



6 Health service strategies, performance and monitoring

In view of the importance, high cost and complexity of maintaining health, it is necessary to coordinate activities, set priorities and monitor the performance of the health system. This is a very challenging task, given the large number of agencies, both government and non-government, responsible for the delivery of health services, the range of potential health interventions and the difficulty of measuring their independent effects. This chapter describes the efforts being made at the national level to deal with these problems.

Commonwealth, State and Territory Health Ministers meet regularly as the Australian Health Ministers' Conference to coordinate health policy matters across jurisdictions. Their high-level advisory body, the Australian Health Ministers' Advisory Council (AHMAC), includes the heads of Commonwealth, State and Territory health authorities and the Commonwealth Department of Veterans' Affairs. In recent years these bodies have adopted a range of strategic plans for a national approach to deal with major health issues.

Performance indicators exist for Aboriginal and Torres Strait Islander health, the six National Health Priority Areas (NHPAs) and hospital services. The National Public Health Partnership and a new National Health Performance Committee, established by Health Ministers in 1999, are coordinating the development of frameworks for public health and for monitoring the performance of the overall health system.

Section 6.1 provides background on general issues associated with health services planning, including the evidence base needed to support priority setting. Section 6.2 describes some emerging and contemporary issues that are influencing decisions on health priorities. Section 6.3 describes the information frameworks that have been developed for monitoring performance against the objectives of high-level national health strategies. Section 6.4 reports on performance in some specific areas where national information has been developed and collected.

6.1 Issues in health services planning

The type of evidence and information required to support informed priority setting in health depends on the societal goals for health. Improving the overall health of the population is a major goal of all societies. However, priority setting based on the potential for health gain is not the only goal that Australians might value. Others might be:

- to give priority to those most disadvantaged, so that inequalities in health are reduced;

- to attach greater priority to large benefits than to the sum of many small ones, with life-saving counting the most of all;
- to attach greater importance to giving everyone some benefits as opposed to larger benefits for a few; and
- to attach less importance to life extension past a normal lifespan, thus attaching greater moral weight to achieving a 'fair innings' (Williams 1999).

The World Health Organization sees three goals for the health sector: health improvement, responsiveness and fair financing (Murray 1999). Responsiveness refers to the non-health aspects of the health sector which society values, and includes attributes such as privacy, accountability, informed choice and consumer participation. In principle, societies will generally be interested in improving both the level and the distribution of health and of responsiveness. Fair financing relates to distribution only; the level of health financing usually depends on broader social and political choices.

The evidence base needed to support priority setting in relation to these goals requires the following basic types of information (AIHW: Mathers et al. 1999):

- evidence based on scientific research on the nature and causes of health problems and the efficacy of prevention and treatment interventions;
- a detailed assessment of the magnitude and impact of health problems in the population, including information on the causes of loss of health (both in terms of disease and injury, and risk factors or broader determinants);
- information on health expenditure and health infrastructure (a national system of health accounts) detailing the availability of resources for health improvement, what the resources are currently used for, and the sources and distribution of health financing;
- information on the cost-effectiveness of available technologies and strategies for improving health; and
- information on variations and inequalities in health status, health determinants, and access to and use of health services (including both prevention and treatment services).

Australian and international health research aims to provide the first of these types of information. The National Health and Medical Research Council is the principal adviser to Government on health research matters.

A wide range of health information is collected in Australia to attempt to improve the second of these information needs. Health Ministers and administrators attach a high priority to this national task, which is led by the Australian Institute of Health and Welfare.

The third type of information is obtained through a range of statistical activity to monitor health expenditure, workforce numbers and infrastructure (see chapter 5).

The fourth type of information is still largely unexplored territory and will remain so, although there are increasing numbers of cost-effectiveness studies into particular aspects of health. An example is presented in Box 6.1.

Confronting a major health problem comprehensively may require a combination of preventive and curative interventions and continuing care. Resource allocation decisions are influenced by information, not always empirically derived, on the cost-effectiveness of interventions across this continuum. Most 'health' data in Australia still relate mainly to the inputs and throughputs of the healthcare system rather than to health outcomes and cost-effectiveness.

Box 6.1: Pharmaceutical Benefits Scheme: evidence-based case study

The Commonwealth subsidises a wide range of prescription medications through the Pharmaceutical Benefits Scheme (PBS). Before a new pharmaceutical is listed on the PBS, it is evaluated for safety and effectiveness by the Pharmaceutical Benefits Advisory Committee (PBAC). Since 1991–92, the PBAC has taken into consideration the costs as well as the benefits of new pharmaceuticals.

The guidelines for the PBAC state:

'A new drug entity may be recommended for listing if

- (a) it is needed for the prevention or treatment of significant medical conditions not already covered, or inadequately covered, by drugs in the existing list and is of acceptable cost-effectiveness;*
- (b) it is more effective, less toxic (or both) than a drug already listed for the same indications and is of acceptable cost-effectiveness; or*
- (c) it is at least as effective as a drug already listed for the same indications and is of similar or better cost-effectiveness.'*

When pharmaceutical companies make submissions for listing their new products on the PBS, they have to supply an economic analysis of the expected costs and benefits of the pharmaceutical as well as information on the chemistry of the product, stability, quality control, in vitro studies, animal studies and clinical trials. There are specific guidelines to ensure that the economic analyses are undertaken in a way that enables the different pharmaceuticals to be evaluated consistently.

Analysis of the recommendations of the PBAC in the period November 1993 to March 1996 shows significant consistency in the decisions. Where the cost per additional life-year gained due to the pharmaceutical was less than \$37,000, then 10 of the 11 pharmaceuticals in this category were recommended for listing on the PBS. All pharmaceuticals with a cost effectiveness greater than \$70,000 per life-year were rejected at that price, and for those with a cost-effectiveness between \$37,000 and \$70,000 per life-year some were accepted, and some rejected (George et al. 1997).

A pharmaceutical that does not get listed on the PBS, but is considered safe, can still be purchased in Australia. However, consumers have to pay the full cost.

A considerable number of pharmaceuticals approved before 1992–93 have not been considered for cost-effectiveness. In 1998–99, 34% of drugs listed on the PBS had been subjected to a cost-effectiveness evaluation.

Analyses of health information for population subgroups defined by a range of factors (area, socioeconomic status, Indigenous status, country of birth, etc.) are a source of information on variations and inequalities in health. Chapter 4 provides information of this nature.

The evidence base needed to help society set priorities for health interventions should allow assessment of the trade-offs between efficiency (maximising health outcomes) and equity (providing health benefits to all groups and reducing inequalities in health outcomes). Thus society needs information not only on the size of health problems and the potential for cost-effective health gain, but also on measures of the distribution of health in the population and the distributional impacts of health-related interventions. Equity concerns can then be tackled explicitly in any priority-setting or resource-allocation process, along with the potential to improve health.

6.2 Emerging and contemporary issues

There are a number of issues that are influencing decisions on health priorities to some extent at present, but which are likely to take on greater significance in coming years. These include demographic changes such as population ageing, changes in service delivery models including a move to more emphasis on community care, and coordinated care. A brief review of these emerging and contemporary issues follows.

Population ageing

The Australian population, like that of most other industrialised countries, is ageing, with an increasing proportion of men and women aged 65 and over. This is due to increases in life expectancy and lower fertility rates. In 1999, 12.2% (2.3 million) of the population were aged 65 and over; this is projected to rise to 18.0% (4.0 million) by 2021 (ABS 1998).

Turning to the older ages, some 2.0% of men were aged 80 and over in 1999; this is projected to reach 3.2% in 2021. For women, the comparable figures are 3.6% and 4.9%. This older age group (80 and over) is then projected to increase more rapidly, reaching 6.7% of men and 10.1% of women in 2051.

Expenditure on health services in the future depends on the interaction between supply and demand factors, each of which is difficult to predict. On the demand side, ageing adds only 0.6% to expenditure per year, so does not have a major impact on costs. However, changes in medical practice due to changes in technology add significantly to health costs each year (1.9% per person per year in the last 22 years). On the supply side, there has been an excess supply of general practitioners (GPs) in the metropolitan areas and shortages in the rural GP workforce. Whether supply shortages occur in the future will depend on workforce planning decisions now. In the nursing area, student nurse entrants have dropped from a peak of 9,300 in 1991 to 7,900 in 1998. The implications of this decline for the future, and the reasons for it, merit close attention.

Shift to community care

A move away from institutional-based care has occurred in the areas of mental health, disability and aged care, and there have been new models to replace some traditional hospital treatment, such as birthing centres and day surgery.

Between the early 1960s and 1992, the psychiatric bed ratio declined from 281 beds per 100,000 population to 40 beds per 100,000. As a consequence, thousands of people were discharged from long-stay institutions into the community, as were somewhat smaller numbers of people with physical or intellectual disabilities (Burdekin et al. 1993:166). In line with policy driving the first National Mental Health Strategy from 1992–93 to 1996–97, this ‘de-institutionalisation’ continued, with the proportion of State and Territory mental health service expenditure going to psychiatric hospital services reducing from 49% to 32%, and the proportion going to ambulatory services increasing from 23% to 34% (DHAC 1999b).

Average lengths of stay in public acute hospitals have fallen from 5.1 days in 1993–94 to 4.0 days in 1997–98 and in private hospitals from 3.9 to 3.3 days over the same period. A major contributor to this trend in recent years has been an increase in the number of same-day patients, whose treatment does not require an overnight stay in hospital. Same-day separations as a proportion of separations from all hospitals increased from 36.8% in 1993–94 to 46.3% in 1997–98.

Since 1985, the mix of aged care services has changed. There has been an increase in the availability of community-based care and no increase in the ratio of residential places to the population aged 70 and over. Similarly, in the last two decades there has been a large increase in the number of people with a disability with ongoing support needs living in the community, mainly with their families, and a relatively small decline in the number living in institutions (AIHW 1999c).

The cumulative effect of these coinciding policy directions is one of increasing need for and use of services that are home- and community-based.

Coordinated care

People with complex health service needs, such as those with chronic conditions, multiple health issues or other complex health needs, present a particular challenge to the health system. The number of people in this group is growing, in part due to the ageing of the population. Their needs are a challenge when faced with a complex health system and with care being needed from a number of different, and quite often separate, service providers. To better meet the needs of such people, Commonwealth, State and Territory governments have cooperated to establish coordinated care trials. There are currently nine trials being conducted throughout Australia. They have involved nomination of a formal care coordinator who undertakes multidisciplinary care planning and service coordination, along with pooled funding arrangements to support access to services needed for optimal patient care. These trials are in the final stages of data collection, with interim evaluation results recently released (DHAC 1999a).

6.3 Performance indicators

Well-designed and clearly defined indicators enable the systematic analysis of trends in health outcomes and factors affecting those outcomes. Indicators also enable comparisons across populations, help identify problem areas and are used to establish benchmarks. A number of high-level indicator frameworks have been established, or are under development, to enable the objectives of particular national health strategies to be monitored.

Performance indicators for Aboriginal and Torres Strait Islander health

In early 1996, the AHMAC agreed to develop a set of performance indicators for Aboriginal and Torres Strait Islander health. One of the intentions behind developing these indicators was to allow jurisdictions to monitor their efforts and progress in tackling the health disadvantages of Indigenous Australians, described in section 4.6.

Interim performance indicators, incorporating targets for selected indicators, were endorsed by AHMAC in April 1997, and later endorsed by all Australian Health Ministers and Ministers responsible for Aboriginal Affairs.

The interim indicator set includes over 50 indicators in the areas of:

- **health outcomes**, such as various aspects of mortality (age-specific, age-standardised, premature, by selected causes, stillbirths, etc.), children's hearing loss, low birthweight, hospitalisation, infectious diseases and sexually transmitted diseases;
- **access to services**, such as travel time to primary healthcare services and to hospital, per capita expenditure on health services, and measures of community control and community participation;
- **health service outputs**, such as health promotion programs targeted at Indigenous people, cervical cancer screening, childhood immunisation, protocols for effective management of selected conditions, hospital inpatient and outpatient activity, and primary care activity;
- **health workforce development**, such as Indigenous people in training, availability of an appropriate workforce in hospitals and primary care centres, number of identified positions and cross-cultural awareness programs;
- **risk factors**, including smoking, obesity, and hazardous consumption of alcohol and other substances; and
- **intersectoral issues**, such as household after-tax income relative to the poverty line and the presence of functioning household utilities (water, sewerage, power).

A first report comparing selected indicators from different jurisdictions was published in early 2000 (NHIMG 2000), but is characterised by much missing and poor-quality data.

All jurisdictions have experienced difficulty in reporting on a number of the indicators, although the extent of such problems has varied. Reporting problems have generally been due to inadequacies in the availability and quality of the necessary data, but some difficulties have arisen because of shortcomings in some of the indicators themselves. Refinement of the performance indicators is under way, taking into account the experiences of jurisdictions in the reporting process to date. Among the issues to be considered are the total number of indicators, the balance of measures of inputs, outputs and outcomes, the relevance of individual indicators, and the feasibility of collecting adequate data to allow for reporting on a regular basis.

National Health Priority Area indicators

Sets of indicators have been developed or are under development to monitor health interventions and outcomes in each of the National Health Priority Areas (NHPAs) of cardiovascular health, cancer control, injury prevention and control, mental health, diabetes mellitus and asthma (the last still under development). The indicators have been designed as summary measures, rates and ratios, to monitor the results of interventions at process, risk and primary outcome levels. A framework to guide the development of these indicators was prepared by the National Health Information Management Group in 1996 (see Box 6.2, page 320).

Extensive information on NHPAs is included in other parts of this report. However, an update of the indicator sets that have been adopted for NHPA reporting is provided in Tables S52–57, pages 415–425.

As NHPA strategies are developed, strategic tracking indicators will be included to enable more precise monitoring and evaluation.

National public health performance indicators

Public health is characterised by planning and intervening for better health in populations rather than focusing on the health of the individual. The activity of public health is concerned with those factors that determine health and causes of illness rather than responding to episodes of illness or injury, which is the major role of clinical health services. Therefore, public health indicators must be able to monitor health determinants as well as health status in populations.

The National Public Health Partnership (NPHP) is currently developing a set of public health performance indicators. It is working concurrently on a Planning Framework for Public Health Practice, which will define the principles that characterise public health action and the domains in which action takes place, and provide a framework for public health performance indicators. An AIHW discussion paper on National Public Health Indicators (AIHW 1999b) and recently developed overseas models, such as the United States' Leading Indicators for Healthy People 2010 (Institute of Medicine 1999) and the Canadian health indicators framework (Canadian Institute for Health Information 2000), are helping to shape the process. The NPHP is working in conjunction with the National Health Performance Committee (NHPC) in this task.

National health performance indicators

In 1999, the Australian Health Ministers' Conference, on advice from AHMAC, agreed to the establishment of the NHPC, whose terms of reference include developing and maintaining a national performance measurement framework for the health system. This framework will provide a basis for reporting to the Australian Health Ministers' Conference and other national authorities with a comparative analysis and information on national health system performance. The scope of the NHPC's brief is broad and so will encompass reporting on the acute healthcare sector, as previously undertaken by the National Health Ministers' Benchmarking Working Group (see Performance indicators in the hospital sector, page 321), community health care and public health.

Box 6.2: NHIMG health outcome indicator framework

In 1996, the National Health Information Management Group responded to a request from AHMAC for development of a framework for health outcome indicators. The framework was required to be applicable to generic and clinically specified measures and indicators of health outcomes, including outcomes pertaining to the national goals and targets. The NHPA initiative, which replaced previous activity under the banner 'National Health Goals and Targets', adopted the framework to guide specification and development of indicator sets.

The framework consists of a two-dimensional grid made up of four types of indicators:

- *primary outcome indicators*
- *risk indicators*
- *process and quality indicators*
- *system indicators*

and three intervention strategies:

- *prevention*
- *management*
- *maintenance.*

The primary outcome indicators cover incidence, prevalence and sequelae ranging from mortality to quality of life. Risk indicators provide information about characteristics, variables or hazards, which, if present in a given individual, make it more (or less) likely that this individual will develop a health problem. The process and quality indicators refer to the performance of interventions on health or risk. System indicators relate to policies, resources and infrastructure for dealing with the health problem area.

The term 'prevention' is reserved for interventions that occur before the diagnosis of an event is made. There are three different types of prevention targeted at populations or individuals with different risk levels: universal, selective and indicated. 'Management' refers to interventions that are therapeutic in nature and are provided to individuals who meet diagnostic criteria. Management involves case identification and standard treatment for the known disorder, which includes interventions to reduce the likelihood of future associated disorders. 'Maintenance' interventions include the provision of support and after-care services to the patient, including rehabilitation.

Further information is contained in the First Report on National Health Priority Areas 1996 (AIHW & DHFS 1997).

Outside of the health sector, the performance of the national health system is monitored in annual reports by the Steering Committee for the Review of Commonwealth/State Service Provision. Health agencies, including the AIHW, are represented on the Steering Committee's Health Working Group, which draws principally on data already available across the health sector (SCRCSSP 2000).

6.4 Service delivery monitoring

This section presents information illustrative of the current state of information that can be reported on performance in health service delivery. It covers admitted patient services in the hospital sector and palliative care services. Performance reporting for services delivered in community and ambulatory settings remains developmental. A case study in the preventive care field, breast cancer screening, is also included to illustrate the kind of performance monitoring that is emerging for public health activity.

Performance indicators in the hospital sector

Advances in drug treatments and medical technology have led to substantial changes in the hospital sector. Health care delivered in hospitals has become more and more the domain of specialist services that provide a high level of medical and technical care for patients with the most severe conditions. There have also been reductions in the length of stay of patients and a shift towards the provision of care in community settings.

Efficiency and effectiveness

The National Health Ministers' Benchmarking Working Group, which operated under the auspices of the Australian Health Ministers' Conference from 1994 to 1999, has developed a set of indicators to measure the efficiency and effectiveness of hospital performance (Table 6.1, page 322). Data are not currently available to allow a comprehensive report on all these indicators. Data are presented in this section on cost per casemix-adjusted separation, the main indicator of efficiency of hospital operations, on elective surgery waiting times and, to the extent possible with limited data, on quality of care in hospitals and other healthcare delivery settings. Other indicators have been reported by the National Health Ministers' Benchmarking Working Group (DHAC 1999c).

Cost per casemix-adjusted separation

The cost per casemix-adjusted separation can be used to compare the average cost of treating an admitted patient after adjusting for differences in the complexity of case types (i.e. the overall casemix) treated by different hospitals. Table 6.2 (page 322) shows the cost per casemix-adjusted separation for each jurisdiction. In 1997–98, the cost per casemix-adjusted separation for acute hospital care for States and Territories ranged from \$2,354 in Queensland to \$3,623 in the Australian Capital Territory. A major portion of these costs is nursing and medical staff salaries, which nationally accounted for 45% (27% in nursing salaries and 18% in medical salaries) of the cost per casemix-adjusted separation.

In Victoria, psychiatric patients are included in the total separations used to calculate the cost figures in Table 6.2. This follows the mainstreaming of specialised psychiatric care into the public acute hospital system so that, for the period reported, these separations cannot be separately identified. For other States, much of their specialised psychiatric care is in public psychiatric hospitals which are not included in this calculation. Separations and expenditure for rehabilitation and non-acute patients could also not be excluded from the Victorian data. The Victorian Department of Human Services has estimated that the combined effect of these differences is to inflate the cost per casemix-adjusted separation for Victoria by approximately 10%.

Table 6.1: Performance indicators developed for benchmarking in the hospital sector

Category	Indicator
Efficiency	Cost per casemix-adjusted separation
	Cost of treatment per outpatient
	Average length of stay for top twenty Australian National Diagnosis Related Groups (AN-DRGs)
	User cost of capital (per casemix-adjusted separation)
	Ratio of depreciated replacement value to total replacement value
	Total replacement value per casemix-adjusted separation
	Labour costs per casemix-adjusted separation
Effectiveness	Rate of emergency patient readmission within 28 days of separation
	Rate of hospital-acquired infection
	Rate of unplanned return to theatre
	Patient satisfaction
	Proportion of beds accredited by Australian Council on Healthcare Standards
	Waiting times for elective surgery
	Accident and emergency waiting times
	Outpatient waiting times
	Variations in intervention rates
	Separations per 1,000 population

Source: NHMBWG 1996.

Table 6.2: Cost per casemix-adjusted separation (\$), selected public acute hospitals^(a), 1997-98

Cost component	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
Medical labour ^(b)	542	440	376	484	472	453	685	481	471
Non-medical labour ^(c)	1,431	1,384	1,359	1,631	1,237	1,486	1,856	1,858	1,419
Non-salary costs ^(d)	664	638	619	851	749	800	1,082	1,024	685
Total	2,637	2,462	2,354	2,966	2,458	2,739	3,623	3,363	2,575

(a) Excludes psychiatric hospitals, drug and alcohol services, mothercraft hospitals, dental hospitals, hospices, community non-acute hospitals, rehabilitation facilities and multipurpose facilities.

(b) Salaried/sessional staff, payments to Visiting Medical Officers and private patient costs.

(c) Salary costs for nursing, diagnostic/allied health staff, administrative staff, other personal care and domestic staff and superannuation payments.

(d) Non-salary costs for domestic services, repairs/maintenance, medical supplies, drug supplies, food supplies, administration, transport and insurance.

Source: AIHW 1999a.

Elective surgery waiting times

Waiting lists for elective surgery, and the associated waiting times, are often used to evaluate the status of health services within a community, particularly the ability of public hospitals to provide access to their services, i.e. to provide appropriate, affordable and timely care according to need.

The National Elective Surgery Waiting Times Data Collection is maintained by the AIHW (see Box 6.3 for definitions used). The focus of the national collection is waiting times, rather than waiting lists, because, without knowledge of the rate of turnover of

patients on a waiting list, its size is not a reliable indicator of access to the hospital system or of the amount of time that a patient would be likely to have to wait, or to have waited, for surgery. Two summary measures are used:

- the proportion of patients admitted for elective surgery after extended waits on waiting lists (throughput data); and
- the proportion of patients on waiting lists on a particular date who had already had an extended wait (census data).

Waiting times for patients admitted during a certain period of time are generally used as the main summary measure of elective surgery waiting times, although they provide measures of waiting times only for patients who complete their wait and are admitted. Most patients are admitted after waiting, but 10% to 20% of patients are removed from waiting lists for other reasons (e.g. they were admitted as an emergency patient for the awaited procedure; or they were not contactable, had died, had been treated elsewhere, or had declined the surgery). In contrast, census data are collected on all patients on waiting lists, not just those who actually receive elective surgery at the end of their wait.

Box 6.3: Elective surgery waiting times: definitions

National Health Data Dictionary (AIHW 1998b) definitions are the basis of the National Elective Surgery Waiting Times Data Collection, but the definitions used varied slightly among the States and Territories in 1997–98 and compared with previous reporting periods.

Clinical urgency category

The patients waiting for elective surgery are classified according to their clinical urgency into three categories. 'Extended waits' are waits longer than 30 days for clinical urgency category 1, waits longer than 90 days for clinical urgency category 2 and waits longer than 12 months for clinical urgency category 3.

Calculation of waiting times

Waiting times are generally calculated by comparing the date a patient was added to a waiting list with the date the patient was admitted (for throughput data) or the census date (for census data). In 1997–98, there was some variation in the method by which waiting times were calculated by the States and Territories for patients who change clinical urgency category while they are on the waiting list.

Emergency admissions

Most States and Territories provided data separately for patients admitted for the awaited procedure as an elective admission and for patients admitted as an emergency patient for the awaited procedure. In that case, only the data on elective admissions were included, because patients who were admitted as emergency patients for the awaited procedure can no longer be regarded as having 'elective surgery'. However, small numbers of records for emergency admissions were not able to be excluded from the patient-level admissions data for some States and Territories.

National elective surgery waiting times data are for public acute care hospitals. Private hospitals are not included, except for two hospitals in New South Wales that are funded by the New South Wales Health Department to provide services for public patients. Some public patients treated under contract in private hospitals in Victoria are also included.

The most recent data available are for 1997–98 (AIHW 2000b). In that year all public acute care hospitals in New South Wales, the Australian Capital Territory and the Northern Territory were included in the data collection. In other States and Territories, all public hospitals that perform elective surgery were generally included, although data were not collected for some smaller public hospitals.

Table 6.3 shows the proportion of patients admitted for elective surgery during 1997–98 after extended waits on waiting lists (throughput data). Nationally, 11% of patients admitted for elective surgery from the two most urgent groups (clinical urgency categories 1 and 2) had extended waits. In clinical urgency category 3, 4% of patients had extended waits.

Table 6.3: Proportion of patients admitted after extended waits, by State and Territory and clinical urgency, 1997–98 (per cent)

State or Territory	Coverage	Clinical urgency ^(a)			All patients
		Category 1	Category 2	Category 3	
New South Wales	100	14.3	8.5	5.6	9.6
Victoria ^(b)	76	n.a.	n.a.	n.a.	n.a.
Queensland	95	6.4	15.5	0.0	8.3
Western Australia	68	10.0	12.0	9.0	9.9
South Australia	73	8.6	8.9	2.7	5.2
Tasmania	88	15.3	35.3	13.2	20.4
Australian Capital Territory	100	7.7	25.7	10.7	16.9
Northern Territory	100	10.3	19.0	3.7	9.8
Total		11.2	11.2	4.0	8.2

(a) See Box 6.3, page 323.

(b) For the period 1 January to 30 June 1998 only.

Source: AIHW 2000b.

The proportion of patients in clinical urgency category 1 admitted with extended waits varied among the jurisdictions, from 6% in Queensland hospitals to 15% in Tasmanian hospitals. There was more variation in the proportion with extended waits in clinical urgency categories 2 (from 9% to 35%) and 3 (from 0% to 13%). Some of this variation could be due to differences in coverage and use of definitions, or to differences in the types of elective surgery performed in each jurisdiction.

Quality

Frameworks for health sector performance measurement all incorporate quality as an aspect of health care that should be monitored, but there is variation in the way in which it is included. Some frameworks, such as that developed by the National Health Ministers' Benchmarking Working Group for acute care hospitals, have viewed quality as a component of effectiveness, monitored with indicators such as patient satisfaction,

rates of unplanned re-admissions, rates of hospital-acquired infection and the proportion of hospital beds that are accredited. Other frameworks, such as that proposed by Boyce et al. (1997), and frameworks currently under consideration by the National Health Performance Committee to be applicable to the wider health sector, have included quality not as a separate category but as encompassing effectiveness, appropriateness, safety, consumer experience, acceptability, accessibility and equity, continuity, capability and/or other aspects of service delivery.

Considered together, the range of frameworks can be seen to summarise quality as being assessable in two major ways. The first is whether the health service has achieved what was intended, i.e. whether it has been effective in producing a desired outcome. The second is whether it was safe, i.e. whether there were adverse effects or unintended or undesired outcomes resulting from the intervention or the healthcare environment.

Reliable national information on these aspects of the quality of the health services is, however, not readily available. Most data collection and indicator development have focused on clinical care and, in particular, on the acute care hospital setting, with progress in the areas of prevention and population health much more limited. Even within clinical care and hospitals, the availability of information has been limited by difficulties in specifying valid indicators and in generating reliable and consistent data. Because desired and undesired outcomes can be difficult to assess (because they occur a long time after the health service provision, for example), 'process' indicators are sometimes used instead of outcome indicators. Process indicators, which should be able to predict outcomes, are often based on specialist and evidence-based opinion on methods for managing particular conditions, for example, and can be more sensitive to errors or deficiencies in healthcare provision than are outcome indicators.

Desired outcomes

National information on whether health services have achieved desired outcomes is particularly scarce. In the hospital setting, a wide range of clinical indicators (including health outcome indicators and process indicators) are being developed for the Australian Council on Healthcare Standards (ACHS) Evaluation and Quality Improvement Program by the ACHS itself and by medical colleges, associations and special societies. Reports published for the Program summarise data from over 500 healthcare organisations and may provide directions for the development of national health outcome indicators (ACHS 1998).

The evaluation of some population health programs has included assessment of health outcomes, but these outcomes are necessarily influenced by other factors, including other health services, and non-health factors such as socioeconomic status. Nevertheless, national programs such as those for controlling HIV/AIDS, for improving immunisation against measles and for breast cancer screening have been linked with reduced incidence, impact and/or mortality of the diseases that they targeted.

The effectiveness of healthcare services has also been indirectly assessed using process indicators such as the proportion of hospitals that are accredited by the ACHS or other bodies. The proportion of hospitals and hospital beds accredited by the ACHS is the only data available on a national basis for this assessment for hospitals. In 1997–98, 47%

of public hospitals, 49% of private freestanding day hospital facilities and 78% of other private hospitals were accredited. Larger hospitals were more likely to be accredited than smaller hospitals, such that 75% of beds in public hospitals, 52% of beds in private freestanding day hospital facilities and 90% in other private hospitals were accredited. Because accreditation is voluntary, can be relatively costly for small hospitals and can be sought from other bodies, these data provide only indicative information about the quality of care provided in Australian hospitals.

Accreditation measures have also been reported as an indicator related to quality for general practitioners (SCRCSSP 2000). In 1998–99, the proportion of full-time GPs with vocational registration was 91% in 1998–99 and, at end of 1999, almost half of the general practices were accredited with Australian General Practice Accreditation Limited.

Patient perspectives on the quality of health care, gathered through patient satisfaction surveys, can also potentially provide measures of whether health care has produced desired outcomes. These surveys, which have included questions to assess aspects of health care related to effectiveness, safety, accessibility and acceptability, have been conducted on a population basis in some jurisdictions, and for hospital patients in others. Methods and questionnaires used differ among the surveys so the data have not been collated or reported on a national basis. However, State reports indicate high levels of satisfaction with care provided in public acute care hospitals (SCRCSSP 2000).

Undesired outcomes

Information from the patient's perspective has also been used to assess the occurrence of adverse events and other undesired outcomes of health care. Each State and Territory has an independent health complaint body that investigates and conciliates complaints made by consumers about health services, and compiles information about the complaints. In 1996, the National Health Complaints Information Project was established to work towards a national database of health complaint data. It was anticipated that collation and analysis of the national database would lead to information being available to improve health care services. The Project's main focus so far has been on developing the reporting infrastructures and definitions to be used in the national database, with national data yet to be reported.

In the hospital setting, the last large-scale assessment of the occurrence of adverse events was in the Quality in Australian Health Care Study (Wilson et al. 1995), which used information collected in a review of medical records for hospitalisations in New South Wales and South Australia in 1992. Since then, potential hospital-level indicators of undesired outcomes (unplanned re-admission to hospital, unexpected return to operating theatre, and hospital-acquired infections) have been tested for validity and reliability and for the ease of collection of the data required for their measurement. However, a valid relationship between quality of care and the indicators tested could not be demonstrated and the data to measure these outcomes could not be extracted from the databases available of routinely collected data.

The Australian and New Zealand College of Anaesthetists has been compiling and publishing reports on anaesthesia-related mortality in Australia since 1985. In the 1994–96 triennium, there were 135 deaths that were definitely or probably attributable to anaesthesia, or were attributable to anaesthesia in combination with other factors (about

2.6 deaths per million population per year). Of these, 55 deaths (1.0 death per million population per year) were considered to be definitely attributable to anaesthesia. It was estimated that there was 1 death definitely, probably or jointly attributable to anaesthesia for every 63,000 operative or diagnostic procedures performed in Australia in the triennium, with 1 death definitely attributable to anaesthesia for every 150,000 procedures (Davis 1999).

The Australian Incident Monitoring Scheme, run by the Australian Patient Safety Foundation, compiles anonymously reported detailed data on incidents in hospitals and other healthcare facilities, with incidents defined broadly as any event or circumstance which could have harmed or did harm anyone or which could result in a complaint. This type of incident reporting may be a source of national adverse-event data in the future, but reporting is voluntary and, at present, only a minority of hospitals and other facilities report. Some data on the occurrence of adverse events are also collected in the routinely compiled hospital morbidity databases and in the national mortality data. However, the sensitivity and specificity of these data sources for adverse events are probably not high enough for them to be used to routinely measure adverse outcomes.

The development of a national reporting system for errors that result in serious injury and death of patients in the healthcare system has been identified as an area for immediate action by the recently established Australian Council for Safety and Quality in Health Care. The role of the Council, established in 2000 by the Commonwealth, State and Territory Health Ministers, is to lead national efforts to promote systemic improvements in the safety and quality of health care in Australia with a particular focus on minimising the likelihood and effects of error. Its main aims include the development of a national strategy to improve the safety and quality of health care in hospitals and other health settings; the development of a national framework for adverse-event monitoring, management and prevention including incident monitoring and complaints; and effective reporting and measurement of performance, including research and development of clinical and administrative information systems.

Palliative care

Palliative care is 'the active total care of people whose disease is not responsive to curative treatment' (DHFS 1998:2). Most palliative care is provided to patients with cancer, although a significant amount of care is also provided to people with non-malignant diseases such as heart failure, end-stage renal failure and motor neurone disease.

In 1997-98, there were 17,824 hospital separations in Australia where the patient was identified as receiving palliative care. The average length of stay was 13.3 days, and 84% of separations were from public hospitals. Over one-third of palliative care separations were patients aged 75 years or over, and approximately two-thirds of all palliative care separations were patients aged 65 years or over. Males accounted for 54% of the palliative care separations, and 70% of palliative care separations had a principal diagnosis of cancer.

To support the monitoring of the provision of palliative care, all States and Territories are cooperating in the development of a National Minimum Data Set (NMDS) for palliative care.

The NMDS for institutional palliative care will be used to collect data on palliative care patients seen in public and private hospitals and hospices from 1 July 2000. The data set will include demographic, clinical and administrative data on all admitted patients. Patients who do not receive care from specialised palliative care staff, but where the principal clinical intent is palliative, will be separately identified. Much of these data are already collected as part of the National Hospital Morbidity Database, and existing data relating to palliative-care patients has been summarised in *Palliative Care Information Development: Progress Report on the National Minimum Data Set for Palliative Care* (AIHW: Jellie & Shaw 1999).

An NMDS for community palliative care is currently being developed by all States and Territories in collaboration with the AIHW and the Commonwealth Department of Health and Aged Care. This data set will be used to collect information in all services funded by governments which provide home- or community-based palliative care.

These data will be used to underpin the derivation of a suite of national palliative care performance indicators. This information will be used to monitor the current delivery of palliative care and to provide a basis for future policy development relating to this area.

Breast cancer screening

Following a review of international evidence and an evaluation of breast cancer screening in Australia, AHMAC implemented, in 1991, the National Program for the Early Detection of Breast Cancer (now called BreastScreen Australia).

The key aims of BreastScreen Australia are:

- to ensure that the program is implemented in such a way that significant reductions can be achieved in morbidity and mortality attributable to breast cancer;
- to maximise the early detection of breast cancer in the target population;
- to ensure that screening for breast cancer is provided in dedicated, accredited screening and assessment services;
- to ensure equitable access for women aged 50–69 years to breast cancer screening; and
- to ensure that services are acceptable and appropriate to the needs of the eligible population.

Indicators have been developed in areas of participation, detection, sensitivity, incidence and mortality to monitor the performance of the program (AIHW 1998a).

In the two years 1996 and 1997, about 1.25 million Australian women were screened through the program, including just over half of all women in the target group (aged 50–69 years, Table 6.4).

The rate of small cancer detection measures the number of women with small invasive breast cancers of 10 mm or less in size. Early detection of small cancers gives a woman a better chance for a good prognosis, as small tumours have a greater chance of being removed with less extensive surgery, requiring less after-care. The greater the rate of

detection of small cancers, the greater the likelihood of achieving reductions in mortality and morbidity from breast cancer. The small-cancer detection rate for women aged 50–69 years in 1997 was 13.2 cancers per 10,000 women screened (Table 6.4).

Sensitivity refers to the effectiveness of screening mammography and/or the BreastScreen Australia program at detecting the presence of breast cancer in well women. There are two sensitivity measures. The first is the interval cancer rate, which measures the sensitivity of the mammography screening test. The second is program sensitivity, which takes into account the accuracy of the test, the processes of the program and the length of the screening interval. The aim is for an interval cancer rate as low as possible and high program sensitivity (AIHW 2000a).

Incidence is the rate of new cases of breast cancer. After peaking in the mid-1990s, the incidence rate for women aged 50–69 years appears to have declined slightly.

Reducing the death rate from breast cancer is the main objective of BreastScreen Australia. The effect of the program on death rates may not be evident until several years after the introduction of screening. However, the death rate for breast cancer among women aged 50–69 years has fallen slightly in recent years from 65.0 per 100,000 in 1996 to 59.4 per 100,000 women in 1998 (Table 6.4).

Table 6.4: Summary indicators for breast cancer screening, women aged 50–69 years

Indicator	Year	Proportion/rate
Per cent of women screened in 24-month period	1996–1997	52.2
Rate of small diameter (≤ 10 mm) invasive cancers detected (per 10,000 women screened)	1997	14.4
Incidence rate of breast cancer cases (new cases per 100,000 women)	1996	270.2
	1997	281.5
Death rate for breast cancer (per 100,000 women)	1996	65.0
	1997	62.8
	1998	59.4

Source: AIHW 1998a.

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