from 2000-01, WA only registered resident women up to, and including, 2000–01, while the ACT has consistently only registered women with a valid ACT address. **f** All data are adjusted to exclude women who have had a hysterectomy.

Source: AIHW analysis of State and Territory Cervical Cytology Registry data (unpublished); table 10A.33.

Influenza vaccination coverage for older people

The 'influenza vaccination coverage for older people' is an indicator of primary and community healthcare outcomes (box 10.18).

In 2002, the national age standardised death rate for influenza and pneumonia was 15.3 per 100 000 of the mid-year 2001 population, up from 13.9 per 100 000 people in 2001 (ABS 2003). The hospitalisation rate of people for influenza and pneumonia is included as a separate indicator (box 10.20).

Through the National Influenza Vaccine Program for Older Australians, the Australian Government funds free vaccines for Australians aged 65 years or over (AIHW 2004d). A survey conducted in 2003 found that 76.9 per cent of people aged 65 years or over were vaccinated against influenza in Australia. The same proportion was vaccinated in 2002 (AIHW 2003). Across jurisdictions, the proportion of people aged 65 years or over who were vaccinated in 2003 was highest in SA (82.8 per cent) and lowest in the NT (68.1 per cent) (figure 10.23).

Figure 10.23 **Influenza vaccination coverage, people aged 65 years or over**
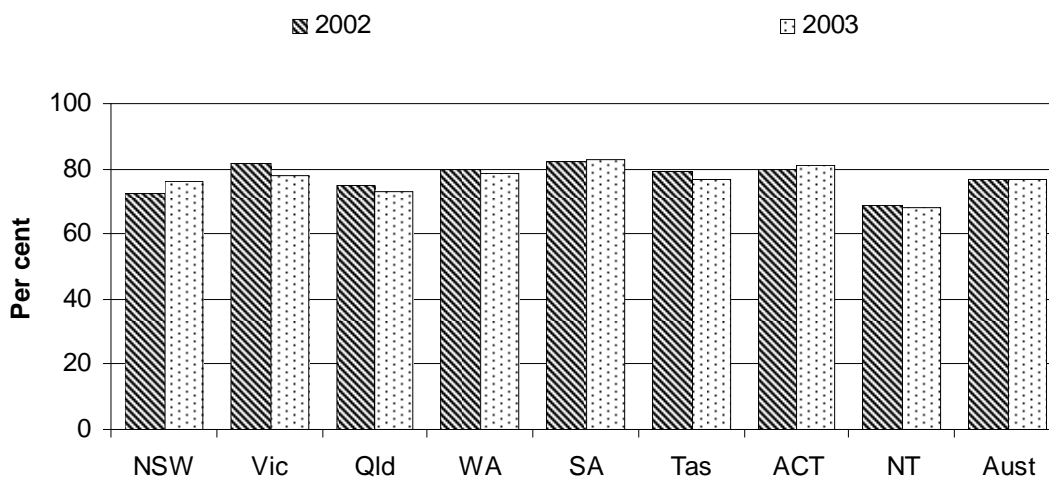
Source: AIHW (2003, 2004d); table 10A.34.

Potentially preventable hospitalisations

The following five outcome indicators relate to potentially preventable hospitalisations for a range of conditions. The first three indicators — hospitalisations for vaccine preventable conditions (box 10.20), selected acute conditions (box 10.21) and selected chronic conditions (box 10.22) — were developed by the National Health Performance Committee, based on empirical research (box 10.19). The two other outcome indicators in this category relate to the management of diabetes (box 10.23) and the hospitalisation of older people for falls (box 10.24).

Box 10.19 **Development of, and rationale for, potentially preventable hospitalisation indicators**

The definitions adopted for vaccine preventable conditions, acute conditions and chronic conditions indicators were based on the *Victorian Ambulatory Care Sensitive Conditions Study* (DHS 2002). This study built on research into ambulatory care sensitive conditions (for example, Billings, Anderson and Newman 1996; Bindman *et al.* 1995; Weissman, Gatsonis and Epstein 1992), which was recently the subject of systematic review and empirical analysis.

These studies show that the availability of non-hospital care explains a significant proportion of the variation between geographic areas in hospitalisation rates for the specified conditions. Other explanations for this variation include variation in the underlying prevalence of the conditions, clinical coding standards, and the likelihood that patients will be treated as an outpatient rather than an admitted patient. Potentially preventable hospitalisations will never be entirely eliminated, but the variation across geographic areas demonstrates considerable potential for strengthening the effectiveness of non-hospital care.

Source: National Health Performance Committee (unpublished).

Vaccine preventable hospitalisations

In 2002-03, the age standardised hospital separation rate for all vaccine preventable conditions was highest in the NT (185.8 per 100 000 people) and lowest in the ACT (33.1 per 100 000 people) (table 10.6). Nationally, influenza and pneumonia accounted for 81.3 per cent of age standardised hospitalisations for vaccine preventable conditions in 2002-03, up from 78.3 per cent in 2001-02.

Box 10.20   **Vaccine preventable hospitalisations**

The effectiveness of primary and community healthcare has a significant influence on the rates of hospitalisation for vaccine preventable conditions. This influence occurs mainly through the provision of vaccinations and the encouragement of high rates of vaccination coverage for target populations.

This indicator is defined as the number of hospital separations for influenza and pneumonia, and other vaccine preventable conditions per 100 000 people. (Adjustments are made to account for differences in the age structure of populations across states and territories.)

A reduction in hospitalisation rates may indicate improvements in the effectiveness of the vaccination program. Effective treatment by primary health providers may also reduce hospitalisations.

Factors outside the control of the primary healthcare sector, however, also influence the rates of hospitalisation for vaccine preventable conditions. Examples are the number and virulence of influenza strains from year to year.

Table 10.6   **Standardised hospital separations for vaccine preventable conditions, per 100 000 people[a]**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
2001-02									
Influenza and pneumonia	65.6	50.9	73.1	93.9	67.2	67.8	42.9	141.4	66.8
Other conditions	22.3	15.8	14.7	14.4	25.9	10.7	6.3	61.4	18.6
Total[b]	**87.8**	**66.7**	**87.8**	**108.1**	**92.8**	**78.5**	**49.2**	**202.0**	**85.3**
2002-03									
Influenza and pneumonia	61.1	52.1	76.1	82.0	53.7	54.7	30.3	144.0	63.3
Other conditions	16.5	14.6	13.2	9.9	15.6	10.8	2.9	41.8	14.5
Total[b]	**77.5**	**66.7**	**89.3**	**92.0**	**69.3**	**65.5**	**33.1**	**185.8**	**77.9**

a Separation rates are directly age standardised to the Australian population at 30 June 2001. **b** Totals may not equal the sum of the individual conditions due to rounding.

Source: AIHW (2004b).

Hospitalisations for selected acute conditions

┌───┐
│   │
│ Box 10.21 **Hospitalisations for selected acute conditions**   │
│   │
│ The effectiveness of primary and community healthcare services has a │
│ significant influence on the rates of hospitalisation for the   │
│ following selected acute conditions: dehydration and gastroenteritis; │
│ pyelonephritis (kidney inflammation caused by bacterial infection);   │
│ perforated/bleeding ulcer; cellulitis; pelvic inflammatory disease;   │
│ ear, nose and throat infections; dental conditions; appendicitis;   │
│ convulsions and epilepsy; and gangrene.   │
│   │
│ Hospital separation rates for the selected acute conditions are   │
│ calculated per 100 000 people and adjusted to account for   │
│ differences in age distributions across State and Territory   │
│ populations.   │
│   │
│ A reduction in hospitalisation rates may indicate improvements in the │
│ effectiveness of primary and community healthcare providers'   │
│ treatment of these conditions.   │
│   │
│ Factors outside the control of the primary healthcare sector,   │
│ however, also influence the rates of hospitalisation. An example is   │
│ the underlying prevalence of the conditions. Public health measures   │
│ not covered in this chapter may also influence the hospitalisation   │
│ rates.   │
│   │
└───┘

The age standardised hospital separation rate in 2002-03 for all selected acute conditions was highest in the NT (1771.0 per 100 000 people) and lowest in the ACT (788.8 per 100 000 people). Of the selected acute conditions, dental conditions, and dehydration and gastroenteritis had the highest rates of hospitalisation nationally in 2002-03 (223.0 and 204.7 per 100 000 people respectively) (table 10.7).

Table 10.7 Standardised hospital separations for potentially preventable acute conditions, per 100 000 people, 2002-03[a]

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Dehydration and gastroenteritis	184.6	241.1	214.8	193.2	201.0	173.0	100.9	185.6	204.7
Pyelonephritis[b]	178.4	194.7	187.7	205.8	183.8	144.0	117.9	329.6	186.5
Perforated/bleeding ulcer	26.1	28.6	21.8	31.6	30.2	21.8	19.7	15.2	26.6
Cellulitis	137.5	144.7	148.5	137.4	126.8	119.5	109.0	318.8	141.4
Pelvic inflammatory disease	30.0	34.9	32.9	32.8	29.3	30.8	24.4	60.1	32.2
Ear, nose and throat infections	164.4	142.1	184.1	185.1	211.7	128.5	88.2	196.9	166.5
Dental conditions	173.3	233.1	246.0	327.3	257.4	164.8	123.4	202.4	223.0
Appendicitis	118.4	121.0	131.8	141.2	116.2	121.8	108.5	143.8	123.9
Convulsions and epilepsy	167.5	154.2	155.2	144.9	150.7	156.4	89.4	269.9	157.8
Gangrene	17.1	24.3	24.0	16.9	18.7	23.8	7.4	48.8	20.7
Total[c]	**1 197.3**	**1 318.5**	**1 346.9**	**1 416.1**	**1 325.6**	**1 084.3**	**788.8**	**1 771.0**	**1 283.4**

a Separation rates are directly age standardised to the Australian population at 30 June 2001. **b** Kidney inflammation caused by bacterial infection. **c** Totals may not equal the sum of the individual conditions due to rounding.

Source: AIHW (2004b).

Hospitalisations for selected chronic conditions

Box 10.22 **Hospitalisations for selected chronic conditions**

The effectiveness of primary and community healthcare has a significant influence on the rates of hospitalisation for the following selected chronic conditions: asthma; congestive cardiac failure; diabetes complications; chronic obstructive pulmonary disease; iron deficiency anaemia; hypertension; and nutritional deficiencies. (Diabetes is considered in detail in a separate indicator.)

Hospital separation rates for the selected chronic conditions are calculated per 100 000 people and adjusted to account for differences in age distributions across State and Territory populations.

A reduction in hospitalisation rates may indicate improvements in the effectiveness of primary and community healthcare providers' treatment of these conditions.

Factors outside the control of the primary healthcare sector, however, also influence the rates of hospitalisation. An example is the underlying prevalence of the conditions. Public health measures that are not reported in this chapter may also influence the hospitalisation rates.

The age standardised hospital separation rate in 2002-03 for all selected chronic conditions was highest in the NT (3513.5 per 100 000 people) and lowest in the ACT (1012.9 per 100 000 people). Of the selected chronic conditions (excluding diabetes, which is discussed below) chronic obstructive pulmonary disease and angina had the highest rates of hospitalisation nationally in 2002-03 (277.5 and 226.4 per 100 000 people respectively). The hospitalisation rate for diabetes complications, however, was more than two and a half times higher than the rate for either of these conditions (table 10.8).

Table 10.8　**Standardised hospital separations for potentially preventable chronic conditions, per 100 000 people, 2002-03[a]**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Asthma	192.1	175.8	170.3	202.1	259.3	107.7	101.8	194.9	186.3
Congestive cardiac failure	197.1	219.8	219.8	193.9	219.0	178.0	136.2	271.8	208.2
Diabetes complications	555.5	975.2	827.8	969.3	776.6	1398.0	425.4	2 208.3	799.8
Chronic obstructive pulmonary disease	273.1	277.0	289.6	274.1	263.3	299.1	161.1	604.8	277.5
Angina	212.2	234.9	284.7	172.3	204.0	222.1	139.1	244.6	226.4
Iron deficiency anaemia	66.9	115.2	79.2	112.8	74.5	83.9	63.8	94.5	86.9
Hypertension	33.2	29.4	37.0	28.2	27.8	27.8	13.3	18.8	31.6
Nutritional deficiencies	0.5	0.6	0.7	1.3	0.2	2.5	1.0	6.1	0.7
Total[b]	**1 488.0**	**1 949.8**	**1 845.4**	**1 891.2**	**1 765.2**	**2 267.0**	**1 012.9**	**3 513.5**	**1 757.9**

a Separation rates are directly age standardised to the Australian population at 30 June 2001. **b** The total is not the sum of the individual conditions because diabetes complications overlap other categories.

Source: AIHW (unpublished).

Management of diabetes

Box 10.23   **Management of diabetes**

GPs and community healthcare services can play a significant role in the management of diabetes. Their role is to diagnose patients, enrol them in structured care, and follow best practice condition management guidelines, including where early intervention is warranted.

Poorly controlled diabetes mellitus results in the development of associated conditions. The most common are renal, circulatory and ophthalmic complications that usually require admission to hospital. Over time, good management is likely to start to noticeably affect patients' secondary care requirements, preventing avoidable admissions to hospitals.

Four performance measures relating to the management of diabetes are reported:

- the proportion of adults with diabetes who have been diagnosed and placed on a Divisions of General Practice diabetes register. An increase in this proportion indicates improved patient management and monitoring.

- the proportion of people on the Divisions' diabetes registers who have had a glycaemic control assessment. An increase in this proportion indicates improved patient management and monitoring.

- the proportion of those who have had a glycaemic control assessment who are at risk of future complications — that is, they have glycated haemoglobin (HbA1c) greater than 2 per cent above the upper limit of normal (ULN). A decrease in this proportion indicates improved disease control.

- hospital separation rates for patients with diabetes mellitus as the principal diagnosis, and for patients with a lower limb amputation and a principal or additional diagnosis of diabetes. These rates are calculated per 100 000 people and adjusted to account for differences in the age distribution of State and Territory populations. A reduction in these rates may indicate an improvement in GPs and community health providers' management of patients' diabetes.

While good primary and community healthcare can limit the development of diabetic complications, patient compliance with measures to maintain blood glucose levels within the near normal range (such as medication, diet and physical activity) also plays an important part.

Management of diabetes — diabetes register

The National Divisions Diabetes Program Data Collation Project was carried out in 2002-03 and had several components. One component was the collation of the quality of care and health outcomes data from the Divisions of General Practice that

had a diabetes program and a diabetes register that had operated for at least three years. Divisions participated on a voluntary basis, and 16 supplied complete data.

Nationally in 2002, 17.9 per cent of adults with diabetes were on the Divisions' diabetes registers (table 10.9). These data are based on a small and not necessarily representative number of Divisions of General Practice that voluntarily took part in a national data collection.

Table 10.9   **Management of adults with diabetes by participating Divisions of General Practice, 2002**[a, b, c, d, e]

	Number	Per cent
Estimated adults with diabetes in population from participating Divisions[f]	126 386	100.0
Adults with diabetes who are on a Divisions register	22 575	17.9
Patients for whom HbA1c measurement is known	13 325	100.0
Patients for whom HbA1c measurement is known having a glycaemic control assessment in a 6 month period	6 132	46.0
Patients having a glycaemic control assessment in a 6 month period for whom HbA1c measured with result >2% of ULN	1 144	18.7

[a] The AusDiab survey (from which these data were sourced) was not representative of Aboriginal and Torres Strait Islander people. [b] The results reported for glycaemic control are for the period 1 January 2002 to 30 December 2002. Glycated haemoglobin (HbA1c) levels are reported as being within a certain percentage from the ULN. The reagents and units of measurement used are different in different laboratories. The normal range is established by a set of standard samples which the lab tests using its particular reagents and equipment. For this reason, every laboratory reports a normal reference range when it reports an HbA1c result. Labs may also report whether a given result is within 1 per cent of the ULN range for their particular testing method, or 'good', 'poor' etc. [c] Divisions participated on a voluntary basis (19 participated and 16 supplied complete data). The duration of Division registers varied from three to seven years, averaging 4.4 years with a median of five years. [d] Adults are persons aged 25 years or over. [e] Around half the people with diabetes are not aware that they have the condition. [f] The estimated number of people with diabetes in a Division has been calculated using population data from the 2001 Census Division and then applying the AusDiab age-specific prevalence rates.

Source: Centre for GP Integration Studies (2003).

Management of diabetes — glycaemic control assessments

Where a patient has been diagnosed with Type 2 diabetes, accepted clinical guidelines suggest that GPs should regularly monitor a number of important elements, including glycaemic control, blood pressure, weight, foot status, lipids, microalbumin level and eye status. The RACGP/Diabetes Australia guidelines recommend assessment every three to six months for insulin treated patients (Type 1, sometimes referred to as juvenile diabetes because peak onset is much earlier in life) and every six to 12 months for non-insulin treated patients (Type 2, sometimes

referred to as mature age onset diabetes), and a target of HbA1c within 1 per cent of the ULN. Evidence from the UK Prospective Diabetes Study demonstrated that keeping HbA1c within 1 per cent of the ULN reduces the risk of developing complications from diabetes. Where levels are more than 2 per cent above the ULN, early intensive intervention is important to prevent complications.

In 2002, 46.0 per cent of registered adults with Type 2 diabetes with a known HbA1c measurement, had undergone a glycaemic control assessment in the previous six months.
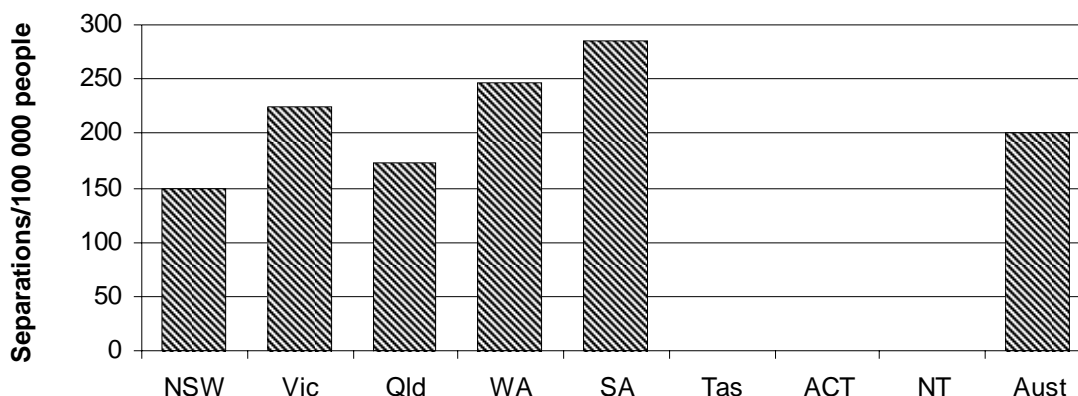
Management of diabetes — patients at risk of complications

Of the people who had undergone a glycaemic control assessment in 2002, 18.7 per cent had HbA1c levels above the point at which there is an increased likelihood of complications (2 per cent above the ULN) (table 10.9). The proportion of adults with Type 2 diabetes with HbA1c levels in this range may initially reflect an increase in the impact of risk factors on changing population cohorts. Over time, however, regular testing and good management by GPs is likely to result in a decline in the proportion of people with diabetes in the category most at risk of complications.

Management of diabetes — hospital separation rates

Across the jurisdictions for which data were published, the age standardised hospital separation rate in 2002-03 where the principal diagnosis was Type 2 diabetes mellitus was highest in SA (285.8 separations per 100 000 people) and lowest in NSW (148.6 separations per 100 000 people). Nationally, there were 201.5 separations per 100 000 people in 2002-03 (figure 10.24).

Figure 10.24 Standardised hospital separations for Type 2 diabetes mellitus as principal diagnosis, all hospitals, 2002-03[a, b, c, d, e, f, g, h, i, j, k, l, m]
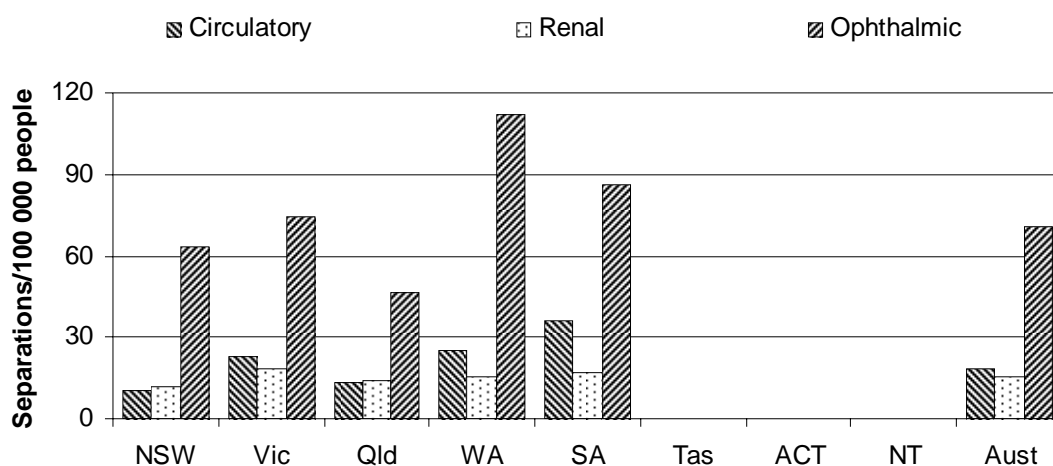

[a] Separation rates are directly age standardised to the Australian population at 30 June 2001. [b] Figures include unspecified diabetes. [c] Totals include separations for unspecified complications. [d] Crude rates for each jurisdiction were calculated using ABS ERP by age group for the respective jurisdiction. [e] The figures are based on the ICD-10-AM classification. The codes are E11.x and E14.x, where x=2 renal complications, x=3 ophthalmic complications, x=5 peripheral circulatory complications, x=7 multiple complications, x=8 unspecified complications, x=9 without complications and x=0,1,4,6 other specified complications. [f] The data are not person-based, but episode-based. A person who is admitted to hospital, say, three times in the year will be counted three times. [g] The principal diagnosis data are episode-based, but the secondary diagnosis data are diagnosis-based. A separation is represented three times in secondary diagnosis if given three different diabetes codes. [h] Age standardisation tends to exaggerate the effect of multiple episodes for individual patients, particularly in small populations. [i] Although same day admissions for dialysis are not normally coded with a principal diagnosis of Type 2 diabetes, the data could include miscoded separations in several jurisdictions. The results for small jurisdictions reflect both this type of distortion and unreliability arising from small numbers. [j] Results for individual complications may be affected by small numbers, particularly in the smaller jurisdictions, and need to be interpreted with care. [k] Differences across jurisdictions in policy and practice relating to the admission of patients, the availability of outpatient services and the incentives to admit patients rather than treat them as outpatients will affect estimates of hospital separations. [l] Morbidity data are coded under coding standards that may differ over time and across jurisdictions. [m] Data for Tasmania, the ACT and the NT are not published separately (due to private hospital confidentiality arrangements) but are included in the total for Australia.

Source: AIHW (unpublished); table 10A.35.

The three most common complications from Type 2 diabetes that led to hospitalisation in 2002-03 were circulatory, renal and ophthalmic complications. Across all jurisdictions for which data were published, the highest hospital separation rates were for ophthalmic complications (figure 10.25). Of the jurisdictions for which data were published, SA had the highest hospital separation rate for multiple complications (56.0 per 100 000 people) and NSW had the lowest (15.9 per 100 000 people) (table 10A.35). Each patient may have one or more complication (circulatory, renal and ophthalmic) for each diabetes hospital separation.

Figure 10.25 **Standardised hospital separations for Type 2 diabetes mellitus as principal diagnosis, by selected complications, all hospitals, 2002-03**[a, b, c, d, e, f, g, h, i, j, k, l, m]

[a] Separation rates are directly age standardised to the Australian population at 30 June 2001. [b] Figures include unspecified diabetes. [c] Totals include separations for unspecified complications. [d] Crude rates for each jurisdiction were calculated using ABS ERP by age group for the respective jurisdiction. [e] The figures are based on the ICD-10-AM classification. The codes are E11.x and E14.x, where x=2 renal complications, x=3 ophthalmic complications, x=5 peripheral circulatory complications, x=7 multiple complications, x=8 unspecified complications, x=9 without complications and x=0,1,4,6 other specified complications. [f] The data are not person-based, but episode-based. A person who is admitted to hospital, say, three times in the year will be counted three times. [g] The principal diagnosis data are episode-based, but the secondary diagnosis data are diagnosis-based. A separation is represented three times in secondary diagnosis if given three different diabetes codes. [h] Age standardisation tends to exaggerate the effect of multiple episodes for individual patients, particularly in small populations. [i] Although same day admissions for dialysis are not normally coded with a principal diagnosis of Type 2 diabetes, the data could include miscoded separations in several jurisdictions. The results for small jurisdictions reflect both this type of distortion and unreliability arising from small numbers. [j] Results for individual complications may be affected by small numbers, particularly in the smaller jurisdictions, and need to be interpreted with care. [k] Differences across jurisdictions in policy and practice relating to the admission of patients, the availability of outpatient services and the incentives to admit patients rather than treat them as outpatients will affect estimates of hospital separations. [l] Morbidity data are coded under coding standards that may differ over time and across jurisdictions. [m] Data for Tasmania, the ACT and the NT are not published separately (due to private hospital confidentiality arrangements) but are included in the total for Australia.

Source: AIHW unpublished; table 10A.35.

Treatment for Type 2 diabetes and related conditions is also provided in ambulatory care settings, but the number of people accessing ambulatory services is not included in the hospital separations data. Differences across jurisdictions in policy and practice relating to the admission of patients, the availability of outpatient services and the incentives to admit patients rather than treat them as outpatients will affect hospital separations rates. This effect is partly reflected in the substantial variation in the proportion of separations that are 'same day' across jurisdictions. Of the jurisdictions for which data were published, SA had the highest proportion of separations (for principal diagnosis of Type 2 diabetes mellitus) in 2002-03 that were same day (50.5 per cent), while Queensland had the lowest (35.9 per cent)

(table 10A.36). Nationally, 43.7 per cent of separations for Type 2 diabetes were same day in 2002-03 (table 10A.36).

Amputation of a lower limb can be a serious outcome of diabetes-related complications. In 2002-03, there were 13.9 hospital separations per 100 000 people (age standardised) for lower limb amputations where Type 2 diabetes mellitus was a principal or additional diagnosis. Across the jurisdictions for which data were published, the rate was highest in WA (15.9 per 100 000 people) and lowest in NSW (10.6 per 100 000 people) (figure 10.26).

Figure 10.26 **Standardised hospital separations for lower limb amputation with principal or additional diagnosis of Type 2 diabetes, all hospitals, 2002-03**[a, b, c]
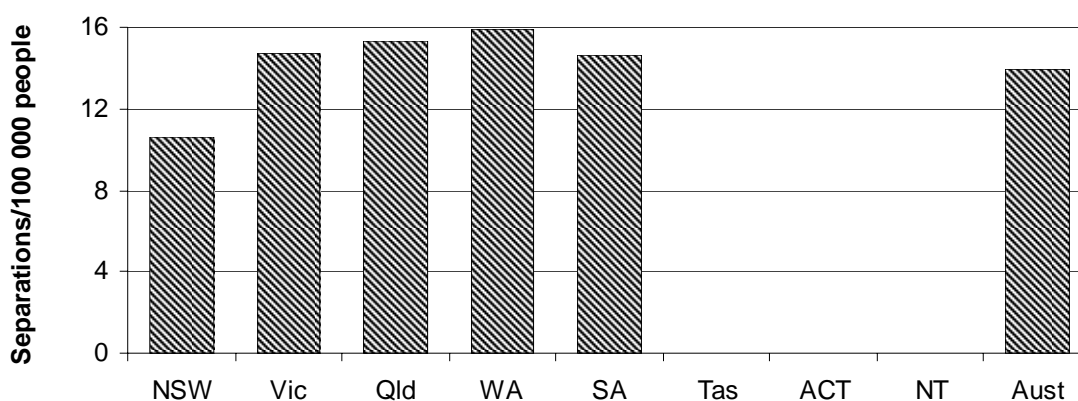
a Includes unspecified diabetes. Separation rates are directly age standardised to the Australian population at 30 June 2001. The figures are based on the ICD-10-AM classification. The codes are E11.x and E14.x, where x=0–9 for diabetes, and Blocks 1533, 44367, 44370 and 44373 for amputations. **b** The data are not person-based, but episode-based. A person who is admitted to hospital, say, three times in the year will be counted three times. **c** Data for Tasmania, the ACT and the NT are not published separately (due to private hospital confidentiality arrangements) but are included in the total for Australia.

Source: AIHW (unpublished); table 10A.37.

Standardised hospital separation ratios for selected conditions illustrate differences between the rates of hospital admissions for Indigenous people and those for all Australians, taking into account differences in age distributions (see chapter 9, 'Public hospitals'). For males, there was a marked difference in 2002-03 between the separation rate for Indigenous people and those for the total population for all diabetes diagnoses[1] (the separation rate for Indigenous males was 6.0 times higher than those for all Australians males) (table 9A.23). The hospital separation rate for Indigenous females was also markedly higher than for the total female population

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[1] 'All diabetes' refers to separations with either a principal or additional diagnosis of diabetes.

for all diabetes diagnoses (with the rate for Indigenous females being 7.4 times the rate for all females) (table 9A.24). The 'Health preface' contains data on deaths from diabetes for Indigenous people.

Hospitalisations of older people for falls

Box 10.24   **Hospitalisation of older people for falls**

The effectiveness of primary healthcare has a significant influence on the rates of hospitalisation of older people for falls.

The indicator is defined as the number of hospital separations of older people for falls per 1000 older people, adjusted to take account of differences in State and Territory age distributions. Older people are defined as non-Indigenous people aged 75 years or over and Indigenous people aged 55 years or over.

A reduction in the rate of hospitalisation due to falls may indicate improvements in the effectiveness of primary healthcare services provided to older people who are at risk of falls.

Factors outside the control of the primary healthcare system, however, also influence the rates of hospitalisation. These include the support available to older people from family and friends, and the provision of aged care services such as Home and Community Care program services and residential care.

Across the jurisdictions for which data were published, the age standardised hospital separation rate in 2002-03 for older people with injuries due to falls was highest in NSW (71.4 per 1000 older people) and lowest in SA (54.6 per 1000 older people) (figure 10.27). Nationally, the rate was 66.1 per 1000 older people.

Figure 10.27 **Standardised hospital separations for older people for injuries due to falls, 2002-03[a, b, c]**
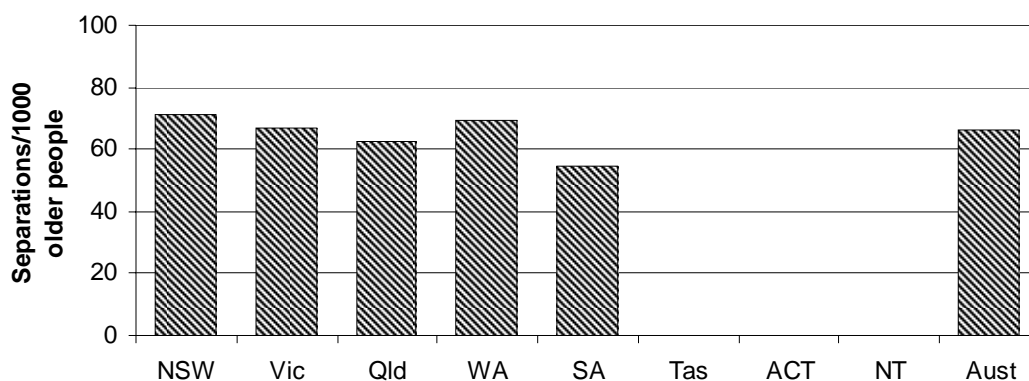
a Older people are defined as non-Indigenous people aged 75 years or over and Indigenous people aged 55 years or over. **b** Separation rates are directly age standardised to the Australian population at 30 June 2001. **c** Data for Tasmania, the ACT and the NT are not published separately (due to private hospital confidentiality arrangements) but are included in the total for Australia.

Source: AIHW (unpublished); table 10A.38.

10.4 Future directions in performance reporting

While the topic of this chapter is all primary and community health services, the indicators still focus heavily on general practice services. This focus partly reflects the lack of data that are available on a nationally consistent basis to support reporting against indicators for other primary and community health services. The National Health Performance Committee has recognised this issue and is working to develop a broader range of primary and community health indicators. Where appropriate, these indicators will be adopted and reported in future editions of the report.

Possible areas for which indicators may be available for inclusion in the 2006 Report or future reports include:

- dental health services
- community-based drug and alcohol treatment services
- additional indicators relating to the use of the MBS EPC items.

The scope of this chapter may also be further refined to ensure the most appropriate reporting of primary health services against the Review's terms of reference and reporting framework (see chapter 1).

Indigenous health

Barriers to accessing primary health services contribute to the poorer health status of Indigenous people compared to other Australians (see the 'Health preface'). In recognition of this issue, the Steering Committee has identified primary and community health services for Indigenous people as a priority area for future reporting. Accordingly, the Steering Committee will examine options for including indicators of the accessibility of primary and community health services to Indigenous people. The Aboriginal and Torres Strait Islander Health Performance Framework that is being developed by the National Aboriginal and Torres Strait Islander Health Council will help inform the selection of future indicators of primary and community health services to Indigenous people (see the 'Health preface').

10.5 Definitions of key terms and indicators

Age standardised	Removing the effect of different age distributions (across jurisdictions or over time) when making comparisons, by weighting the age-specific rates for each jurisdiction by the national age distribution.
Cervical screening rates for target population	Proportion of women screened against cervical cancer who are aged 20–69 years.
Community health services	Health services for individuals and groups delivered in a community setting, rather than via hospitals or private facilities.
Consultations	The different types of services provided by GPs.
Cost to government of general practice per person	Cost to the Australian Government of total non-referred attendances by non-specialist medical practitioners per person.
Divisions of General Practice	Geographically-based networks of GPs. Currently, there are 120 Divisions of General Practice. The Divisions of General Practice Program evolved from the former Divisions and Projects Grants Program established in 1992. The aim of the Divisions of General Practice Program is to improve health outcomes for communities by encouraging GPs to work together and link with other health professionals to upgrade the quality of health service delivery at the local level.
Full time workload equivalents	A measure of medical practitioner supply based on claims processed by Medicare in a given period, calculated by dividing the practitioner's Medicare billing by the mean billing of full time practitioners for that period. Full time equivalents are calculated in the same way as FWE except that full time equivalents are capped at 1 for each practitioner.
Fully immunised at 12 months	A child who has completed three doses of diphtheria, tetanus, pertussis vaccine, three doses of oral polio vaccine and three doses of HbOC (HibTITER) (or two doses of PRP-OMP [PedvaxHIB]).
Fully immunised at 24 months	A child who has received four doses of diphtheria, tetanus, pertussis vaccine, three doses of oral polio vaccine, four doses of HbOC (HibTITER) (or three doses of PRP-OMP [PedvaxHIB]) and one dose of measles, mumps, rubella vaccine.
General practice	The organisational structure with one or more GPs and other staff such as practice nurses. A general practice provides and supervises healthcare for a 'population' of patients and may include services for specific populations, such as women's health or Indigenous health.

General practitioner (GP)	Registered GPs — medical practitioners who, for the purposes of Medicare, are vocationally registered under s.3F of the *Health Insurance Act 1973* (Cwlth*)*, hold Fellowship of the RACGP or equivalent, hold a recognised training placement or are otherwise entitled to bill Group A1 MBS items.
	OMPs — medical practitioners who have at least half of the schedule fee value of their Medicare billing from non-referred attendances, consisting solely or predominantly of Group A2 items.
Health management	An ongoing process beginning with initial client contact and including all actions relating to a client. Includes: assessment/evaluation; education of the person, family or carer(s); diagnosis and treatment; management of problems associated with adherence to treatment; and liaison with, or referral to, other agencies.
Immunisation coverage	A generic term indicating the proportion of a target population that is fully immunised with a particular vaccine or the specified vaccines from the National Immunisation Program for that age group.
Management of upper respiratory tract infections	Number of prescriptions ordered by GPs for the oral antibiotics most commonly used in the treatment of upper respiratory tract infections per 1000 people with PBS concession cards.
Non-referred attendances	GP services, emergency attendances after hours, other prolonged attendances, group therapy and acupuncture. All attendances for specialist services are excluded because these must be 'referred' to receive Medicare reimbursement.
Non-specialist non-referred attendances that are bulk billed	Number of non-referred non-specialist attendances that are bulk billed and provided by non-specialist medical practitioners, divided by the total number of non-referred non-specialist attendances.
Nationally notifiable disease	A communicable disease that is on the Communicable Diseases Network Australia's endorsed list of diseases to be notified nationally (DHA 2004). On diagnosis of these diseases, there is a requirement to notify the relevant State or Territory health authority.
Notifications of selected childhood diseases	Number of cases of measles, pertussis and *Haemophilus influenzae* type b notified to State and Territory health authorities.
Other medical practitioner	A medical practitioner other than a registered GP who has at least half of the schedule fee value of his/her Medicare billing from non-referred attendance items consisting solely or predominantly of Group A2 items.
Pap smear	A procedure for the detection of cancer and pre-cancerous conditions of the female cervix.
Per person benefits paid for GP ordered pathology	Total benefits paid for pathology tests ordered by GPs, divided by the population.

Per person benefits paid for GP referred diagnostic imaging	Total benefits paid for diagnostic imaging tests referred by GPs, divided by the population.
Primary healthcare	The primary and community healthcare sector includes services that: • provide the first point of contact with the health system • have a particular focus on illness prevention or early intervention • are intended to maintain people's independence and maximise their quality of life through care and support at home or in local community settings.
Prevalence	The proportion of the population suffering from a disorder at a given point in time (point prevalence) or during a given period (period prevalence).
Proportion of GPs who are female	Number of all FWE GPs who are female, divided by the total number of FWE GPs.
Proportion of GPs with vocational registration	Number of FWE GPs who are vocationally registered, divided by the total number of FWE GPs.
Proportion of general practices registered for accreditation	Number of practices that have registered for accreditation through AGPAL, divided by the total number of practices in the Divisions of General Practice.
Proportion of general practices with electronic information management systems	Number of practices with electronic prescribing and/or electronic connectivity that are registered under the PIP, divided by the total number of practices registered.
Public health	The organised, social response to protect and promote health and to prevent illness, injury and disability. The starting point for identifying public health issues, problems and priorities, and for designing and implementing interventions, is the population as a whole or population subgroups. Public health is characterised by a focus on the health of the population (and particular at-risk groups) and complements clinical provision of healthcare services.
Reasons for encounter	The expressed demand of the patient for care, as perceived and recorded by the GP.
Registered general practitioner	A vocationally registered GP, a Fellow of the RACGP or equivalent, a general practice registrar in a training placement, or a medical practitioner who is otherwise entitled to bill Group A1 MBS items.
Recognised immunisation provider	A provider recognised by the Health Insurance Commission as a provider of immunisation to children.
Recognised specialist	A medical practitioner classified as a specialist on the Medicare database earning at least half of his/her income from relevant specialist items in the schedule, having regard to the practitioner's field of specialist recognition.
Screening	The performance of tests on apparently well people to detect a medical condition at an earlier stage than would otherwise be possible without the test.
Vocational registration	GPs who are registered separately for Medicare purposes and who receive higher Medicare benefits for services.

10.6　References

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