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## C Health preface

Health care services are concerned with promoting, restoring and maintaining a healthy society. They involve the prevention, detection, intervention and treatment of illnesses and injury among persons, and the palliative care of individuals who experience illness and injury. More broadly defined, the health system includes a range of activities that raise awareness, thereby reducing the risk and onset of illness and injury (box C.1).

Health care services in Australia are delivered by a variety of government and non-government providers in a range of service settings. The Report concentrates on the performance of public hospitals (particularly, the provision of acute care services to admitted patients and emergency department services) and general practitioners (GPs) because they represent a significant component of government expenditure on health care. According to the most recent comparative data, Australian governments expended almost \$19 billion on public hospitals and GPs in 1997-98 — 63 per cent of recurrent health expenditure.

The Report also examines the interactions between different service mechanisms for dealing with two health management issues: mental health and breast cancer.

Areas of government involvement in health care provision not covered in these chapters include:

- community health services;
- nursing home services (these are reported in chapter 11, ‘Aged care services’);
- patient transport services (these are reported in chapter 10, ‘Emergency management’);
- public health programs, other than those for breast cancer and mental health; and
- funding for specialist medical practitioners and pharmacists.

A range of government services, such as public housing, sanitation and water supply, also influence health outcomes. These are not formally part of Australia’s health system and are not the subject of the following health chapters. A range of other factors, such as Indigenous status, socioeconomic status and residential location are potential influences on the health outcomes in this Report. It is a priority of the Review to improve the reporting of data on health outcomes and access to health

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care services for Indigenous people and residents in non-metropolitan regions of Australia.

**Box C.1 Some common health terms**

**Acute care hospital:** a hospital that provides at least minimum medical, surgical or obstetric services for admitted patient treatment and/or care, and around-the-clock, comprehensive, qualified nursing services and other necessary professional services

**Community health services:** health services for individuals and groups delivered in a community setting, rather than via hospitals or private facilities

**general practitioners:** medical practitioners who, for the purposes of Medicare, are vocationally registered under section 3F of the *Health Insurance Act 1973* (Cwlth), hold fellowship of the Royal Australian College of General Practitioners or equivalent, or hold a recognised training placement

**Medicare:** Commonwealth Government funding of private medical and optometrical services (Medicare Benefits Schedule). Some users use the term to include other forms of Commonwealth Government funding— for example, funding of selected pharmaceuticals (Pharmaceutical Benefits Scheme) and public hospital funding (Australian Health Care Agreements)— which is aimed at providing public hospital services free of charge to public patients.

**Public health:** an 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 health care services.

**Public hospital:** a hospital that provides free treatment and accommodation to eligible admitted persons who elect to be treated as public patients. It also provides free services to eligible non-admitted patients and may provide (and charge for) treatment and accommodation services to private patients. However, charges to non-admitted patients and admitted patients on discharge may be levied in accordance with the Australian Health Care Agreements (for example, charges for aids and appliances).

*Sources:* AIHW (2000a); DHAC (1999).

The remainder of this preface is a summary of the nature of Australia's health care system and a report on the broad outcomes under that system.

Supporting tables for the 'Health preface' are provided on the CD-ROM enclosed with the Report. The files are provided in Microsoft Excel 97 format at `\Publications\Reports\2001\Attach5A.xls` or in Adobe PDF format at `\Publications\Reports\2001\Attach5A.pdf`.

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Supporting tables are identified in references throughout this chapter by an ‘A’ suffix (for example, table 5A.3 is table 3 in the electronic files). They may be subject to revision. The most up-to-date versions of these files can be found on the Commission’s Review web page ([www.pc.gov.au/service/gsp/2001/](http://www.pc.gov.au/service/gsp/2001/)). Users without Internet access can contact the Secretariat to obtain up-to-date versions of these tables (see the details on the inside front cover of the Report).

## **Profile of health services**

### **Roles and responsibilities**

The Commonwealth Government’s health services activities include:

- funding hospitals, GPs, some specialist medical services, and public health programs;
- the Pharmaceutical Benefits Scheme;
- funding and providing nursing home services;
- funding the Commonwealth private health insurance rebate;
- promulgating and coordinating health regulations; and
- undertaking health policy research and policy coordination between the Commonwealth and the States and Territories.

State and Territory governments are responsible for delivering a range of health care services, such as:

- public hospital services;
- public health programs, including those for mental health;
- home and community care;
- child, adolescent and family health services;
- patient transport;
- health promotion; and
- the regulation, inspection, licensing and monitoring of premises, institutions and personnel.

Local governments are generally involved in environmental control and a range of community based and home care services, although the exact nature of their involvement varies across jurisdictions.

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The non-government sector plays a significant role in the health system, delivering general practice and specialist medical and surgical services, dental services, a range of other allied health services (such as optometry and physiotherapy) and private hospital and nursing home services.

## **Funding**

Funding the various components of the health care system is a complicated process. The Commonwealth Government subsidises many of the services provided by the non-government sector (mostly through the Medicare Benefits Schedule, the Pharmaceutical Benefits Scheme and the private health insurance rebate) and funds a number of nationally coordinated public health programs. It also provides funding for public acute hospitals under the Australian Health Care Agreements to the States and Territories.

State and Territory governments, through income raised by taxes and from both general and specific purpose grants received from the Commonwealth, contribute funds to community health services, and public hospitals (through casemix and other payments) which in turn fund specialists (through limited fee-for-service or sessional arrangements). Private individuals, health insurance funds and other non-government institutions also contribute funding to a range of non-government health care providers.

Governments (at all levels) fund approximately 70 per cent of total expenditure on health care services, with the remainder coming from individuals, health insurance funds, and workers compensation and compulsory motor vehicle third party insurance providers (figure C.1). (The latter two are treated as non-government funding because funds are obtained on the basis of fee for service). The Commonwealth Government accounted for the largest proportion of total health care expenditure in Australia (47 per cent) in 1998-99.

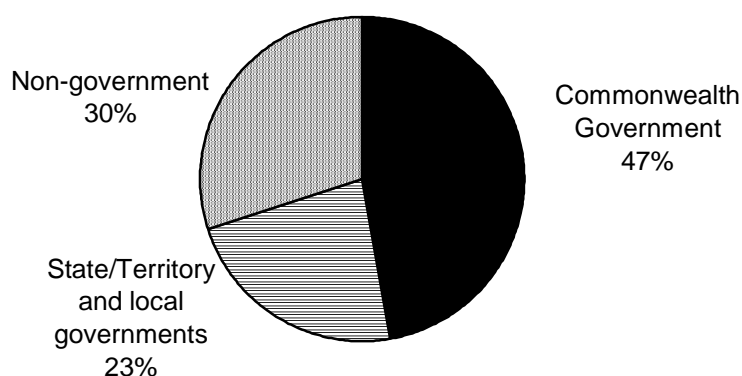
## **Size and scope of sector**

Total expenditure (recurrent and capital) on health care services in Australia was \$50.2 billion in 1998-99. This was equivalent to 8.5 per cent of gross domestic product, up from 7.5 per cent in 1989-90. This implies that health care expenditure grew faster than the economy over the past decade (AIHW 2000b).

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Figure C.1 Total health expenditure by source, 1998-99<sup>a, b, c, d</sup>

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<sup>a</sup> Expenditure by the Commonwealth Government and the non-government sector has been adjusted for tax expenditures. <sup>b</sup> Based on preliminary estimates by the Australian Institute of Health and Welfare and the Australian Bureau of Statistics. <sup>c</sup> 'Non-government' includes expenditure by individuals, health insurance funds, and workers compensation and compulsory motor vehicle third party insurers. <sup>d</sup> Includes expenditure on nursing homes and patient transport services.

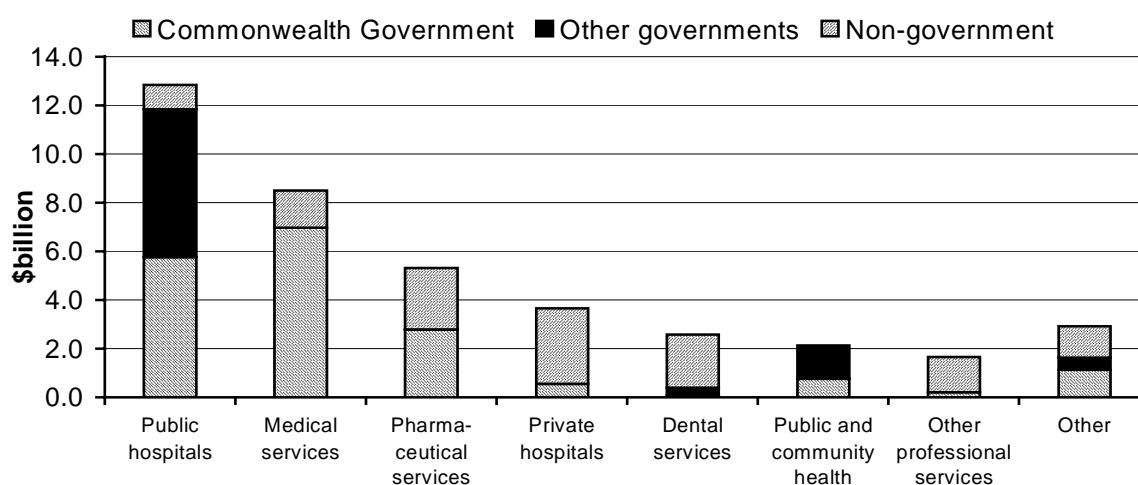
Source: table 5A.34.

The growth of total expenditure was partly the result of an increase in expenditure by the Commonwealth. Expenditure by Commonwealth Government sources grew proportionally faster than expenditure by State and Territory governments and non-government sources. Between 1989-90 and 1998-99 the average annual rate of growth in expenditure was 5.5 per cent for the Commonwealth Government, 2.8 per cent for State and Territory and local governments and 3.1 per cent for non-government. (AIHW 2000b).

Almost one third of the increase in expenditure by the Commonwealth Government was due to the introduction of the Private Health Insurance Incentive Scheme on 1 July 1997 and the subsequent introduction of the private health insurance rebate in early 1998-99 (AIHW 2000b).

The single largest item of recurrent health care expenditure by government and non-government sources in 1997-98 (the year for which the most recent comparative data are available) was on public hospitals. Nearly \$13 billion was used to fund the treatment of 3.7 million admitted patients and 32.8 million non-admitted occasions of service (figure C.2 and AIHW 1999a). Government recurrent expenditure on public hospitals of \$11.8 billion accounted for 39.5 per cent of total government recurrent expenditure on health care services in that year. Medical services accounted for \$6.9 billion of government expenditure (23.2 per cent of all government recurrent expenditure) and pharmaceutical services accounted for \$2.8 billion (9.3 per cent) (figure C.2).

Figure C.2 Total health services recurrent expenditure, 1997-98<sup>a, b, c</sup>



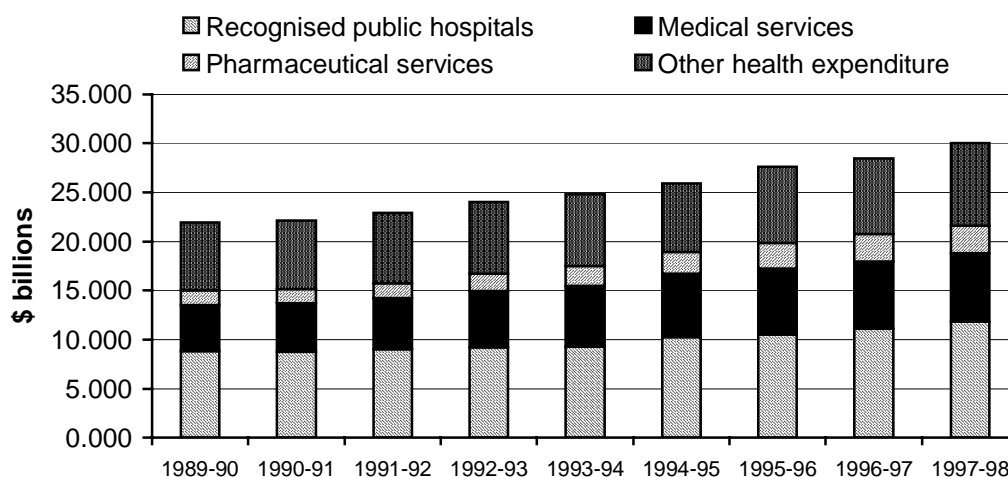
<sup>a</sup> Includes public funding for private hospitals, public repatriation and psychiatric hospitals, ambulance services, aids and appliances, administration and research. <sup>b</sup> All payments to vocationally registered GPs, including, (but not limited to), the Medical Benefits Schedule. <sup>c</sup> Includes (but are not limited to), payments under the Pharmaceutical Benefits Scheme.

Source: table 5A.35.

Recurrent expenditure on public hospitals by all governments grew by almost \$3 billion (in 1999-2000) dollars between 1989-90 and 1997-98. This accounted for almost 40 per cent of growth in government expenditure on health services (figure C.3). The public hospital share, however, fell slightly from 40.1 per cent in 1989-90 to 39.5 per cent in 1997-98.

The decline in the proportion of government expenditure on public hospitals reflected the rapid growth of expenditure on medical and pharmaceutical services (figure C.3). The real average annual growth rate of recurrent expenditure on medical services and pharmaceuticals was 4.9 per cent and 6.4 per cent respectively between 1989-90 and 1997-98 (AIHW 2000b). The growth in medical and pharmaceutical services expenditure reflected an increase in the number of services delivered. The average number of medical services processed under the Medicare scheme rose from 8.2 in 1988 to 10.6 per person in 1998 (ABS 2000a). Similarly, increased government expenditure on pharmaceuticals reflected the increased use of medications and availability of new pharmaceuticals.

Figure C.3 **Total government recurrent health expenditure (constant prices)<sup>a, b</sup>**



<sup>a</sup> All payments to vocationally registered GPs, including, (but not limited to), the Medical Benefits Schedule.  
<sup>b</sup> Includes, (but are not limited to), payments under the Pharmaceutical Benefits Scheme.

Source: table 5A.36.

The rapid growth of expenditure on medical and pharmaceutical services meant that their proportion of government health care expenditure rose over the period 1989-90 to 1997-98. Expenditure on medical services increased from 21.5 per cent of government expenditure in 1989-90 to 23.2 per cent in 1997-98 (after peaking at 24.9 per cent in 1993-94 and 1994-95), while the share devoted to pharmaceutical services increased from 6.9 per cent to 9.3 per cent over the same period (after peaking at 9.8 per cent in 1996-97) (table 5A.36). This strong growth placed pressure on the Commonwealth Government in 1996-97 to restrict Medicare provider numbers and encourage the use of generic pharmaceutical brands. These initiatives had the effect of slowing the growth of expenditure in real terms.

## Policy developments

A number of recent policy developments in Australia and abroad have been aimed at improving the performance measurement of health systems and health care providers. One development was the establishment by the Australian Health Ministers' Conference of the National Health Performance Committee (NHPC) in August 1999 to replace the National Health Ministers' Benchmarking Working Group. The NHPC has the responsibility of developing and maintaining a national performance measurement framework for the whole of the health system to support benchmarking for health system improvement, and to provide information on

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national health system performance. The Committee is currently developing a performance indicator framework for national reporting that will cover:

- health status and outcomes (comprising the dimensions of health conditions, human function, life expectancy and wellbeing, and deaths);
- determinants of health (grouped into environmental factors, socio-economic factors, community capacity, health behaviours and person-related factors); and
- the performance of health systems (grouped into nine dimensions of performance comprising effectiveness, appropriateness, efficiency, responsiveness, accessibility, safety, continuity, capability and sustainability).

The *World Health Report* (WHO 2000) provided an international benchmarking comparison of the health systems of 191 countries worldwide. National health systems were benchmarked against three key objectives: attainment of good health, responsiveness of systems to the expectations of the population, and the level and fairness of financial contribution. Indexes were constructed for each key objective area, then aggregated to provide a ranking of each country's health system.

Another important development is the reporting of health-related performance indicators for Indigenous Australians under the auspices of the Australian Health Ministers' Advisory Council. The *National Summary of the 1998 Jurisdictional Reports against the Aboriginal and Torres Strait Islander Health Performance Indicators* (NHIMG 2000), identified a revised performance indicator framework for future reporting. Some suggested indicators include: distance to a hospital that provides admitted patient care; access to hospital care; time required to reach primary health care services; hospital outpatient activity and service deficiencies; and racism in health services. Other proposed indicators cover health outcomes for Indigenous Australians: child immunisation rates, life expectancy, standardised mortality rates, the number of low birthweight infants and the main causes of death.

This project represents progress towards improving the understanding of whether government policies and programs are making a significant difference in improving the health of Indigenous people. However, there is no timetable for regular publication of this information.

## **Framework for measuring the performance of the health system**

Government involvement in health services is predicated on the desire to improve the health of all Australians (box C.2) and governments use a variety of services in a variety of settings to fulfil this objective.



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**Box C.2 Overall objectives for the health system**

Government involvement in the health system is aimed at efficiently and effectively protecting and restoring the health of the community by:

- preventing or detecting illness through the provision of services that can achieve improved health outcomes at relatively low cost;
- caring for ill people through the use of appropriate intervention services;
- providing appropriate health care services which recognise the cultural differences between people; and
- providing equitable access to these services.

Primary prevention strategies are implemented before the diagnosis of an illness and generally aim to:

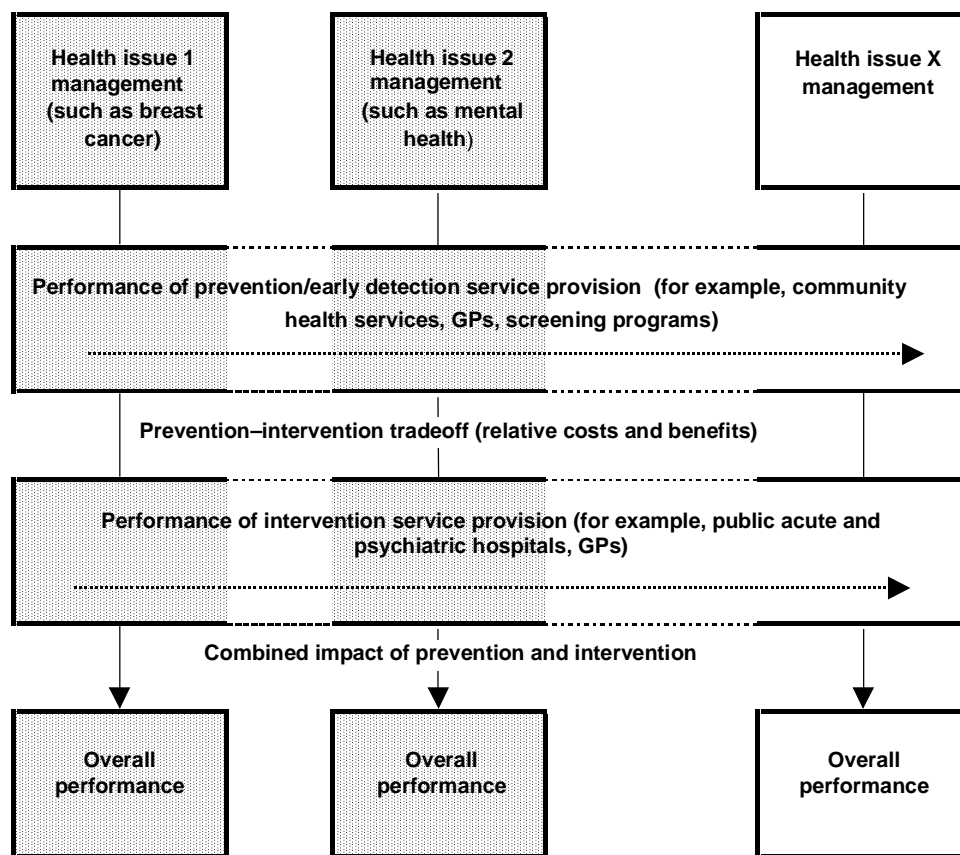
- reduce a person's risk of getting a disease or illness by increasing protective factors; and
- delay the onset of illness.

Intervention strategies are implemented after a diagnosis.

Measuring the effectiveness and efficiency of Australia's health system is a complex task. It must account for the performance of a range of services delivered (such as prevention and intervention), and the performance of service providers (such as community health centres, GPs and public acute hospitals), as well as the overall outcomes generated by the health system. The Steering Committee has not sought to develop a single unifying performance indicator framework that captures all these aspects of the health care system. Instead, it has adopted performance indicator frameworks for each component of the health care system. The frameworks report on two key aspects of the health system — health care providers and health issues. A complete set of performance indicator frameworks can contribute to an improved understanding of the performance of health systems in each jurisdiction.

The measurement approach adopted in this Report is represented diagrammatically (figure C.4). Frameworks of indicators measuring the performance of health service providers across a range of health care issues (represented by the horizontal arrows) are presented for two service delivery mechanisms used in Australia: public acute care hospitals and general practitioners.

Figure C.4 Australian health system — measurement diagram



The appropriate mix of services (prevention versus intervention) and the appropriate mix of service delivery mechanisms (hospital based versus community based) are measured by focusing on a health management issue (represented by the vertical arrows). As in 1999 and 2000, the Report covers breast cancer management and mental health services. The breast cancer management framework integrates the early detection and intervention strategies, which should inform the tradeoffs in the allocation of resources between these two strategies. The mental health framework provides information on the interaction and shared care arrangements between community based and hospital based providers in meeting the needs of Australians with a mental illness. Performance indicator frameworks are discussed in more detail in chapters 5, 6 and 7.

## Measuring the aggregate health care system

It is difficult to isolate the effect of health care services on the general health of the population. Socioeconomic factors (such as ethnicity, residential location income

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levels and employment rates) and the provision of non-health care government services (such as clean water, sewerage, food safety regulation, education and public housing) each contribute to overall health outcomes. Measures of aggregate health outcomes used in this Report include: the prevalence of illness and injury; mortality rates (for infants and all persons, as well as for the leading causes of death); average life expectancy; and the burden of disease and injury (as measured by the years of life lost to mortality or disability).

Similarly, the efforts of governments to address health care needs are influenced by factors external to their control, including geographic dispersion, age profiles, racial characteristics and socioeconomic status. Statistical appendix A provides a summary of factors that could influence health outcomes and government expenditure. Measures of the efficiency of government and non-government expenditure include the per person expenditure on health care services. It is important to remember the limits of these measures, given the effects of other non-health-related factors.

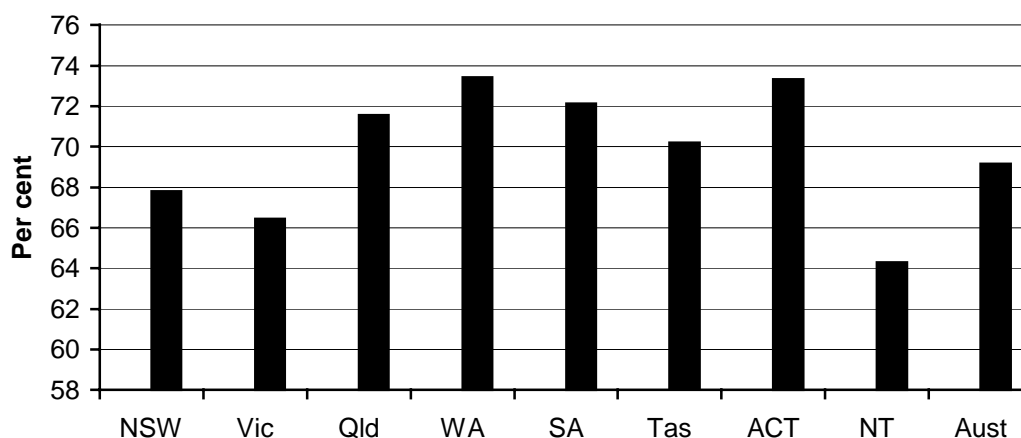
### **Prevalence of illness and injury**

The Australian Bureau of Statistics published data on the prevalence of illness and injury in 1997. These data have not been updated since the 1995 National Health Survey. The following discussion first appeared in the 1999 Report and has been retained to provide an overview of the potential data available for this issue.

Almost 70 per cent of Australians reported experiencing an illness in the two weeks before being interviewed for the 1995 National Health Survey. The most common illnesses were diseases of the respiratory system (such as bronchitis/emphysema, the common cold, hayfever, asthma and coughing or a sore throat). These accounted for 31.1 per cent of the total reported illnesses. Symptoms, signs and ill-defined conditions (such as allergies, headaches, heartburn and hangover) accounted for 28.5 per cent of all reported illnesses (ABS 1997a). The proportion of the population reporting a recent illness was 69.2 per cent for Australia, and this ranged from 73.4 per cent in WA to 64.3 per cent in the NT (figure C.5).

According to the survey, most Australians took action for a health-related concern in the two weeks before the survey — 79.9 per cent of females and 70.8 per cent of males. For some people, this constituted taking the day off work or school, or merely ‘taking it easy’ for a day or so. However, the more common health-related actions involved some contact with the Australian health care system. The most common action was taking medication (69 per cent of respondents), followed by consulting a doctor (23 per cent) and consulting another health care professional (13 per cent). Significantly fewer people visited a hospital, either as an admitted or non-admitted patient (only 2.1 per cent and 2.7 per cent respectively) (ABS 1997a).

Figure C.5 Persons reporting a recent illness, 1995 <sup>a, b, c</sup>



<sup>a</sup> Illness refers to a medical condition experienced in the two weeks before interview and may include long term conditions experienced in the period. <sup>b</sup> Data were standardised for age and sex differences across jurisdictions. <sup>c</sup> Estimates relate to predominantly urban areas only.

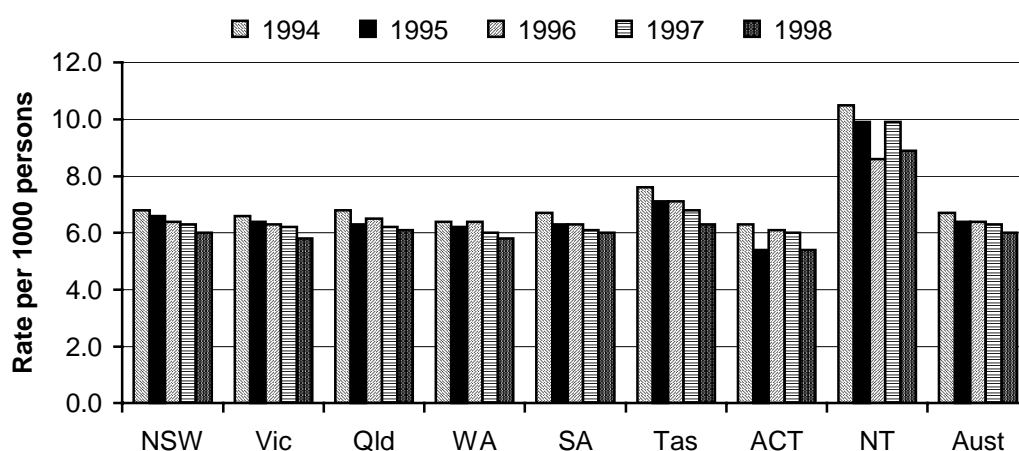
Source: table 5A.36.

## Mortality rates

A second method for measuring overall health outcomes is the mortality rate among all persons and infants. There were 127 200 deaths in Australia in 1998 (ABS 2000a) which translated into a mortality rate (standardised for age differences across jurisdictions) of 6.0 per 1000 population (figure C.6). Across jurisdictions Mortality rates in 1998 were highest in the NT (8.9 per 1000) and lowest in the ACT (5.4 per 1000). Mortality rates for Indigenous Australians are also reported for the first time this year. In 1998, Indigenous mortality rates in Queensland, WA, SA and the NT (the only jurisdictions with sufficiently reliable data) were approximately two to three times that of the national average (table 5A.38).

Indigenous mortality, infant mortality, life expectancy, and median age at death need to be interpreted with caution. The coverage of Indigenous deaths (and births) in Australia is imperfect. Not every registered death (or birth) is appropriately identified as Indigenous. This can result in the underestimation of the number of Indigenous deaths (or births) occurring and, by extension, an underestimation of the mortality (or birth) rate of Indigenous persons (ABS 2000b). The Australian Bureau of Statistics publishes the Indigenous mortality data for Queensland, WA, SA and the NT because it considers these jurisdictions to have the most complete collections (ABS 1999).

Figure C.6 Mortality rate per 1000 persons, age standardised<sup>a</sup>

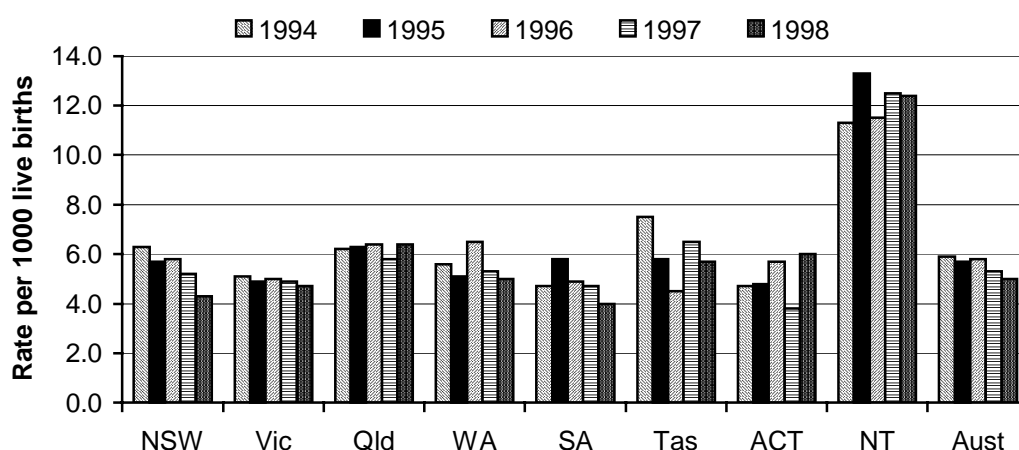


<sup>a</sup> NT sample includes only metropolitan areas.

Source: table 5A.38.

Infant mortality rates in Australia declined between 1994 and 1998 —down from 5.9 per 1000 live births to 5.0 per 1000 live births. The rates appear to have increased, however, in the NT over the period (figure C.7). Across jurisdictions Infant mortality rates in 1998 were lowest in SA (4.0 per 1000 live births) and highest in the NT (12.4 per 1000 live births).

Figure C.7 Infant mortality rate



<sup>a</sup> NT sample includes only metropolitan areas.

Source: table 5A.39.

Infant mortality rates for Indigenous Australians are reported for the first time this year. In Queensland, WA, SA and the NT (the only jurisdictions to have sufficiently reliable data), the Indigenous infant mortality rate was approximately two to three

times that of the national average for Indigenous and non-Indigenous Australians in 1998 (table 5A.40). Care must be taken in interpreting these data, given the systematic underreporting of both infant deaths and births.

## Principal causes of death

The main causes of death among Australians in 1998, when measured in terms of broad categories of disease and injury, were diseases of the circulatory system (heart diseases and strokes), neoplasms (tumours and malignant cancers), diseases of the respiratory systems (such as chronic obstructive pulmonary disease) and external causes (including accidents and suicide). These accounted for 85 per cent of all deaths among males and 84 per cent of all deaths among females (table 5A.40).

Table C.1 Principal causes of deaths, 1998 (per cent)

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Male									
Heart disease <sup>a</sup>	22.6	21.4	23.0	21.1	23.7	22.7	19.2	15.0	22.4
Stroke <sup>b</sup>	7.6	6.9	6.9	6.8	7.1	8.3	6.5	4.6	7.2
Lung cancer <sup>c</sup>	7.2	7.2	7.4	6.8	7.0	7.5	7.4	5.7	7.2
COPD <sup>d</sup>	5.3	5.7	5.7	4.6	5.0	6.6	4.8	4.6	5.4
Prostate cancer	3.7	4.3	3.8	2.9	3.4	4.3	3.7	0.8	3.8
Suicide	3.0	2.7	3.7	4.1	3.3	2.6	4.3	6.6	3.2
Motor vehicle accidents	1.6	1.8	1.7	2.4	1.8	1.2	3.6	10.6	1.8
Female									
Heart disease <sup>a</sup>	22.3	20.7	23.2	20.3	23.2	21.3	17.1	13.5	21.9
Stroke <sup>b</sup>	10.1	9.0	9.0	9.0	9.2	10.3	9.0	4.9	9.4
Lung cancer <sup>c</sup>	5.5	5.4	5.5	5.4	5.0	5.5	6.1	4.5	5.4
COPD <sup>d</sup>	4.8	5.0	4.9	4.2	4.3	5.8	4.7	5.6	4.8
Breast cancer	3.9	4.3	4.0	3.5	3.8	4.0	5.0	1.4	4.0
Suicide	1.9	1.8	2.6	2.7	2.1	1.6	2.4	4.8	2.1
Motor vehicle accidents	1.2	1.3	1.3	1.8	1.4	0.9	2.5	8.4	1.4

<sup>a</sup> Ischaemic heart disease. <sup>b</sup> Cerebrovascular disease. <sup>c</sup> Cancer of the trachea, bronchus and lung. <sup>d</sup> Chronic obstructive pulmonary disease.

Source: table 5A.40.

Table C.1 summarises the six most significant individual causes of mortality among Australian males and females. Ischaemic heart disease, cerebrovascular disease, lung cancer, chronic obstructive pulmonary disease, prostate and breast cancer, suicide and motor vehicle accidents accounted for 51 per cent of all male deaths in Australia in 1998 and 49 per cent of all female deaths.

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Indigenous Australians in 1998 experienced quite different patterns of mortality than those of the Australian population as a whole. The four major categories of mortality (circulatory diseases, neoplasms, respiratory diseases and external causes) accounted for between 68 per cent (WA) and 77 per cent (NT) of deaths among Indigenous males and between 66 per cent (NT) and 77 per cent (SA) of deaths among Indigenous females (table 5A.41). Diabetes mellitus, motor vehicle accidents, suicide and 'other external causes' accounted for between 25 per cent (WA) and 33 per cent (Queensland) of all deaths among Indigenous males and 18 per cent (Queensland) and 24 per cent (NT) of all deaths among Indigenous females.

### **Burden of disease and injury**

The *Australian Burden of Disease and Injury Study* (Mathers, Vos and Stephenson, 1999) provides a comprehensive assessment of the amount of ill health and disability in Australia — the 'burden of disease'. The burden of disease is measured in terms of the total years of life lost to premature mortality or disability (box C.3). In 1996, premature mortality was responsible for 1.35 million years of life lost in Australia. When adjusted to include the number of years lost to disability resulting from disease or injury, the Australian Institute of Health and Welfare estimated the total burden to be 2.5 million disability-adjusted life years (DALY) in 1996.

#### **Box C.3 Disability-adjusted life years**

Mortality, disability, impediment and injury arising from a range of diseases and injuries can be measured using the disability-adjusted life year (DALY). The World Bank (1993) used the method to provide a comprehensive assessment of the global burden of disease and injury, and the World Health Organisation has since adopted it as a tool for reporting on overall health outcomes (WHO 2000).

The DALY method provides a convenient and economical way of forming a single statistic, information on the impact of premature death and the effects of disability and other non-fatal health outcomes for a range of diseases and injuries.

One DALY is a lost year of a 'healthy' life and is calculated as a combination of years lost to premature mortality (years of life lost: YLL) and the equivalent 'healthy' years of life lost due to disability (years of life lost to disability: YLD).

YLL is equal to the number of years a deceased person would have expected to survive had they achieved the life expectancy of persons in their age cohort. In a study of the burden of disease for Australia, the Australian Institute of Health and Welfare's Australian life expectancies for 1996 are taken as the reference.

YLD is calculated similarly to YLL, but weights are applied that reflect the degree of disability or handicap that the person suffers as a consequence of their disease or injury. The weights vary from zero (very healthy) to one (death) and are defined for 54 disease and injury conditions.

Source: Mathers *et al.* (1999).

The leading causes of DALYs in Australia in 1996 were ischaemic heart disease and stroke. Together, these accounted for nearly 18 per cent of the total disease burden. Chronic obstructive pulmonary disease and lung cancer (also smoking-related diseases) are the third and fifth leading causes of disease burden, accounting for 7.3 per cent of the total. Depression is the fourth leading cause of disease. If the burden attributable to suicide and self-inflicted injury is included, then depression rises to third place, accounting for an overall 5 per cent of the total (table C.2).

**Table C.2 Leading causes of disease and injury in Australia, 1996 (per cent of DALYs)**

	<i>% of DALYs</i>
Ischaemic heart disease	12.4
Stroke	5.4
Chronic obstructive pulmonary disease <sup>a</sup>	3.7
Depression	3.7
Lung cancer	3.6
Dementia	3.5
Diabetes mellitus	3.0
Colorectal cancer	2.7
Asthma	2.6
Osteoarthritis	2.2

<sup>a</sup> Chronic bronchitis and emphysema.

Source: Mathers *et al.* (1999).

## Life expectancy

The life expectancy of Australians has improved dramatically since the turn of the century. The average life expectancy at birth was 55.2 years for males and 58.8 years for females in the period 1901–10, then rose steadily until it reached 75.9 for males and 81.5 for females in 1996–98 (table 5A.42).

Life expectancy at birth varies across jurisdictions. Average life expectancy for males at birth was 77.5 years in the ACT in 1996–98, compared with 70.6 years in the NT (table C.3 and table 5A.42). The average for females in WA was 81.9 years, which was almost seven years longer than that for females in the NT. This difference reflects the large number of Indigenous people living in the NT (compared with other jurisdictions), and the shorter life expectancy of Indigenous people generally.



**Table C.3 Average life expectancy at birth, 1996 – 1998 (years)**

	<i>NSW</i>	<i>Vic</i>	<i>Qld</i>	<i>WA</i>	<i>SA</i>	<i>Tas</i>	<i>ACT</i>	<i>NT</i>	<i>Aust</i>
<b>Males</b>									
1994–96	75.0	75.6	75.1	75.4	75.3	74.1	76.6	69.2	75.2
1995–97	75.4	75.8	75.4	75.7	75.7	74.8	77.1	70.0	75.6
1996–98	75.8	76.3	75.6	76.1	76.0	75.1	77.5	70.6	75.9
<b>Females</b>									
1994–96	80.9	81.2	80.9	81.3	81.3	80.0	81.6	75.0	81.1
1995–97	81.2	81.4	81.3	81.6	81.5	80.1	81.3	74.7	81.3
1996–98	81.6	81.7	81.5	81.9	81.6	80.4	81.6	75.0	81.5

Source: table 5A.42.

Indigenous Australians had considerably worse health than that of non-Indigenous Australians in 1996–1998. Their life expectancy at birth, for example, was between 58 years in the NT and 63 years in Victoria for males, and between 64 years in the NT and 68 years in Victoria and WA for females (table 5A.42).

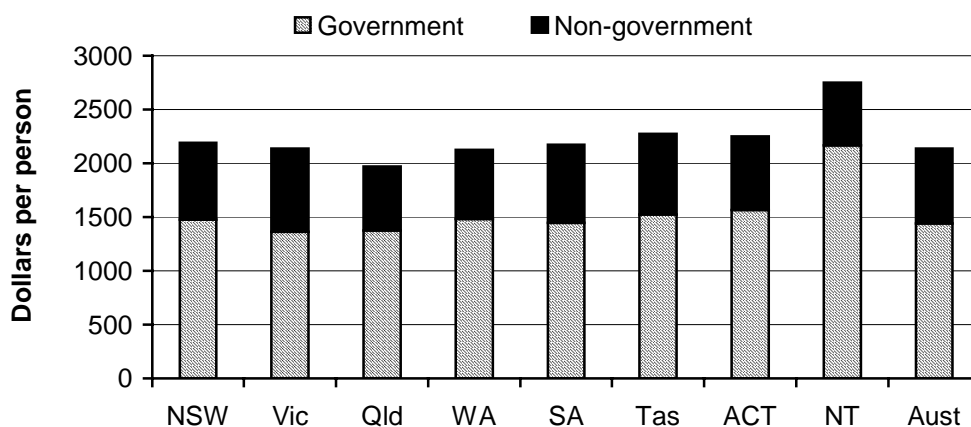
Concerns with the under reporting of Indigenous deaths also affect estimates of life expectancies (ABS 2000b). An alternative measure of longevity is the median age at death, although this does not indicate the current health status of living persons. In 1998, the median age at death in Australia among all Australians was 77.4 years (table 5A.43). Across jurisdictions, median age at death was highest in SA (78.4 years) and lowest in the NT (53.6 years). In contrast, the median age at death for Indigenous Australians was highest among females in Queensland (59.4 years) and lowest among males in SA (44.5 years) (table 5A.43).

## **Efficiency**

Total (government and non-government) recurrent expenditure per person can be considered as an imperfect proxy for the efficiency with which health care services are provided. As mentioned earlier, however, a number of factors influence this indicator, including geographic dispersion, differences in population mix, and differences in the types of outputs delivered by agencies. Government expenditure can influence the total expenditure on health. Real government recurrent expenditure on health (excluding nursing homes and ambulance services) rose from \$1350 per person in 1995-96 to \$1438 in 1997-98 in Australia (table 5A.44). Expenditure in 1997-98 was lowest in Victoria (\$1363 per person), and highest in the NT (\$2169) (figure C.8).

Real total recurrent expenditure on health care services rose from \$2023 per person in 1995-96 to \$2138 per person in 1997-98 (again, after deducting expenditure on nursing homes and ambulance services). Non-government expenditure was highest in Victoria (\$772 per person) and lowest in the NT (\$584 per person) in 1997-98 (table 5A.44).

Figure C.8 Total recurrent expenditure per person, 1997-98



<sup>a</sup> Excludes expenditure on ambulance services and nursing homes.

Source: table 5A.44.

An investigation of health care expenditure by governments on Indigenous and non-Indigenous Australians revealed that expenditure through publicly subsidised programs (excluding nursing homes and ambulance services) was \$2069 per Indigenous person in 1995-96, compared with \$1331 per non-Indigenous Australian. The majority of this expenditure was sourced from States and Territories through public acute hospitals, community health centres and public health programs (Deeble *et al.* 1998; tables 5A.45 and 5A.46). Total expenditure on health, including government and non-government sources, was \$2173 per Indigenous person and \$2010 per non-Indigenous person in 1995-96 (table 5A.46). This suggests that Indigenous people are relatively dependent on government funding for health expenditure, but that the total amount of expenditure does not differ substantially between Indigenous and non-Indigenous people. Closer inspection reveals that government and non-government expenditure on private hospitals, the Medical Benefit Schedule, the Pharmaceutical Benefits Scheme, private dental services and non-prescribed medicines was considerably higher for non-Indigenous people (\$1106 per person) than for Indigenous people (\$207 per person) in 1995-96 (table 5A.46).

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## Future directions

A key challenge for improving the efficiency and effectiveness of the health care system is to improve our understanding of whether health care services are appropriately addressing Australia's health needs. The 'appropriateness' of service provision includes:

- the appropriate sequence of events in promoting health care issues and preventing disease and injury in the population, and in treating an individual patient;
- the appropriate level and mix of treatments (for example, the level and mix of separations);
- the appropriate mix of service types (for example, the mix of promotion and prevention, and intervention); and
- the appropriate mix of service providers (for example, the mix of public health organisations, community based services and hospital based services).

The first of these involves assessing the care provided to an individual patient against a normative standard of care or clinical pathway. Unexplained variations from the clinical pathway are sometimes measured, largely as an indicator of the quality of care provided to the patient. Information on clinical pathways is not yet available on a national basis as a quality of care indicator.

The second interpretation of appropriateness used in this Report relates to care provided by public acute care hospitals. Two indicators — separations per 1000 people and the separation rate for certain procedures — focus on geographic variations to highlight differences that may require further investigation.

The third and fourth interpretations of appropriateness are the focus of chapter 6. The framework of performance indicators for breast cancer management focuses on the tradeoff between the allocation of resources to disease prevention (or early detection in this case) and intervention. The framework for mental illness management, on the other hand, looks at the alternatives in service delivery by community-based and hospital-based providers in meeting the needs of Australians with mental illness.

Despite these efforts, the following three factors continue to hinder assessments of the appropriateness of the care provided by Australia's health care system:

- there are no measurable standards of service against which current levels can be assessed for many health services;

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- the Review covers only parts of the whole health care system. Reporting would need to be expanded to include coverage of community based services, government support for pharmaceuticals and other health issues (such as the remaining National Health Priority Areas — cardiovascular health, diabetes mellitus, asthma and injury prevention and control) before the relative contribution of each area to total health outcomes could be assessed; and
  - the links between frameworks are not yet identified. There is insufficient information to aid assessments of whether governments should focus more effort on supporting one range of service over another (for example, prevention or intervention) or conversely, one health care provider over another (for example, public acute care hospitals or GPs). Ideally, information on the links between health care providers and types of activity (for example, as to whether they are complementary and substitutes) would need to become available.

A robust examination of all aspects of health care would help with the reporting of, and ultimately the improvement of, overall health outcomes in Australia.

### **Specific tasks for the Review**

The key challenges for improving reporting on the health sector, including identifying the appropriateness of services, are:

- introducing a national performance indicator framework for the health care system as a whole. This framework will be reported in the preface and will report on the performance of private and public health services. It may include such recent developments as the population health monitoring activities of the jurisdictions and the work undertaken by the World Health Organisation, and will seek to arrive at improved overall measures of outcomes and efficiency;
- improving reporting under the existing performance indicator frameworks by refining existing indicators and/or introducing new ones. Key areas where indicators can be improved include efficiency and quality of acute care services. Issues for improving reporting under the individual frameworks are discussed in detail in the relevant chapters. Improving data on the quality of hospital services, for example, is specific to the reporting framework for public acute care hospitals (see chapter 5). Similarly, issues specific to breast cancer control and mental illness are discussed in chapter 7;
- expanding reporting to better account for trends in service substitution. Two forms of service substitution include substituting acute admitted patient services for those delivered in the home ('hospital in the home') and substituting same-day surgery for longer stay acute admitted patient care;

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- improving reporting of the effectiveness of service delivery to key client groups, such as Indigenous people and people in regional, rural and remote areas. In this respect, the Australian Health Ministers' Advisory Council report on Indigenous health outcomes (NHIMG 2000) will be useful. More attention would need to be paid to the level of resources expended by mainstream services in contributing to those outcomes. The challenges faced in improving the quality of data on Indigenous access to mainstream services are addressed in chapter 2; and
  - extending the coverage of the Review to include diabetes mellitus (as well as other National Health Priority Areas) and community health services.

Issues for improving reporting under the individual frameworks are discussed in detail in the relevant chapters.

### **Expanding the scope of the Review**

The 2000 Report noted that a long term goal of the Steering Committee is to include a performance measurement framework for community health services, similar to that for public hospitals and general practice. Community health services provide health promotion and early detection services, assess health problems and provide care. These services are diverse and incorporate a range of service providers (dietitians, community nurses, psychologists and so on). This multidisciplinary approach makes it difficult to define the scope of community health services accurately and to attribute health outcomes to particular providers.

A study was commissioned by the Commonwealth, State and Territory governments in 1998 to examine the feasibility of developing performance indicators for this sector. The unpublished study noted that:

The validity of performance indicators relies, in part, on homogeneity in the units being measured ... issues of homogeneity and comparability are significantly more complex and difficult for community health [than for acute health] ... Reliable data collections present a major challenge (DHAC 1999).

In the meantime, the Steering Committee has agreed to report on the performance of jurisdictions in addressing diabetes mellitus in the 'Health management' chapter. Reporting is expected to begin in the next Report. Diabetes mellitus represents the seventh largest burden of disease in Australia (table C.2) and is a significant cause of mortality among Indigenous Australians. Renal dialysis, which is directly associated with diabetes mellitus, is the most common episode of acute care delivered by public acute hospitals (accounting for over 11 per cent of all acute separations — see chapter 5 and table 5.1). The reporting is likely to consider the

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effectiveness and efficiency of jurisdictions in their promotion/prevention, intervention and ongoing management of the condition.