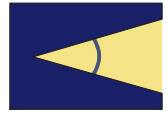


European **Observatory**
on Health Care Systems



Health Care Systems in Transition

Australia



The European Observatory on Health Care Systems is a partnership between the World Health Organization Regional Office for Europe, the Government of Greece, the Government of Norway, the Government of Spain, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

Health Care Systems in Transition

Australia

2001

Written by
Melissa Hilless and Judith Healy

RESEARCH AND KNOWLEDGE FOR HEALTH

By the year 2005, all Member States should have health research, information and communication systems that better support the acquisition, effective utilization, and dissemination of knowledge to support health for all.

Keywords

DELIVERY OF HEALTH CARE
EVALUATION STUDIES
FINANCING, HEALTH
HEALTH CARE REFORM
HEALTH SYSTEM PLANS – organization and administration
AUSTRALIA

©European Observatory on Health Care Systems 2001

This document may be freely reviewed or abstracted, but not for commercial purposes. For rights of reproduction, in part or in whole, application should be made to the Secretariat of the European Observatory on Health Care Systems, WHO Regional Office for Europe, Scherfigsvej 8, DK-2100 Copenhagen Ø, Denmark. The European Observatory on Health Care Systems welcomes such applications.

The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the European Observatory on Health Care Systems or its participating organizations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The names of countries or areas used in this document are those which were obtained at the time the original language edition of the document was prepared.

The views expressed in this document are those of the contributors and do not necessarily represent the decisions or the stated policy of the European Observatory on Health Care Systems or its participating organizations.

European Observatory on Health Care Systems

WHO Regional Office for Europe

Government of Greece

Government of Norway

Government of Spain

European Investment Bank

Open Society Institute

World Bank

London School of Economics and Political Science

London School of Hygiene & Tropical Medicine

Contents

Foreword	v
Acknowledgements	vii
Introduction and historical background	1
Introductory overview	1
Historical background	12
Organizational structure and management	17
Organizational structure of the health care system	17
Planning, regulation and management	27
Decentralization of the health care system	29
Health care financing and expenditure	31
Main system of financing and coverage	31
Health care benefits and rationing	32
Cost containment	34
Private sources of financing	35
Health care expenditure	37
Health care delivery system	45
Primary health care and public health services	45
Public health	49
Secondary and tertiary care	52
Social care	59
Human resources and training	62
Pharmaceuticals and health care technology assessment	69
Financial resource allocation	73
Third-party budget setting and resource allocation	73
Payment of hospitals	74
Payment of health care professionals	78
Health care reforms	79
Aims and objectives	80
Reform implementation	80
Conclusions	89
References	93

Foreword

The Health Care Systems in Transition (HiT) profiles are country-based reports that provide an analytical description of each health care system and of reform initiatives in progress or under development. The HiTs are a key element that underpins the work of the European Observatory on Health Care Systems.

The Observatory is a unique undertaking that brings together WHO Regional Office for Europe, the Governments of Greece, Norway and Spain, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine. This partnership supports and promotes evidence-based health policy-making through comprehensive and rigorous analysis of the dynamics of health care systems in Europe.

The aim of the HiT initiative is to provide relevant comparative information to support policy-makers and analysts in the development of health care systems and reforms in the countries of Europe and beyond. The HiT profiles are building blocks that can be used to:

- learn in detail about different approaches to the financing, organization and delivery of health care services;
- describe accurately the process and content of health care reform programmes and their implementation;
- highlight common challenges and areas that require more in-depth analysis;
- provide a tool for the dissemination of information on health systems and the exchange of experiences of reform strategies between policy-makers and analysts in the different countries of the European Region.

The HiT profiles are produced by country experts in collaboration with the research directors and staff of the European Observatory on Health Care Systems. In order to maximize comparability between countries, a standard template and questionnaire have been used. These provide detailed guidelines

and specific questions, definitions and examples to assist in the process of developing a HiT. Quantitative data on health services are based on a number of different sources in particular the WHO Regional Office for Europe health for all database, Organisation for Economic Cooperation and Development (OECD) Health Data and the World Bank.

Compiling the HiT profiles poses a number of methodological problems. In many countries, there is relatively little information available on the health care system and the impact of reforms. Most of the information in the HiTs is based on material submitted by individual experts in the respective countries, which is externally reviewed by experts in the field. Nonetheless, some statements and judgements may be coloured by personal interpretation. In addition, the absence of a single agreed terminology to cover the wide diversity of systems in the European Region means that variations in understanding and interpretation may occur. A set of common definitions has been developed in an attempt to overcome this, but some discrepancies may persist. These problems are inherent in any attempt to study health care systems on a comparative basis.

The HiT profiles provide a source of descriptive, up-to-date and comparative information on health care systems, which it is hoped will enable policy-makers to learn from key experiences relevant to their own national situation. They also constitute a comprehensive information source on which to base more in-depth comparative analysis of reforms. This series is an ongoing initiative. It is being extended to cover all the countries of Europe and material will be updated at regular intervals, allowing reforms to be monitored in the longer term. HiTs are also available on the Observatory's website at <http://www.observatory.dk>.

Acknowledgements

The Health Care Systems in Transition profile on Australia was written by Melissa Hilless, Australian Department of Health and Aged Care, and by Judith Healy, European Observatory on Health Care Systems. Janet Quigley and Kim Webber of the Australian Department of Health and Aged Care provided further assistance.

The European Observatory on Health Care Systems is grateful to the following reviewers of the report: Professor Tony Andrews and Dr Jim Butler, National Centre for Epidemiology and Population Health, Australian National University; Professor Stephen Duckett, Faculty of Health Sciences, La Trobe University; Assoc. Professor Jane Hall, Centre for Health Economics Research and Evaluation, University of Sydney and John Goss, Australian Institute of Health and Welfare. We are also grateful to the Australian Department of Health and Aged Care for its support and to Bob Eckhardt of the International Section for overseeing the writing of this report.

The current series of Health Care Systems in Transition profiles has been prepared by the research directors and staff of the European Observatory on Health Care Systems.

The European Observatory on Health Care Systems is a partnership between the WHO Regional Office for Europe, the Governments of Greece, Norway and Spain, the European Investment Bank, the Open Society Institute, the World Bank, the London School of Economics and Political Science, and the London School of Hygiene & Tropical Medicine.

The Observatory team working on the HiT profiles is led by Josep Figueras, Head of the Secretariat and the research directors Martin McKee, Elias Mossialos and Richard Saltman. Technical coordination is by Suszy Lessof. The series editors are Reinhard Busse, Anna Dixon, Judith Healy, Laura MacLehose, Ana Rico, Sarah Thomson and Ellie Tragakes.

Administrative support, design and production of the HiTs has been undertaken by a team led by Myriam Andersen and comprising Anna Maresso, Caroline White, Wendy Wisbaum and Shirley and Johannes Frederiksen.

Special thanks are extended to the WHO Regional Office for Europe health for all database from which data on health services were extracted; to the OECD for the data on health services in western Europe, and to the World Bank for the data on health expenditure in central and eastern European countries. Thanks are also due to national statistical offices that have provided national data.

Introduction and historical background

Introductory overview

Australia covers a land area of 7 692 000 km². The mainland spans a distance of 3134 km from north to south, and 3782 km from east to west. Nearly 40% of Australia's land mass lies within the tropics, with Cape York the northernmost point, situated 10 degrees south of the Equator (Fig. 1). The climate thus varies across tropical in the north, temperate in the south and east, and hot and arid in the interior. Australia is the smallest continent but the sixth largest country in the world being, for example, about the size of western Europe or the continental United States (excluding Alaska). The six states and two territories in the federal system of government are, in order of population size (and giving their capitals), New South Wales (Sydney), Victoria (Melbourne), Queensland (Brisbane), Western Australia (Perth), South Australia (Adelaide), Tasmania (Hobart), the Australian Capital Territory (Canberra) and the Northern Territory (Darwin). The national capital is Canberra and the two largest cities are Sydney and Melbourne.

Australia's geography and population demographics present challenges for its health care system. Four factors are highlighted here: population growth, ageing, cultural diversity and urbanisation.

Australia's population has increased from about four million in 1900 to nearly 19 million by 2000 (18 851 157 in 1999, see Table 1). Population growth in Australia was high in the 1950s and 1960s, about 2.7% growth per year, but slowed to around 1.5% per year in the 1990s (Australian Bureau of Statistics 1999d). The population is expected (medium variant projections) to increase by 22% between 2000 and 2025, a much higher growth rate than European Union countries, but similar to Canada and the United States (United Nations Population Division 1998).

Fig. 1. Map of Australia¹

Source: www.odci.gov/cia/publications/factbook.

Australia is still a young country in population terms with fewer elderly people than many other developed countries. Those aged 65 years and over comprised 12.1% of the population in 2000 but their number is projected to more than double by 2025 (United Nations Population Division 1998), rising to 6 million or 24% of the population by 2051 (Australian Bureau of Statistics 1999c). The working population aged 20–64 years in future will support

¹ The maps presented in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the European Observatory on Health Care Systems or its partners concerning the legal status of any country, territory, city or area or of its authorities or concerning the delimitations of its frontiers or boundaries.

increasing numbers of older people but fewer children. In 1995, the dependency ratio was 0.7 dependants for every one worker (Table 1). Australia has a higher proportion of its population aged less than 15 years (21.5% in 1999) than many developed countries. The total fertility rate (children per woman aged 15–49 years) has declined to 1.7 in 1999, and the crude birth rate has declined from 22.4 per 1000 population in 1960 to 13.3 in 1999.

Table 1. Demographic indicators, 1960–1999

	1960	1970	1980	1990	1995	1998	1999
Population	10.3	12.5	14.7	17.0	18.0	18.7	18.9
% over 65 years	8.5	8.4	9.6	11.1	11.7	–	12.2
% aged under 15 years	30.1	28.8	25.3	21.9	21.5	–	–
Total fertility rate	3.45	2.86	1.90	1.91	1.82	–	1.7
Dependency ratio	0.9	0.9	0.8	0.7	0.7	–	–
Life expectancy at birth (females)	73.9	74.2	78.1	80.1	80.8	81.5	–
Life expectancy at birth (males)	67.9	67.4	71.0	73.9	75.0	75.9	–
Crude birth rate (per 1000 population)	22.4	20.6	15.3	15.2	14.2	–	13.3
Crude death rate (per 1000 population)	10.9	11.2	8.9	7.2	6.5	–	6.8
Infant mortality rate (deaths per 1000 live births)	20.2	17.9	10.7	8.2	5.7	5.0	5.0

Source: Australian Institute of Health and Welfare 2000; OECD 2000.

Migration has been a key factor in population growth. The population is culturally diverse. Almost one in four Australians were born overseas, more than half of these in a non-English-speaking country, while 40% either were born overseas or had a parent born overseas (Australian Bureau of Statistics 2000). In the late 1990s, 91% of the population was of European descent, 7% Asian, and 2% Aboriginal or other. In the 1990s, the largest groups of permanent migrants came from New Zealand followed by Vietnam and China. Immigration largely has determined the composition of the population and currently contributes between one-third to one-half of annual population growth (Australian Institute of Health and Welfare 1998a). Britain and Ireland have been the largest sources of migrants since the 1950s, followed by Italy, Greece, New Zealand and the former Yugoslavia. The successive waves of migrants mean that the age structure and health needs of these population sub-groups differ. European settlement, dating from 1788, displaced and destroyed many of the indigenous population. People of Aboriginal and Torres Strait Island descent (although they have increased numerically in the last few decades) number less than 2% of the Australian population (Australian Bureau of Statistics 1999). Australia's indigenous people experience much poorer health across a range of health indicators than the rest of the population (as discussed later).

The population is highly urbanized, with the majority (64%) living in the major urban cities, along the fertile east and southeast coast of the continent,

and in smaller inland regional centres. Most of the continent is uninhabited or sparsely settled. There are considerable differences in health status and health service access and use between rural and urban populations, although socioeconomic factors must also be taken into account (Mathers 1994; Australian Institute of Health and Welfare 1998c; Glover *et al.* 1999). A current policy concern is to ensure that people in rural and remote areas obtain better access to health care services.

Health status

Australia's population enjoys good health relative to other countries, with increasing life expectancy and a low incidence of life-threatening infectious disease. Such good health largely is taken for granted in line with the long-standing Australian image of itself as 'a lucky country'. In the 1995 National Health Survey, 83% of Australians aged 15 or over reported their overall health as excellent, very good or good (Australian Bureau of Statistics 1997). Average life expectancy for men (76 years) and women (82 years) is high, with women living approximately six years longer than men (Australian Institute of Health and Welfare 2000).

Australia collects detailed data on mortality and morbidity and causes of death are systematically recorded. Morbidity trends are traced partly through the National Health Survey, a regular five-yearly household survey conducted by the Australian Bureau of Statistics, which obtains national information on a range of health-related issues. Regular surveys also are conducted on disability. These show that age-standardized rates for severe handicap generally have remained stable over the last four surveys, although there are some increases at the less severe end of the disability spectrum (Australian Bureau of Statistics 1999a). These trends are the subject of many debates.

In terms of disability adjusted life expectancy (DALE), Australia ranks in second place (after Japan) out of 191 countries (World Health Organization 2000). In 1998, males at birth could expect to live for 63.3 years without experiencing major disability and women could expect to live for 57.5 disability-free years (OECD 2000).

The main improvements in life expectancy over the last few decades have occurred through reduced death rates among older age groups, especially from diseases of the circulatory system, plus a downturn in cardiovascular death rates among older men. As in developed countries generally, most deaths in Australia occur among people aged 70 years and over (69%) and most deaths are due to noncommunicable disease.

Over 70% of the burden of disease (premature mortality in terms of years of life lost) can be attributed to cardiovascular disease, cancers and injury (Australian Institute of Health and Welfare 2000:51). The seven major causes of death, in terms of disease categories, are ischaemic heart disease, cerebrovascular disease (stroke), lung cancer, colorectal cancer, breast cancer, prostate cancer, and chronic obstructive pulmonary disease. There are also marked age and sex differences in causes of death. The following summary is drawn mainly from *International Health: How Australia Compares* (Australian Institute of Health and Welfare 1998a) and from *Australia's Health 2000* (Australian Institute of Health and Welfare 2000).

Diseases of the circulatory system, such as heart attack and stroke, are the major causes of death in Australia (Table 2). Cardiovascular disease accounts for 40% of deaths. The mortality rate from ischaemic heart disease has been declining since the late 1960s, however, especially among males, down from a peak of 503 male deaths per 100 000 in 1966 to 201 in 1995 (OECD 2000). Cerebrovascular disease (stroke) has also declined steadily since the late 1960s, reflecting better blood pressure management through anti-hypertensive drugs, and behavioural changes in response to health promotion messages, such as reductions in smoking.

Smoking is the main risk factor in several diseases, including diseases of the circulatory system (a two-fold increase in risk compared to non-smokers for heart disease), the respiratory system, and cancer (a five-fold increase in risk for lung cancer). Tobacco is the single biggest contributor to the burden of disease. Smoking in males has been falling since the 1970s, whereas the prevalence of female smokers has increased, which trends now are being reflected in mortality rates.

Cancers (malignant neoplasms) account for approximately 186 deaths per 100 000 population. As in other developed countries, lung, breast, colorectal and prostate cancers are major causes of death. The lung cancer mortality rate among men peaked in the early 1980s but is still rising among women. Breast cancer is the most common cause of cancer deaths among women but the rate is declining. Colorectal cancer rates have been falling, attributed to a combination of factors such as improved diet, earlier diagnosis and better clinical management. Prostate cancer rates, a major cause of death among older men, rose in the early 1990s but have declined since. Australia previously recorded the highest death rates for skin cancer (mostly melanomas) in the world. Exposure to sunlight is directly related to the risk of skin cancer, with the incidence higher among fair-skinned people and in those with higher sun exposure.

Diseases of the respiratory system account for 63 deaths per 100 000 population, with chronic obstructive pulmonary disease the leading cause of death in this category. Deaths among males for bronchitis, emphysema-related conditions and other chronic airway obstructions (not including asthma) have decreased, but remain static among females, again attributed to earlier changes in smoking rates.

External causes of death, such as injury and poisoning, are the leading causes of death among young adults, although the population rate is highest in old age. Death rates from injury and poisoning have been declining in recent decades in Australia as in most developed countries. Suicide, especially among males, has emerged as a major mental health issue. Morbidity and mortality associated with mental disorders also have increased.

Table 2. Causes of death per 100 000 population, 1960–1995

	1960	1970	1980	1990	1995
All causes	1092	1121	888	720	653
Diseases of circulatory system	624	637	466	323	267
Malignant neoplasms	161	178	189	188	182
Diseases of respiratory system	71.0	91.0	61.5	53.2	47.8
External causes injury & poison	72.0	77.0	58.8	44.9	37.6
Mental disorders	4.0	7.0	7.6	12.1	15.5
Diseases of nervous system	11.0	10.0	10.2	13.5	15.1
Diseases of digestive system	34.0	26.0	29.9	24.8	20.1
Endocrine/metabolic diseases	23.0	24.0	17.2	19.1	21.3
Genitourinary system diseases	28.0	21.0	13.9	11.3	10.3
Infectious/ parasitic diseases	10.0	8.0	4.2	4.9	5.6
Diseases of the blood	3.4	3.0	2.9	2.8	1.8

Source: OECD 2000.

Note: Australian statistics after 1995 so far are not listed on the OECD database.

Communicable diseases were responsible for many deaths and much illness in Australia in earlier centuries, but as in other developed countries, are not now major causes of mortality. Australia has active public health surveillance and immunisation programmes (discussed later under ‘Public health’). By 1996, communicable disease (using ICD codes covering infectious and parasitic diseases together with meningitis, influenza and pneumonia) accounted for only 2.8% of all deaths compared to 18% in 1921 (Australian Institute of Health and Welfare 1998b:116). Despite major reductions in mortality, however, communicable diseases still cause considerable morbidity, since some diseases have returned and new diseases have emerged. As in other countries, HIV/AIDS has received considerable health policy attention since the early 1980s and is addressed by a nationally coordinated program. Australia ranks in the

middle of developed countries with 352 AIDS cases per million population, the risk factors in Australia being associated almost entirely with male-to-male sexual activity. The annual number of HIV diagnoses peaked at 2500 in 1985 and declined to 660 in 1998, while AIDS diagnoses peaked in 1994 and then have declined as have AIDS deaths (Australian Institute of Health and Welfare 2000:113).

Blood-borne diseases remain a cause for concern, including the various forms of hepatitis, with the incidence of hepatitis B infections falling but hepatitis C rising. Gastrointestinal infections generally have continued to rise and are under-reported. The incidence of sexually transmitted diseases such as syphilis has declined but other infections such as chlamydia and gonorrhoea have continued to rise (Australian Institute of Health and Welfare 2000:30). Vaccine-preventable diseases remain at low levels. For example, the WHO Western Pacific area, including Australia, was declared polio-free in October 2000. Vector-borne diseases are receiving more attention, such as Ross River virus and encephalitis, although Australia is malaria-free except for cases in returning travellers. Tuberculosis rates are very low except among some recent migrant groups and among Indigenous Australians.

Australia has identified six national health priority areas for special attention: cardiovascular disease, cancers, injuries, mental problems, diabetes and asthma (Australian Institute of Health and Welfare 1998a:55), as discussed later under "Health for all policy".

Low family income is generally linked to poor health, although the risk factors affecting health inequalities are complex (Australian Institute of Health and Welfare 2000:218). The groups that have been identified at risk of poverty include sole parent families, very large families, the homeless and unemployed, and Aboriginal and Torres Strait Islander people.

Aboriginal and Torres Strait Islander health status

Australia's Aboriginal and Torres Strait Islander people experience much worse health across a range of measures although the precise extent of the health disadvantage is hard to measure, partly because indigenous people are not fully identified in the census or in routine health data collections. The general picture, however, is closer to a third-world health profile compared to the good health measures for the rest of the population (Australian Bureau of Statistics 1999; Australian Bureau of Statistics and Australian Institute of Health and Welfare 1999; Australian Institute of Health and Welfare 2000; Australian Institute of Health and Welfare 2001). Life expectancy and age-specific mortality rates are much worse than for the general population. For example, life expectancy

at birth for indigenous men is 56 years and for women 63 years, compared to the Australian average of 76 years for men and 82 years for women. Indigenous people thus live 15–20 years less than the rest of the Australian population. Mortality rates are higher in all age groups but particularly in infancy and in later life. Infant mortality rates in some states are 2–4 times higher than the national average. Most ‘excess’ deaths relative to other Australians were due to circulatory diseases (including ischaemic heart disease), respiratory diseases (such as pneumonia), injuries (such as road accidents) and endocrine diseases (such as diabetes). Although the majority of Australia’s indigenous people now live in cities and towns, they account for a high proportion of the population in some rural and remote areas: access to appropriate health services therefore is an important issue (Glover *et al.* 1999).

Economy

Australia is a prosperous country with a well-established capitalist mixed economy. Per capita GDP is higher than in European Union member states (controlling for purchasing power parity). GDP per capita in 1999 in Australia was PPP US \$25 141 (Table 3) compared to, for example, PPP US \$23 456 in Germany (the most prosperous EU member state). Australia, like other OECD countries, experienced low economic growth and high unemployment in the early 1990s but the economy expanded in the late 1990s. The GNP growth rate in fiscal year 1998–1999 was 3.8% (World Bank 2000), while real GDP grew by 4.5%, despite the east Asian currency and banking crises of 1997. The robustness of domestic demand during the Asian economic crisis was an important factor in assisting the Australian economy to overcome the negative impacts of the crisis.

Australia with its abundant natural resources is a major exporter of agricultural products, minerals, metals, and fossil fuels. A downturn in world commodity prices, however, has a large negative impact on the economy. Government economic policy for the last few decades has aimed to reduce the traditional reliance upon the export of primary products and to increase the export of manufactured products and services while diversifying the economy and strengthening the domestic market. Macroeconomic reforms since the 1980s have opened Australia to international competition.

Although Australia suffered from the low growth and high unemployment experienced by most OECD countries in the early 1990s, the economy has expanded at a steady rate in recent years. By mid-1999 the current expansion of the economy had entered its ninth year, making this the longest upswing since the 1960s. The average growth rate of the economy over the last 30 years

has been 3.5%, which compares favourably to average growth in OECD countries (OECD 2000a). A mix of macroeconomic and structural policies are credited with bringing inflation under control in recent years, which included reducing public sector borrowing and promoting increased productivity growth. The effects of the new goods and services tax (GST) introduced in July 2000 upon inflation are as yet unknown. The coalition government (Liberal and National) from the mid-1990s embarked on a programme of fiscal consolidation to reduce the budget deficit (although not high compared to other developed countries), which included containing government spending. Unemployment has been reduced from over 9% to 7%. Further, there are considerable regional variations in economic activity and unemployment with rural areas of particular concern.

Table 3. Economic indicators, 1960–1999

	1960	1970	1980	1990	1995	1998	1999
GDP per capita (US \$PPP)	2 041	3 955	9 434	16 744	21 795	23 998	25 141
GDP per capita (AUS \$ 1995 prices)	–	–	21 321	24 417	28 116	30 838	31 766
GDP price index (1995=100)	–	–	46.5	95.3	100	102.7	103.7
Real GDP	–	–	–	4.9	1.5	0.3	–
Gross public debt, % GDP	–	–	–	22.4	40.9	37.5	–
Average weekly earnings, all employees (1997=100)	–	–	–	80.2	92.8	101.3	–
Unemployment rate (among labour force) (b)	1.4	1.4	5.9	7.0	9.7	8.0	–

Source: OECD 2000.

Government and politics

Australia has a three-tier political system. The first tier is the national government or Commonwealth, the next tier is the six state and two territory governments, and the third is local government (municipal and shire councils). A defining feature of the Australian federal system is the degree of cooperation required between levels of government. The critical division for the health care system is that the Commonwealth collects most taxes but the states administer or deliver most public services; in other words, fiscal and functional responsibilities are divided. The term ‘vertical fiscal imbalance’ refers to the disparity between the taxing capacity and the revenue needs of the two tiers of government. The Commonwealth distributes revenue to the states and territories via revenue sharing and specific purpose grants. Intergovernmental relations involve ongoing negotiations both over funding and respective functional responsibilities. Further, the division of intergovernmental responsibilities is not permanently

fixed: the Commonwealth has assumed considerably more responsibility for health and social services since federation in 1901.

After 1788 and the arrival of Governor Phillip in Botany Bay with shiploads of convicts and their guards, six colonies gradually were established around Australia. The widely-separated colonies functioned under a limited form of self-government under the British crown until 1901, when the Australian Constitution established a federal system of government, with the six former colonies becoming states within the Commonwealth of Australia.

The national (Commonwealth) parliament was established under the 1901 Constitution. Each of the states and territories (mainly referred to as states for convenience in this report) also has its own parliament. The Commonwealth and state governments all operate on the Westminster system, whereby the political party or coalition with the majority of elected members in the Lower House of Parliament forms the government. (All, except Queensland, the Northern Territory and the Australian Capital Territory, have two legislative chambers). Voting is compulsory (except in local government elections) making Australian citizens arguably the most active voters in the world. Given the relatively short political cycles (generally three years), each year is an election year in one or other of the Australian states or nationally.

The Commonwealth of Australia is governed under the doctrine of separation of legislative, executive and judicial powers. Legislative power is vested in the bicameral parliament, which consists of the Senate (the Upper House of Parliament) and the House of Representatives (the Lower House). Members of the House of Representatives from approximately equal-sized electorates (one person, one vote) are elected for three-year terms. The party, or coalition of parties, with the majority of seats in the House of Representatives forms the government and provides the Prime Minister. Ministers with executive powers are drawn from these elected members from either the Lower or Upper House.

The Senate has 76 members, 12 are elected from each of the six states, and two for each of the territories. Senators are elected for six-year terms. Historically, the Senate is regarded as a chamber of review, which safeguards against hasty action or legislative excess by the Lower House. It is also regarded as ‘the States’ House’ since the Senate has equal representation from all states regardless of their population.

The Constitution gives legislative powers to the six state and two territory governments to make laws for peace, order and good government within their territorial limits. State and territory governments also are referred to as having ‘residual’ powers; that is, they have powers in all areas not specifically referred to as Commonwealth powers under the Constitution.

The executive power is vested in the monarch (the Queen) and is exercisable by the Governor-General as the Queen's representative. The question as to whether Australia should remain a titular monarchy or become a republic remains controversial. In a referendum in 1999, the Australian electorate voted no to a republican model, which would allow a two-thirds majority of Federal Parliament to elect an Australian head of state (President). The High Court of Australia, the Federal Court of Australia, and State Courts exercise judicial powers.

Two major and two minor political parties dominate Australian politics. The Liberal and National Parties form the Federal coalition government under Prime Minister John Howard. The last elections for the House of Representatives and half of the Senate were held in November 2001

The Liberal Party, the main conservative party, was founded in 1944 and represents political views ranging from the centre to the conservative right. The party's principles are based on individual initiative and free enterprise, lean government, and competition. The Liberal Party in November 2001 was elected to its third consecutive term of office as part of a Coalition government (being elected to its first term in 1996).

The National Party (the coalition partner) originally was established as the Country Party in the early 1900s. The party has conservative views and believes in the maximum development of private enterprise, is concerned with issues faced by rural Australians, and promotes family values and national security. The Liberal and National parties (and their predecessors) first formed a coalition government in 1923 and have a long history as allies in opposition to labour governments.

The Australian Labor Party (ALP) has been in opposition since 1996, which concluded five consecutive terms in office (1982–1996) under Prime Ministers Robert Hawke and then Paul Keating. A democratic socialist party, the ALP is Australia's oldest national political party, founded in 1901 as the political arm of the trade union movement. The party represents political views from the centre to the left. Its principles are based on promotion of social equality, economic security, protection of individual rights and support for minority rights.

The Australian Democrats were founded in 1977 as an independent 'reformist' party. The Democrats pursue an issue-driven agenda, which distinguishes them from the other parties who traditionally are linked with powerful interest groups. They support participatory democracy and open government, which is reflected in their formulation of policy and election of office bearers. Democrat priorities include sustainable development, the protection of the environment, civil liberty and social justice. The party is

opposed to privatization and deregulation and supports a role for government in assisting the disadvantaged through education, welfare support and poverty reduction. Although not currently represented in the House of Representatives, the Democrats have exercised a significant influence in the Senate since 1980, including holding the balance of power for some periods. This minor party thus often wields considerable power over the passage of Commonwealth legislation.

Intergovernmental relations on social programmes have varied with political swings over the last few decades (Healy 1998). The hallmarks of the Commonwealth government in the Labor years of Prime Minister Whitlam (1972–1975) were increased central intervention, competitive federalism (some overlapping functions) between the Commonwealth and the states, the pursuit of national goals, increased social expenditure and more use of tied grants to the states. The Fraser Liberal government (1975–1981) pursued coordinated federalism with the states (separate functions), devolved social responsibilities, reined back public sector spending, and reinstated more revenue sharing. The Hawke Labor government (1982–1991) increased funds for social programmes, sought cooperative federalism, and consolidated social programmes into cost-sharing arrangements with the states. The Keating Labor government (1991–1996) was more centralist but engaged in microeconomic reform and in joint reviews of intergovernmental areas. The Howard Liberal government has sought to achieve a more equitable distribution of revenue to the states and territories, better-targeted social expenditures and an increased role for the private sector in activities traditionally undertaken by government.

Historical background

The colonial governments subsidized hospitals to cater for the needs of the poor, while during the nineteenth century, public hospitals mainly were charitable institutions in which doctors provided care on an honorary basis. Private hospitals (run by religious organizations or private entrepreneurs) emerged to cater for more affluent patients, while community-based medical care by doctors was provided on a fee-for-service basis.

The 1901 Constitution regarded health care as the responsibility of the states and granted powers to the Federal Government only on quarantine matters in order to prevent diseases entering Australia. The Commonwealth played a minor role in the health field over the next four decades apart from some public health and professional functions (Kewley 1973). The need for a public health coordination role for the Commonwealth only became evident during the

influenza outbreak around 1918 and, accordingly, the Commonwealth Department of Health was established with the agreement of the states in 1921. The Commonwealth also became involved in health research via the Federal Health Council that was established in 1926 to provide expert professional advice, and was expanded in 1937 to become the National Health and Medical Research Council.

Until the mid-twentieth century, individuals had to pay for their own health care services, apart from some free treatment in public and charitable hospitals, and except for those who took out insurance in sickness funds. From the late nineteenth century to the mid-1940s, the friendly society movement was a driving force behind the health care system. These funds offered members a range of benefits including unemployment benefits and sick pay, and through negotiated capitation payments, purchased medical services from doctors on behalf of members.

Post-war welfare state

The Commonwealth began to play a significant role in health matters only after the Second World War (Kewley 1973). This was a continuation of the stronger role the national government had assumed during the war years, as well as fulfilling its mandate to build a country 'fit for heroes', and in line with international developments in post-war 'welfare states'. First, under the Commonwealth's defence power, a Repatriation Commission was established to care for returned soldiers. Doctors were paid to treat returned servicemen and women, and Commonwealth repatriation hospitals in each state offered comprehensive health care. Second, the Labor government again tried to establish a national health care system and again partially failed. Third, broader Commonwealth powers in health and social care (such as the payment of pensions) were achieved in a constitutional amendment that eventually led to an unforeseen and much expanded role for the Commonwealth.

The Labor government (1941–1949) made repeated efforts to radically reform the health care system. These proposals met strong resistance from doctors, conservative political parties, and the voluntary insurance funds, foreshadowing continuing contests for the rest of the century and beyond among political and medical stakeholders (Sax 1984). A national health insurance proposal had failed in 1938, and the next proposal, free medicines, was introduced in the short-lived *1945 Pharmaceuticals Benefits Act*. This act, seen as the first step towards 'socialized medicine', was challenged by the Australian Medical Association in the High Court of Australia, which found that the parliament had exceeded its constitutional power.

The Government then successfully put the issue to the voters in a referendum. In 1946 the Constitution was amended (Section 51, xxiiiia) to enable the Commonwealth to make laws with respect to a wide range of pensions and benefits. These were ‘the provision of maternity allowances, widows pensions, child endowment, unemployment, pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students and family allowances’. The Commonwealth introduced subsidized pharmaceuticals in its second attempt at legislation, the *1950 Pharmaceutical Benefits Act*, which legislation remains largely unchanged.

The 1946 constitutional amendment prohibited any form of civil conscription, thus medical practitioners essentially are self-employed and cannot be compelled to work for the government, and nor can they be made to provide medical services for a prescribed fee. No agreement was arrived at, as in the United Kingdom, whereby general practitioners became ‘independent contractors’ under a National Health Service. The resistance by the Australian medical profession to any government control, and their support for a fee-for-service payment system, have been key ideological themes in health policy debates.

Under the *Hospital Benefits Act 1946* the Commonwealth entered into agreements with the states to subsidise public hospital beds on condition that there was no charge for patients in public wards, the intention being to reduce financial barriers to hospital access by patients. This has remained the basis of subsequent hospital financing agreements between the Commonwealth and the states. The states continue to administer their hospital sectors, which are characterised by a mix of public and private funding and provision.

The Liberal Coalition government under Prime Minister Menzies and his successors (1949–1972) introduced the *National Health Act 1953*, which consolidated the four main pillars of the Australian post-war health care system: the pharmaceuticals benefits scheme, the hospital benefits scheme (Commonwealth funding for state hospitals), pensioner medical services enacted in 1951 (which subsidized health care for pensioners), and the medical benefits scheme (which subsidized medical costs for members of non-profit health insurance schemes). The *National Health Act 1953* remains in force although with many amendments.

National health insurance

The Labor government under Prime Minister Whitlam (1972–1975) resumed the Chifley Government’s efforts to introduce a national health insurance scheme. Medibank met with strong opposition from the medical profession,

private health insurers and opposition political parties, and was rejected by the Senate in 1973 and 1974. The scheme aimed to provide universal health insurance, administered by a Commonwealth authority, and funded entirely from taxation. The legislation was not passed until after dissolution of both Houses of Parliament, an election in which health was a major issue, and a special sitting of both Houses of Parliament to gain agreement on this and other problematic legislation. Medibank finally was introduced in 1975 and the Health Insurance Commission established to administer the scheme. Patients could be billed the schedule fee for a medical service and claim 85% back from the Health Insurance Commission, or doctors could bill the Health Insurance Commission directly for their patients ('bulk billing') and accept 85% of the schedule fee as full payment. In relation to hospital care, the Commonwealth government negotiated relatively generous hospital cost-sharing arrangements with the states, provided that patients were guaranteed universal and free access to public hospitals (Duckett 1998).

The Liberal Coalition government (1975–1982) made a series of changes to Medibank. The Liberal Party, in its election promises, undertook to maintain Medibank but also supported private health insurance. The most important changes were that individuals could opt out of Medibank and purchase private health insurance, while a levy of 2.5% of taxable income was introduced for those people who chose to remain in the scheme. By 1981, a significant proportion of the population was effectively uninsured in relation to hospital treatment. Public funding for health care, principally for public hospitals, continued to be negotiated periodically between the Commonwealth and the states.

The Hawke and Keating Labor governments (1983–1996) re-established a universal, tax-funded health insurance system, Medicare, which remains in place today. The initial 1% mandatory levy on income was raised to 1.5%. The national health insurance system has bipartisan political support since the current Liberal government supports Medicare. Medicare thus provides the entire population with subsidized access to the doctor of their choice for out-of-hospital care, free public hospital care, and subsidized pharmaceuticals. Although private insurance remains voluntary, the Commonwealth now offers financial incentives for people to take out private cover (as explained under *Private sources of finance*).

Economic rationalism

International health care reforms from the late 1980s were characterized by efforts to contain rising health costs, by concerns with structural efficiency, by

attempts to promote the private sector, and by new forms of public sector management. In Australia, such strategies, dubbed economic rationalism (Pusey 1991), to varying extents were adopted with bipartisan enthusiasm by Commonwealth and state governments. At the national level, for example, the National Competition Policy from 1995 has extended competitive conduct rules to all businesses including Government business enterprises, and the Productivity Commission, an independent statutory body, advises governments on aspects of microeconomic reform. Health sector reform (as part of wider public sector reform) concentrated during the 1990s upon microeconomic reform and upon efforts to improve technical and allocative efficiency. Australia undertook these reforms in a series of incremental changes, given the many checks and balances in the Australian political system, rather than in the ‘big bang’ approach favoured in New Zealand in the early 1990s (Bloom 2000).

Some commentators have identified phases in the health sector reform in OECD countries (Ham 1998; Davis 1999). These include an early focus on hospital payment systems and management; the introduction of market-like mechanisms and budgetary incentives; the separation of purchasers and providers; a focus on micro-efficiency; and more emphasis upon customer relations. These were all key themes in health sector reform in Australia over the last decade. The aims were to contain costs, shift the public/private balance, and achieve greater efficiency and effectiveness. Australia additionally engaged in ongoing debates over functional overlap and fiscal imbalances, which are features of federal forms of government.

This section has presented an historical overview of the Australian health care system. The next sections go on to describe recent developments in the health care system.

Organizational structure and management

Organizational structure of the health care system

Australia has a complex health care system with many types of services and many providers, and a range of funding and regulatory mechanisms. Both the public and private sectors fund and provide health care and all levels of government are involved. The Commonwealth funds rather than provides health services, funding the bulk of the health system, and subsidizing pharmaceuticals and aged residential care. The six state and two territory governments, with Commonwealth financial assistance, primarily are responsible for funding and administering public hospitals, mental health services, and community health services, as well as for regulating health workers. Private practitioners provide most community-based medical and dental treatment; there is a large private hospital sector and a large private insurance sector. The main points are that, first, the pluralist health care field involves many stakeholders; second, there is considerable overlap between Commonwealth and state governments; and third, there is a substantial private sector.

A key principle underlying Australia's health system is universal access to most health care regardless of ability to pay. Revenue for the health care system comes mainly from taxation. Health services are funded through two national subsidy schemes, Medicare and the Pharmaceutical Benefits Scheme, while public hospitals and public health are funded partly through joint Commonwealth and State funding agreements. Thus primary medical care is funded primarily through national health insurance, with mixed funding arrangements for secondary and tertiary health care and public health programmes. Primary medical care is provided mostly by private practitioners, hospital care by both

public and private hospitals, and most long-term care by the private and voluntary sectors.

Fig. 2 shows the main organizations involved in the health sector. The health care field, with its plethora of stakeholders, has become increasingly complex. Further, the boundary line between levels of government is blurred, as is the boundary line between public and private sectors, with corporatist organisations (such as statutory authorities) set up partly to bridge such divisions. The main bodies and their functions are discussed in turn in the following sections.

Federal level

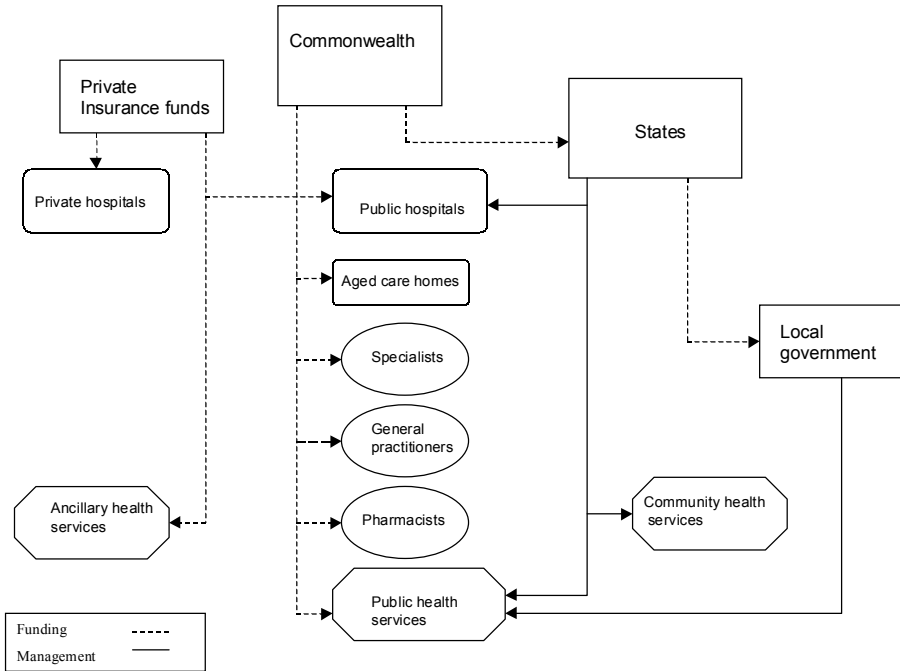
The Commonwealth has assumed a leadership role in health policy-making and financing given its constitutional mandate as well as its ‘power of the purse’. The amendment to Section 51 (xxiii) of the Constitution has been interpreted broadly in relation to health. Also, Section 81 allows the Commonwealth to allocate funds ‘for the purposes of the Commonwealth’ under the appropriate legislation. In addition, Section 96 allows the Commonwealth to make grants to the States for specific purposes. Since the Constitution does not strictly prescribe the roles of each level of government in relation to health care, some degree of overlap exists. Continual changes in intergovernmental relations mean that ‘dynamic tension’ between the Commonwealth and the states is a characteristic feature of the Australian health care system.

The Commonwealth funds and administers the Medicare Benefits Schedule (payments to practitioners), the Pharmaceutical Benefits Schedule (subsidized drug purchases), and the Australian Health Care Agreements (formerly known as the Medicare Agreements that contribute funds to the states to run public hospitals). The Commonwealth makes Goods and Services (GST) Revenue Grants for general budget revenue to the states and territories, makes direct grants to nongovernment organizations for health services, and has negotiated Public Health Outcome Funding Agreements with the states to ensure that certain public health activities are undertaken.

Two Ministers of Parliament are appointed to the Health and Aged Care portfolio. The Minister for Health and Aged Care takes an overview role for the whole portfolio, while the Minister for Aged Care is responsible for aged care and hearing services. Each state and territory also has a minister responsible for the health portfolio in its government.

The *Department of Health and Aged Care* is the principal national agency in the health care field (www.health.gov.au). As well as national policy and funding, the department is concerned with public health, research and information management. It has been renamed several times over the last decade

Fig. 2. Organizational chart of health care system



or so, with functions shifted between departments; for example, aged and community care and Aboriginal health were moved into the Department of Health and Aged Care. In addition to the Canberra head office, a Commonwealth office is located in each state and territory. Nine portfolio outcomes currently are pursued in conjunction with other agencies: population health and safety, access to Medicare, enhanced quality of life for older Australians, quality health care, rural health services, hearing services, Aboriginal and Torres Strait Islander health, choice through private health care, and health investment. The department (in 2000) consisted of several divisions: portfolio strategies, corporate services, population health, health access and financing, health services, therapeutic goods administration, aged and community care, health industry and investment, the Office for Aboriginal and Torres Strait Islander Health, and the Office of the National Health and Medical Research Council.

The Office for Aboriginal and Torres Strait Islander Health (www.health.gov.au/hfs/oatsih) funds special programmes for Indigenous Australians and funds community-controlled health services to deliver additional primary health care.

The National Health and Medical Research Council (NHMRC) is the Australian government's main funding body for health and medical research (www.health.gov.au/hfs/nhmrc). In addition to providing advice to the government on health, health ethics and medical research, and administering research funds, the NHMRC also publishes guidelines and information relating to health ethics and health care. The Council comprises nominees of government, professional associations, unions, universities, and business and consumer groups.

A number of organizations play an important role in the development of health policy, including government departments, statutory authorities and other interested groups. Several other federal-level bodies with direct or indirect involvement with healthcare are listed below.

The Health Insurance Commission is a Commonwealth statutory authority established in 1974 to administer the government universal health insurance scheme (www.hic.gov.au). It processes and pays claims and benefits, and records relevant data on the Medicare and the Pharmaceutical Benefits Scheme. It also prevents and detects fraud and inappropriate servicing. The Commission operates a global consultancy service that provides advice on health, health insurance, large-scale claims processing systems and related matters. In 1997 Medibank Private, a registered private health insurance fund previously administered by the Commission, separated to become an independent government business enterprise.

The Australian and New Zealand Food Authority (ANZFA) is a partnership between the Commonwealth and state governments and the New Zealand government (www.hic.gov.au). ANZFA is responsible for developing, varying and reviewing standards for food available in Australia and New Zealand, and for other functions including coordinating national food surveillance and recall systems, conducting research, assessing policies about imported food, and developing codes of practice with industry.

The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) has responsibility for protecting the health and safety of people and the environment from the harmful effects of ionising and non-ionizing radiation (www.arpansa.gov.au).

The Department of Veterans' Affairs pays compensation and income support, and funds hospital services, allied health and counselling and community support programmes for war veterans, widows and their dependants (www.dva.gov.au). The Commonwealth ran a parallel health system for veterans but over the last decade has moved from being a provider to a purchaser of health care (Lyon 2000). Although the number of veterans is falling, their increasing age means that they need more health care. The department's twelve large repatriation hospitals (some dating from the 1920s) have been transferred to the states (six

hospitals), closed or privatized over the last decade. The department now has contracts with over 40 000 healthcare providers.

The *Department of Family and Children's Services* was created in late 1998 bringing together income support (previously the Department of Social Security) and a range of community services into a single department. It also provides income support as well as other services for people with a significant disability (www.facs.gov.au). Disability services are discussed later under *Social care*.

The *Australian Bureau of Statistics* undertakes the five-yearly census of the Australian population as well as surveys of health and health services, while many of its other surveys provide health data. ABS publishes regular reports on many aspects of Australian society and the economy (www.abs.gov.au).

The *Australian Institute of Health and Welfare* (AIHW) is an independent statistics and research agency within the health portfolio (www.aihw.gov.au). Government agencies transmit selected data to AIHW that is incorporated into national data sets. AIHW publishes a large number of regular and occasional reports (some of which are cited in this report) and provides information and analyses on the health and welfare of Australians and their health and welfare services.

The *Australian Health Ministers' Conference* of Commonwealth and state and territory Ministers is an annual forum intended to promote a coordinated national approach to health policy development and implementation. The associated Australian Health Ministers' Advisory Council consists of senior Commonwealth, state and territory health officials, who consider health matters referred by the Conference or any of the health ministers and report on these matters to the annual meeting.

The *Council of Australian Governments* (COAG), set up in the early 1990s, coordinates the activities of Commonwealth, state and territory governments at the highest level. It deals with broad policy on the operations of governments and also their regulation of the private sector. It was set up in response to tensions in intergovernmental relations and respective functional responsibilities in the federal system, being particularly concerned with overlaps and duplication.

State level

The six State and two Territory governments (hereafter mainly referred to as States) both fund and provide health care services. The health portfolio is important in state government administration in political and fiscal terms, typically accounting for around one third of state recurrent budgets. The states are essentially autonomous in administering health services.

The tradition of ‘federalism’ in Australia means that the health care field has developed somewhat differently in each state, with variations in policies, organizational structures, per capita expenditure, resource distribution and utilization rates. Arguably, health service structures and patterns in the states and territories are converging, given the common pressures for cost containment and quality control.

State health departments undertake policy-making, budgeting and financial control, plan, set standards of performance, undertake programme and budget reviews, negotiate industrial and personnel matters, undertake major capital works and administer public hospitals. Other state health-related services include mental health services; dental health services; child, adolescent and family health services; women’s health programmes; health promotion; rehabilitation services; home and community care; and the regulation, inspection, licensing and monitoring of premises and personnel.

The state health administrations have been renamed and reorganized many times, as departments or commissions, while some have amalgamated with welfare departments (with human services or family services being popular labels). Each of these health administrations is identified below as well as some distinctive characteristics.

The Australian Capital Territory (ACT) was granted self-government in 1988 and the ACT Department of Health, Housing and Community Care administers these services for the residents of Canberra and its surrounding territory (www.health.act.gov.au).

Territory Health Services administer health services for people across the vast geographic area of the Northern Territory (www.nt.gov.au/nths). Of particular note are Aboriginal health services, remote area services and community care centres. The latter house a range of health and welfare services: primary health care, visiting health professionals, public health programmes such as immunization, and domiciliary and community care services.

The NSW Health Department decentralized delivery in the mid-1980s and currently has nine metropolitan and eight rural health service boards (www.health.nsw.gov.au). ‘Its mission is to enable the people of NSW to have the best health in the world by providing public health services and prevention and promotion programmes, and by licensing private sector agencies’. The department’s strategic health plan for 2000–2005 sets out four key goals: healthier people, fairer access, quality health care and better value. The department has a strong emphasis upon population health and upon allocative efficiency, with health funds distributed partly on a population-based formula to area health boards (Stoelwinder and Viney 2000).

Queensland Health has decentralized health delivery to 38 health service districts (www.health.qld.gov.au). Its strategic plan emphasises prevention, health promotion and early intervention; evidence-based clinical practice; partnership with all health care providers (including private sector and non-government bodies); and managing the public health risks to Queenslanders. This department has implemented various microeconomic reforms over the last decade.

The South Australian Department of Human Services has amalgamated health and welfare services in one department (www.health.sa.gov.au). The socially inclusive categories on its Healthy SA website include Aboriginal health, babies and children, disability, environmental health, families, gay and lesbian health conditions, healthy living, men, mental health, multicultural health, older people, public health, women, workplace health and youth. During the 1990s, the Liberal government has restructured many public sector health services to undertake more a purchaser role.

The Department of Health and Human Services in Tasmania accounts for nearly 30% of the state government budget and is one of the state's largest employers (www.dchs.tas.gov.au). Tasmania thus illustrates 'the significance of the states' in public administration and also the importance of the health portfolio in state politics and administration.

The Department of Human Services in Victoria was the result of merging health and welfare services into one department in 1996 (www.dhs.vic.gov.au). This state was the most committed during the 1990s to strengthening efficiency incentives for hospitals through casemix funding (Stoelwinder and Viney 2000). This department takes 40% of the state budget and hence has considerable political and fiscal importance. The department has become a purchaser rather than provider of health services over the last decade, and purchasing health care from public hospitals currently takes half the department's budget. The department is divided into the following divisions: policy, development and planning; resources; acute health; public health; aged, community and mental health; community care; disability services; rural health; youth and family; and the Office of Housing.

The Health Department of Western Australia, one of the state's largest departments, takes one third of the state budget (www.health.gov.au). The state delivers health services to a sparse but diverse population across huge distances. The friendly rivalry between the States is illustrated by the Western Australian claim that it 'enjoys the lowest mortality rate of any Australian State'.

Local government

Local government consists of nearly 700 municipal or shire councils, which vary considerably in geographic and population size as well as revenue capacity. Local government has no independent constitutional status and has been described as ‘a creature of the states’. Local government is characterized as being responsible for the four Rs (roads, rates, rubbish and recreation) and has fewer functions than in the United States federal system or in a unitary system such as Britain. Local governments are responsible for some public health services and for public health surveillance, but not for clinical medical services. They undertake local environmental health activities such as collecting rubbish and monitoring food standards; for example, local government health surveyors undertake surveillance of environmental hygiene and sanitation practices to ensure compliance with state and territory public health laws. Local governments also are involved in disease prevention such as immunization programmes, and support maternal and child health screening centres, and some also undertake health promotion activities. Statutory authorities may be responsible, across several local government areas, for the quality of piped water and for sewage disposal and drainage, for waste disposal, and for regulating air quality. The role of local government varies across the states; for example, Victorian local government is the most active in health and welfare services including community services for older people.

Private sector

The private sector plays a major role in providing and to a lesser extent in funding health services. In the late 1990s, private sector funding accounted for approximately one third of all health expenditure, including private health insurance expenditure (10%) and out-of-pocket payments by individuals (16%) (Australian Institute of Health and Welfare 2001a). The main private sector players in the health care field are outlined below.

Physicians

The majority of physicians in Australia are engaged in private practice, which is notable since the medical profession is the core institution of a modern health care system (Scotton 1998). Private general practitioners provide most primary care, and private medical specialists provide most ambulatory secondary health care, while many senior public hospital specialists also run private consulting practices. Private medical practice is regulated through Medicare and through statutory and professional codes of conduct. The extent of regulation and

monitoring, however, remains a contentious issue. Private physicians are key stakeholders, therefore, and over the years have considerably influenced health care policies.

Private hospitals

Private hospitals are significant players in the hospital field. In 1998, 30% of acute care hospitals were private, providing 30% of the bed stock (Australian Institute of Health and Welfare 2000:266). The number of private hospitals grew after the introduction of Medicare in 1984, remained fairly constant in terms of hospitals and beds in the first half of the 1990s, but in the late 1990s, more private hospitals have been built, as discussed later under *Hospitals*. Private hospitals (317 hospitals with around 50–100 beds) are smaller than public hospitals and generally deal with a more limited range of cases. The growth of larger corporate players has given the private hospital sector greater negotiating power. Ownership now is more concentrated with over two thirds of all private hospital beds owned by four large for-profit chains and the Catholic Church: Mayne Health (over 50 hospitals), Ramsay Health Care, Benchmark, and Healthscope. Most stays in private hospitals are paid with private insurance making the private hospital sector and the private health insurance industry highly interdependent.

Diagnostic services

The diagnostic services industry expanded considerably during the 1990s with the expansion of pathology services and diagnostic imaging, and in 1997/1998 had a turnover of more than \$1.3 billion. Corporatization increased during the 1990s with mergers between companies (Foley 2000).

Private health insurance

Private health insurance is a significant component of the Australian health care system. The proportion of the population covered by health insurance, however, decreased from 50% in 1984 (when Medicare was introduced) to 32% in 1997 (Australian Institute of Health and Welfare 1998b:176). The current Commonwealth policy is to shore up private health insurance membership. As at 30 June 1998 there were 44 registered health benefits organizations of which 28 were open to the public and 16 were restricted membership organizations (Private Health Insurance Administration Council 1998). The largest three funds cover nearly two thirds of the market: Medibank Private (which separated from the Health Insurance Commission in 1997 to become a government business enterprise), Medical Benefits Fund of Australia, and National Mutual Health

Insurance (Owens 1998). The private health insurance industry is heavily regulated, principally under the regulatory framework set out in the *National Health Act 1953* and the *Health Insurance Act 1973*, and is administered by a statutory authority, the Private Health Insurance Administration Council. A private insurance fund must be a Registered Health Benefit Organisation and their activities are tightly controlled; for example, insurers must accept all applicants and must not discriminate in setting premiums and paying benefits (known as community rating). Private insurance is discussed further under *Voluntary private health insurance*.

Professional associations, unions and consumer groups

The numerous associations and consumer groups that influence policy-making at federal and state level, are represented on many statutory authorities and policy committees, make submissions to inquiries, are involved in certification of professionals, and in quality assurance through training programmes. The main groups have peak bodies at the national level. Some examples of professional associations include the Royal Australasian College of Surgeons, the Royal Australian College of Medical Administrators and the Royal College of Nursing, while broader professional and advocacy groups include the Public Health Association.

The *Australian Medical Association* (AMA) is an important actor in the policy process. Membership is voluntary with about 40% of all practising physicians being members at 30 May 2001. The AMA supports fee-for-service payments, patient choice of doctor, and the primacy of the doctor-patient relationship. The resistance to government intrusion into medical practice led the profession to oppose national insurance and subsidized medicines in the 1940s and to oppose universal compulsory health insurance in the 1970s (Sax 1984). Physicians have swung from opponents to supporters of national health insurance, however, and from critics to collaborators in many government health programmes. The government always consults the medical profession on matters that may affect clinical practice and the medical workforce.

Nurse associations are well organized in Australia, the peak body being the *Australian Nursing Federation* (ANF). Australian nurses buried their Florence Nightingale image in the 1980s when they went on strike to secure a better career structure (Gardner and McCoppin 1989).

Consumer groups are numerous in the health care field, and are active in research, prevention and treatment and in policy advocacy, such as through the Australian Consumers' Association and Consumers' Health Forum. Consumers

groups are most active in relation to chronic illnesses (such as the Stroke, Heart and Diabetes Foundations), HIV/AIDS, and reproductive rights. The consumer movement has changed the terminology used in the health sector, preferring the terms ‘consumer’ or ‘user’ rather than the more passive ‘patient’. The consumer movement has helped bring about significant changes in attitudes on the part of health providers, who now are expected to improve patient/customer relations, conduct patient satisfaction surveys, draw up patient ‘bill of rights’ or charters, and set up informal and formal grievance procedures.

Planning, regulation and management

Governments exert considerable leverage over the health system in that they fund over 70% of total health expenditure. The Commonwealth government is a major funder, (48% of total health expenditure) (Australian Institute of Health and Welfare 2001a), policy-maker, planner and regulator, with many regulatory powers set out in legislation. The Commonwealth is responsible specifically for the safety and quality of drugs and therapeutic goods, and for public and private health insurance, and has implemented a series of national health strategies.

In the pluralist Australian health system, and given the division of powers and responsibilities within the federal system of government, the ability of any one sector to plan and regulate is limited. Most major policies require agreement between the Commonwealth and the States. Over the last few decades, therefore, increasing use has been made of intergovernmental programmes, such as the Australian Health Care Agreements and the National Health Priority Areas. In addition, the Australian Health Ministers’ Conference provides an annual mechanism for agreeing upon collaborative action.

The state and territory health departments all produce regular strategic plans for their health services. State governments administer much of the health care system, particularly public hospitals and public health. They also license private hospitals, although the extent of regulation varies considerably, with the more market-oriented governments preferring lighter regulation. The states also are responsible for registering and regulating health professionals (discussed below).

Despite the winding back of regulatory controls in other areas of the economy during the 1990s, the health sector remains heavily regulated. Some of the main planning and regulatory mechanisms are outlined below.

Commonwealth funding agreements

The Commonwealth funds four key health areas: medical benefits, pharmaceutical benefits, public hospitals and aged care. The Commonwealth has some influence over private general practitioners and ambulatory care specialists deriving from its payments to physicians under the Medicare Benefits Schedule. This sets out the schedule fee for a range of services for which the Commonwealth will pay medical benefits. The Commonwealth Pharmaceuticals Benefits Scheme gives it considerable power over the pharmaceutical industry and consumer patterns, as discussed under *Pharmaceuticals and health care technology assessment*. The Australian Health Care Agreements are negotiated every five years, whereby the Commonwealth provides prospective block grants to the States for public hospitals.

Accreditation

Hospital accreditation is offered by the Australian Council on Health Care Standards (www.medeserv.com.au), established as an autonomous body in 1974, which also advises health facilities on quality assurance procedures. Accreditation is voluntary, being awarded for 1–5 years depending upon how well the criteria are met. Only about 40% of hospitals are accredited (and 740 organizations in total) although this includes most large public hospitals (Australian Institute of Health and Welfare 1998b:210). There are financial incentives to seek accreditation since private insurers pay higher reimbursement rates to accredited facilities. Hospitals seeking accreditation must, as well as meeting other criteria, show that they undertake clinical review procedures. As with hospital accreditation in other countries, standards now are set for quality outcomes not just for physical facilities. The states license private hospitals under their legislative arrangements.

Professional accreditation is the responsibility of statutory registration boards in each State. The various pieces of legislation cover general practitioners, medical specialists and most allied health professionals, as discussed under *Human resources and training*.

Performance measurement and management

The measurement and assessment of health sector performance is carried out by several national bodies, such as the Australian Institute of Health and Welfare, the National Health Performance Committee and the Australian Council on Health Care Standards. In addition, many Commonwealth and state programmes include performance and outcomes indicators, and most government

departments use programme budgeting systems and performance indicators. Considerable progress has been made in Australia in developing performance indicators but, as in other OECD countries, the measurement of health outcomes remains much more difficult (Hurst and Jee-Hughes 2000).

Most public hospitals (apart from in New South Wales) are self-managed autonomous organizations. Many hospitals have ‘re-engineered’ patient management and have implemented quality assurance programmes including ‘continuous quality improvement’ (CQI) and ‘total quality management’ (TQM). Considerable effort has gone into efforts to improve the technical efficiency of hospitals, as discussed under *Payment of hospitals*. Management thus has concentrated upon micro-economic reforms, with so far less attention to setting standards for clinical practice or outcomes, a controversial area that is closely guarded by clinicians.

Decentralization of the health care system

The health care system in Australia is decentralized and pluralist. The states administer and deliver many health services (principally public health and public hospital services), while local government has only limited health care functions. In the Australian federal system, the states ceded some powers to the national government at Federation in 1901, and the Commonwealth (as already explained) has continued to expand its policy, funding and regulatory roles in the health care field.

State health departments in the 1980s decentralized to regional health administrations, which have been retained in New South Wales, but largely abolished in other states who found these an expensive layer of mini-head offices. Those States covering huge areas with dispersed populations, however, such as Queensland and Western Australia, administer health services through large numbers of district offices.

The management of public hospitals mostly was devolved from state health departments to autonomous hospital boards in the mid-1980s, but arrangements vary between the states and territories. For example, in New South Wales, Area Health Service Boards are responsible for health services across a geographic area that typically includes more than one hospital.

The Australia health care system includes a large private sector. Privatization has advanced over the last decade but this covers a range of strategies, ranging from selling public facilities to private providers, to delivering public services in a more ‘business-like’ fashion. The policy thrust in most states has

been to change the mix of public–private responsibilities by reducing the role of government in service delivery and by increasing reliance on the nongovernment and private sectors. Outsourcing is common whereby non-core services (such as laundering, catering, cleaning and pathology services) are contracted out to the private sector, or in some cases the entire management of publicly funded hospitals. A small number of public hospitals have been sold to private owners (such as some Veterans’ Affairs hospitals). Governments also have promoted private sector competition in health service areas that previously operated as public sector monopolies; an example is the corporatization of the Australian Hearing Services (Australian Department of Health and Aged Care 1999).

Health care financing and expenditure

Main system of financing and coverage

Australia has a mainly tax-funded health care system financed through general taxation and compulsory tax-based health insurance. In 1999–2000 71% of total revenue came from public sources, mainly from taxation (Table 4). The Commonwealth collects the bulk of revenue, being empowered under the constitution to collect income taxes. The states, and to a minor extent local governments, are responsible for the bulk of outlays. The balance between public and private sector sources of funds has changed substantially since 1960 when nearly 50% of health funds came from the private sector. Apart from recent policy initiatives intended to increase the private insurance share, there is no move to radically change the sources of health sector revenue. The ongoing debate concerns three types of questions: how much money should be raised; how should contributions be shared; and what methods should be used to obtain contributions (Hindle and Perkins 2000).

The universal health insurance system, Medicare, is financed mainly through general taxation. There is a health levy upon individual taxpayers (the Medicare levy), which is equivalent to 1.5% of taxable income above certain income thresholds, or 2.5% for higher income earners with no private health insurance. In recent years, revenue raised by the Medicare levy has been equal to about 20% of total Commonwealth health expenditure and about 8.5% of total national health expenditure (Australian Bureau of Statistics 2000).

From 1 July 2000, Australia implemented a new tax system that abolished many current taxes and replaced them with a 10% goods and services tax (GST). The states and territories now receive all GST revenue to assist them in providing essential services including health care.

Table 4. Main sources of health finance (%), current prices, 1979–1980 to 1999–2000

Source of finance	1980	1985	1990	1995	1998	2000
Public						
Taxes (incl. statutory insurance)	60.6	72.0	68.3	66.7	68.9	71.2
Private						
Out-of-pocket	17.0	15.5	16.5	18.0	17.0	16.2
Private insurance	18.5	9.5	11.6	11.5	9.8	7.1
Other	3.6	3.0	3.5	3.8	4.3	5.5

Sources: Australian Institute of Health and Welfare 1999 and selected years; Australian Institute of Health and Welfare 2001a.

Note: Figures are for recurrent expenditure only, and end of financial year, e.g. 1999–2000.

Health care benefits and rationing

Medical treatment is largely free and its use largely unlimited. Treatment in public hospitals is free to the user, treatment by general practitioners and specialists is free (if the doctor is prepared to bulk-bill), while essential pharmaceuticals are subsidized. Medical service subsidies are limited to those items listed on the Medical Benefits Schedules and pharmaceutical subsidies for items on the Pharmaceutical Benefits Schedule. Pensioners are entitled to substantial concessions or to free treatment. There is no limit upon the amount of medical services that an individual may use. Health care benefits are not rationed and there is little public debate on whether or how to ration services. Public hospital services, however, in effect are prioritized (arguably a form of rationing) through waiting lists.

Medicare Benefits Schedule

Medicare is available to people who reside in Australia, who hold Australian citizenship, have been issued with a permanent visa, or hold New Zealand citizenship. The Commonwealth government has also signed reciprocal health care agreements with other countries (namely, Finland, Italy, Malta, the Netherlands, New Zealand, Sweden, the United Kingdom and the Republic of Ireland). Under these arrangements, residents of these countries have restricted access to health cover while visiting Australia.

The Medical Services Advisory Committee makes recommendations to the Minister of Health as to which new medical services and technologies should be included on the Medicare Benefits Schedule, using an evidence-based approach. The Medicare Benefits Schedule sets out a schedule fee for medical services for which the Commonwealth government will pay medical benefits.

Items covered by Medicare include consultation fees for doctors and specialists, radiology and pathology tests, eye tests by optometrists, and surgical and therapeutic procedures performed by doctors. The majority of Medicare expenditure is for general practice services, pathology and diagnostic imaging tests, and specialist consultations. Medicare does not cover dental treatment, ambulance services, home nursing, physiotherapy, occupational therapy, speech therapy, chiropractic and podiatry services, treatment by psychologists, visual and hearing aids and prostheses, medical services that are not clinically necessary, or cosmetic surgery. Physicians thus have secured a virtual monopoly over public sector payments for medical services and associated tests.

Medicare offers a rebate of 85% of the schedule fee for out-of-hospital medical services, and a rebate of 75% of the schedule fee for medical services provided to private patients in public or private hospitals. Where a person or family's gap payments (the difference between the Medicare rebate and the schedule fee) exceed a certain amount in a year, all further benefits in that year are paid up to 100% of the schedule fee. Doctors may choose to charge no more than the schedule fee, in which case Medicare will pay the benefit directly to the doctor (nearly 80% of services are bulk-billed). Doctors are entitled, however, to charge more than the schedule fee, in which case their patients must pay the gap between the schedule fee and the Medicare benefit. Bulk billing is more prevalent for general practitioner services, with most consumers facing out-of-pocket costs for visits to private specialists.

Individuals eligible for Medicare can elect to have free accommodation and medical, nursing and other care as public patients in State-funded hospitals. (Outpatient treatment is free of charge in public hospitals.) Alternatively, they may choose treatment as private patients in public or private hospitals, with some assistance from Medicare. Under Medicare, treatment is free of charge in a public hospital as a public patient by doctors and specialists nominated by the hospital. Treatment as a private patient in a public or private hospital allows a choice of doctor. For private patients in private hospitals, Medicare will meet 75% of the schedule fee for medical services with part or all of the balance being claimable from private health insurers, subject to the doctors having a contract with the insurer. The costs of hospital accommodation are not reimbursable by Medicare when treated as a private patient, but may be claimed through private health insurance.

Pharmaceutical Benefits Scheme

The Pharmaceutical Benefits Scheme (PBS) subsidizes the purchase of pharmaceuticals on its approved list for two groups: general beneficiaries, and concessional beneficiaries (holders of pensioner and other entitlement cards).

A generic drug is dispensed and consumers must pay more if they want a premium brand. About three quarters of prescriptions dispensed through community pharmacies qualify for PBS benefits (Australian Institute of Health and Welfare 1998b:225). The PBS sets the cost of pharmaceuticals for consumers (indexed to movements in the Cost Price Index). General consumers make a co-payment of the first AUS \$21.90 on each prescription, and concessional consumers a co-payment of AUS \$3.50 per prescription (as at January 2000). The scheme also includes a patient/family safety net to limit their annual expenses on pharmaceuticals covered under the PBS. After reaching the threshold (currently AUS \$669.70 in a calendar year for general consumers, AUS \$182 for concessional beneficiaries), general consumers pay for further prescriptions at the concessional co-payment rate, while concession cardholders receive all further prescriptions free.

Health services for indigenous people

Commonwealth and state governments also fund alternative services for indigenous people in order to offer more accessible and responsive services and to empower local communities: thus community-controlled agencies offer primary health care in some areas. Physicians working for indigenous agencies generally bulk-bill Medicare plus the agencies receive money for special programmes. The Commonwealth funds community-based services through the Office for Aboriginal and Torres Strait Islander Health, which in 1998–1999 provided AUS \$141 million for services from 210 primary service sites and 64 secondary sites including outreach services (Australian Institute of Health and Welfare 2000:269). According to an analysis of health expenditure in 1995–1996, about AUS \$2320, per capita, was spent on health services to indigenous people, compared with AUS \$2163 for services to non-indigenous people (Deeble et al. 1998). However, this difference in expenditure (8%) is much smaller than the difference in many health status measures (Mooney 1998: 218; Australian Institute of Health and Welfare 2000) .

Cost containment

Cost containment has been a major concern of both Commonwealth and state health policy-makers in recent decades given rising health expenditures (although costs are comparable to other industrialized countries). Expenditure on the health care system has continued to grow in Australia but at a slower rate during the 1990s. Since the late 1980s, many European Union governments have introduced cost containment measures with some success (Mossialos and

Le Grand 1999). Three of the main areas where cost containment strategies have been applied in Australia are medical and pharmaceutical benefits, hospital casemix funding, and price/volume agreements with providers.

The Pharmaceuticals Benefit Scheme has kept drug prices low by world standards, although the cost of the scheme to government has continued to grow as consumption has increased and since the Commonwealth does not cap total PBS expenditure (Salkeld et al. 1998). Co-payments have been increased progressively as a demand-side cost containment strategy. The co-payment strategy is intended to deter inappropriate use by patients and raise revenue, although the counter argument is that co-payments are relatively ineffective and generally only deter the poor and the sick (Scotton 1998:87). Co-payments also apply to medical services where patients visit doctors who do not bulk bill. Patients make a 15% gap payment to a general practitioner between the schedule fee and the Medicare rebate unless the doctor bulk-bills Medicare, and also pay charges if above the schedule fee. In 1991, the government introduced a AUS \$2.50 co-payment for general practitioner services but this was quickly dropped after a public outcry. There are no fiscal incentives for physicians to limit treatments or prescriptions.

With hospital funding, the Commonwealth caps its expenditure for a 5-year period, while the States have sought cost-efficiencies through negotiated prospective budgets and casemix funding. Casemix funding is a key cost containment strategy as discussed under *Payment of hospitals*.

Price/volume agreements have been reached with pathologists and radiologists. Fee adjustments include a new schedule of fees and remove the right of pathologists to claim Medicare benefits for tests they order themselves. Supplier restrictions were applied by reducing the number of collection centres for pathology. An episode cap was introduced whereby Medicare benefits are paid only for the three most expensive tests ordered per episode. The Commonwealth now has capped total expenditure at an agreed growth rate in three-year agreements with the Royal College of Pathologists and also with the Royal College of Radiologists. These cover an average growth rate of 6% for pathology tests while diagnostic tests are capped at 7% in the first year and 6% and 5% in the following years respectively (Australian Department of Health and Aged Care 1999a).

Private sources of financing

Out-of-pocket payments and private insurance mainly account for about one third of revenue for the health care system (Table 4).

Out-of-pocket payments

Out-of-pocket payments accounted for 17% of total health expenditure in 1998 and this proportion has ranged between 15–19% over the last two decades. The main consumer payments are for pharmaceuticals not covered under the Pharmaceutical Benefits Scheme, dental treatment, the gap between the Medicare benefit and the schedule fee charged by physicians (up to 25%), payments to other health care professionals and co-payments for pharmaceuticals.

Voluntary private health insurance

Members of private health insurance funds can insure against the costs of treatment and accommodation as private patients in hospitals, the gap between the Medicare benefit and fees charged for inpatients, and for ancillary services. Legislation, since 1995, has allowed insurance funds to contract with hospitals and individual practitioners, although this was opposed by the medical profession who saw it as a threat to their freedom to set fees (Foley 2000).

Primary medical care provided by doctors is not covered by private insurance. Since the introduction of Medicare in 1984, private health insurance funds are not permitted to cover the cost of out-of-hospital medical services provided by medical practitioners, including any gap between the actual fee charged and the rebate from the Health Insurance Commission (which constitutes a consumer co-payment). However, the cost of some ancillary items not available under Medicare are covered to some extent by private health insurance funds such as dental and optical services (such as glasses and contact lenses), physiotherapy, chiropractic and appliances, and for prescribed medicines not covered by the Pharmaceutical Benefits Scheme.

The proportion of total health expenditure funded through private health insurance has fallen since the introduction of Medicare in 1984, from nearly 17% of total health expenditure to just over 11%. The drop in membership (from one half to one third of the population) prompted the government to set up an inquiry in 1996 into the private health insurance sector (Industry Commission 1997). The inquiry attributed the rise in insurance premiums to ‘adverse selection’, since the privately insured population tend to be older and use more health services, and to increasing hospitals costs.

The Commonwealth has initiated a number of measures aimed at halting falling membership and ensuring the long-term viability of the private insurance sector. Although private insurance remains voluntary, the Commonwealth offers financial incentives for people to take out private health cover. First, commencing in July 1997, individuals with a taxable income of up to AUS \$35 000 per year

(AUS \$70 000 for families) received a subsidy for private health insurance, while an additional 1% Medicare surcharge was levied upon individuals with a taxable income of over AUS \$50 000 (AUS \$100 000 for families) who do not have private insurance. Second, from January 1999, a non-means tested 30% tax rebate was offered to those taking out private health insurance, this rebate (replacing the previous subsidies). Third, from July 2000, under lifetime health cover, private health funds charge higher premiums for individuals over 30 years of age who have not maintained continuous membership of a private health fund. The premium increases by 2% each year of age in excess of 30 years until an individual has joined. Individuals with hospital cover at 15 July 2000, or who join in future before they turn 31 years of age, will qualify automatically for the lowest premium as long as they retain membership. The tax penalty for the higher income groups without private health insurance has been retained since its introduction in July 1997.

With the introduction of these measures, private health insurance levels have increased significantly, from 30.1% of the population in December 1998, to 45.1% in March 2001. The age profile of people with private health insurance has also improved, with the proportion of people with private health insurance under the age of 65 increasing from 85.9% to 89.2% between March 2000 and March 2001 (Private Health Insurance Administration Council). If younger and healthier individuals take out and maintain private health insurance the risk profile of members overall will be improved, which should result in lower premiums. This initiative will also deter short-term members who make high claims. This should overcome incentives for adverse selection, while retaining the important principle that premiums will not vary according to health risk.

Currently, private health funds can share the hospital and medical costs of high-risk members who are admitted to hospital. The government has been reviewing these arrangements. The intentions are to introduce incentives for health funds to manage these costs; to encourage the use of cheaper out-of-hospital care where appropriate; to more fairly reflect the costs of high-risk group; and to encourage insurers to protect members from unexpected out-of-pocket charges.

Other forms of private sector funding for health care also incorporate workers' compensation and compulsory third party motor vehicle insurance.

Health care expenditure

Australia now spends 8.5% of its GDP on health. Expenditure on health care in Australia increased steadily over the period 1970–2000 (Table 5), with an

average 2.8% annual rate of growth in real per person expenditure from 1989–1990 to 1999–2000. Although the rate slowed somewhat in the 1990s, health expenditure per person has continued to increase.

Health expenditure in Australia in the 1960s was relatively low as a percentage of GDP compared to comparable OECD countries, but increased from the 1970s (Australian Department of Health and Aged Care 1999a). Wealthy countries tend to devote a larger proportion of their GDP to health, and in Australia the size of the health sector has grown more than proportionately to GDP (Butler 1998:44). Australia at 8.5% of GDP is about average compared to other OECD countries (Fig. 3), while the United States with 13.6% has by far the most expensive health care system. Most OECD countries showed a growth trend throughout the 1970s and 1980s with some flattening in the 1990s (Fig. 4) when cost containment measures began to take effect (Anderson 1998; Mossialos and Le Grand 1999).

Table 5. Trends in health care expenditure, 1970–2000

	1970	1975	1980	1985	1990	1995	1997	2000
Value in current prices (AUS \$ million)	1 992	5 719	10 224	18 586	31 270	41 783	47 030	53 657
Value in constant prices 1990 (AUS \$ million)	9 947	15 119	16 822	20 638	31 270	38 432	42 150	–
Annual growth per person, constant prices, %	–	–	–	4.3	0.7	3.8	–	1.9
Share of GDP (%)	4.8	7.2	7.0	7.4	7.9	8.2	8.4	8.5
Value in current prices, per capita (US \$PPP)	207	438	663	998	1320	1 778	1 909	–
Public share of total health care expenditure (%)	56.7	72.8	62.9	71.7	67.7	67.7	69.1	71.2

Source: Australian Institute of Health and Welfare 2000:234; Australian Institute of Health and Welfare 2001a.

Note: Dates are end of financial year, e.g. 1999–2000.

Expenditure per capita in terms of purchasing power parity was US PPP \$1909 in 1997, which puts Australia in the mid-range among OECD countries (see Fig. 5). Australia's per capita expenditure on health is in line with the predicted level given its per capita income (Butler 1998:23).

Australia maintains a predominantly publicly funded health care system with over 70% spent by the public sector. The public share of total health expenditure jumped in 1975 with the introduction of Medibank to 72.8% from the 1970 share of 56.7%, declined in the late 1970s as a result of the dismantling of Medibank, increased after the introduction of Medicare in 1984, and increased after the introduction of subsidies for private health insurance in 1997. The public sector proportion of total expenditure is somewhat lower in Australia

than in other OECD countries. For example, the OECD average in 1995 was 76.5%; the United Kingdom with its National Health Service spent 84% in the public sector, compared to only 46% in the United States with its large private health sector (OECD 2000). Publicly funded health care systems have been better able to contain costs, while guaranteeing universal insurance cover, compared to more privatized systems (Mossialos and Le Grand 1999). For example, Germany with its health insurance funds has the most expensive of the publicly funded health care systems, with health expenditure taking 10.6% of GDP in 1998 (Fig. 3).

Dips and peaks in respective shares reflect changes in fiscal arrangements between the Commonwealth and the states depending partly upon the political party in power. The Commonwealth share of health services expenditure is 48% (Table 6) which share dropped during the early 1990s but was restored from 1993–1994 under the Australian Health Care Agreement that increased funding to the states for public hospitals (Australian Institute of Health and Welfare 1998b:165).

There are considerable differences between the states in spending patterns and growth rates (Table 7). The Northern Territory spent the most per person and Queensland the least, while Victoria, South Australia and the Australian Capital Territory all reduced their health expenditure in the mid-1990s. The reductions mainly reflect cost containment on public hospitals, as discussed later under *Hospitals*.

Table 6. Government and nongovernment expenditure as a proportion of total health services expenditure, 1985–1986 to 1999–2000 (current prices, per cent)

	1985–1986	1990–1991	1995–1996	1999–2000
Commonwealth	46.0	42.2	45.6	48.0
State and local	25.9	25.5	22.5	23.2
Government total	71.9	67.7	68.1	71.2
Nongovernment sector	28.1	32.3	31.0	28.8

Source: Australian Institute of Health and Welfare 2000: 235; Australian Institute of Health and Welfare 2001a.

The share of expenditure on institutional care in Australia has declined since the early 1980s (Butler 1998:60; Australian Institute of Health and Welfare 2000: 403). The share of the health budget devoted to hospitals grew from the mid-1960s to the early 1980s but has since declined, while budget shares for pharmaceuticals and community-based health services have grown. In 1997, inpatient care accounted for 43% of total expenditure compared to a peak of 51% in 1980 (Table 8). Acute care hospitals still take the largest share of the

Table 7. State and territory government total recurrent health services expenditure per person, 1992–1993 and 1996–1997 (constant 1989–1990 prices, AUS \$ per capita), per cent change

	1992–1993	1996–1997	% change
New South Wales	620	695	+12.0
Victoria	671	643	-4.2
Queensland	577	651	+12.8
Western Australia	716	786	+9.8
South Australia	720	709	-1.6
Tasmania	727	758	+4.3
Australian Capital Territory	752	668	-11.1
Northern Territory	1 303	1 390	+6.6
Australia	655	692	+5.7

Source: Australian Institute of Health and Welfare 2000:173.

health budget with 37% of recurrent expenditure in 1996 (Australian Institute of Health and Welfare 1998b:167). The proportion of the health budget spent upon ambulatory care has increased slightly to nearly 23% in 1997. Expenditure on nursing homes stabilized from the mid-1980s while expenditure on aged care community services increased (as discussed under *Social care*). Thus there has been a slight shift in funds from hospital to community-based care.

The budget share of pharmaceuticals rose from 8.9% in 1990 to 11.3% in 1997. The Commonwealth aims to contain costs in response to an average annual growth of 11.4% in government expenditure on pharmaceuticals since 1984–85 (Australian Department of Health and Aged Care 1999a).

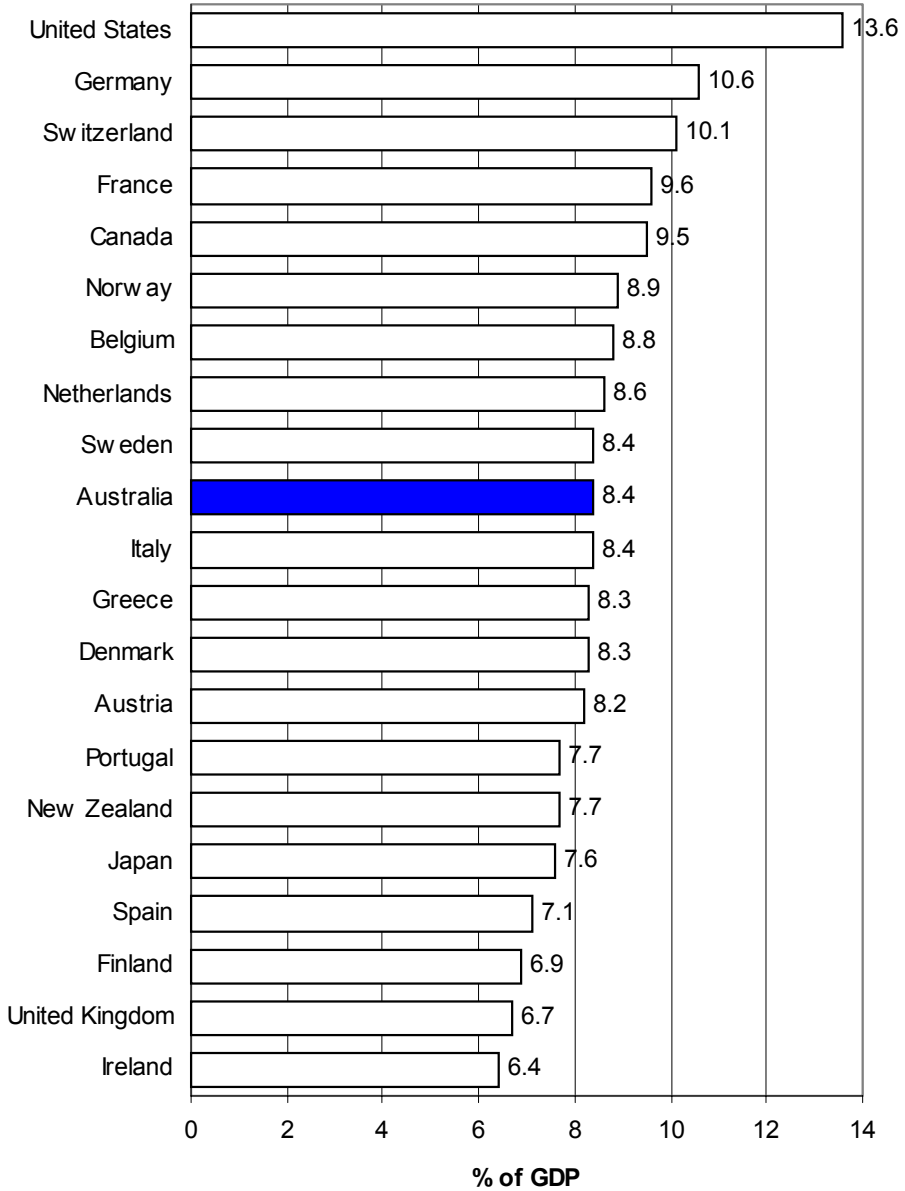
Table 8. Health care expenditure by categories (as percentage of total expenditure on health care), 1970–1997

Total expenditure on	1970	1975	1980	1985	1990	1995	1996	1997
Inpatient care (%)	–	47.7	51.4	48.1	45.9	42.8	42.7	43.3
Ambulatory care	–	21.6	22.5	20.4	21.9	23.2	23.4	22.7
Pharmaceuticals (%)	–	9.9	8.0	8.1	8.9	11.1	11.4	11.3
Public health	–	1.1	0.5	0.8	–	1.6	1.5	1.5
Investment (%)	8.2	11.0	7.6	7.7	6.3	5.7	6.0	6.5

Source: OECD 2000.

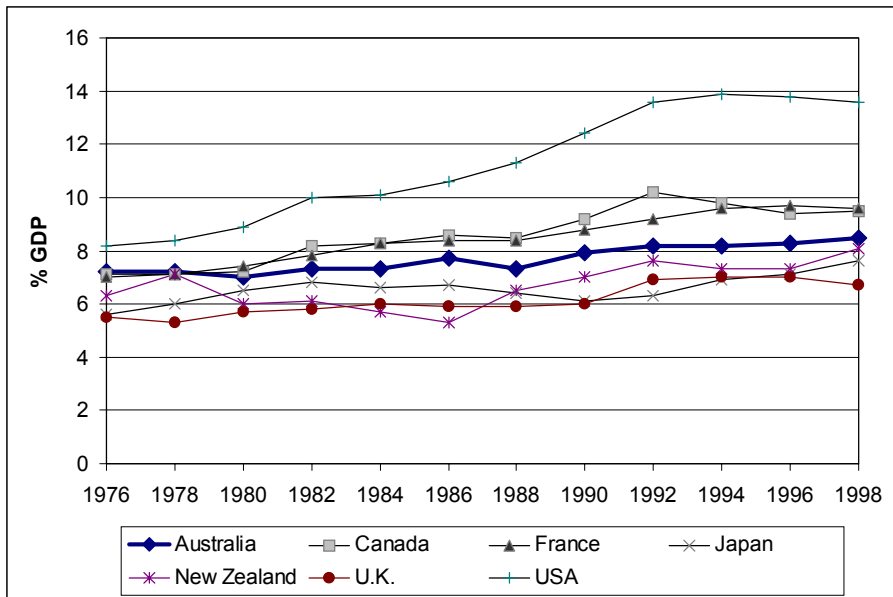
Public health (disease prevention and population health promotion) receives less than 2% of the total recurrent health budget (Australian Institute of Health and Welfare 2001b). This share was squeezed in government health budgets in the early 1990s, but from 1996 has been protected in joint Commonwealth and state programmes (as described under *Public health*). Another estimate aggregates community health (such as district nursing) and public health services

Fig. 3. Total health expenditure as a % of GDP in Australia and selected OECD countries, 1998



Source: OECD 2000.

Fig 4. Trends in total expenditure on health care as % of GDP in Australia and selected countries, 1976–1998



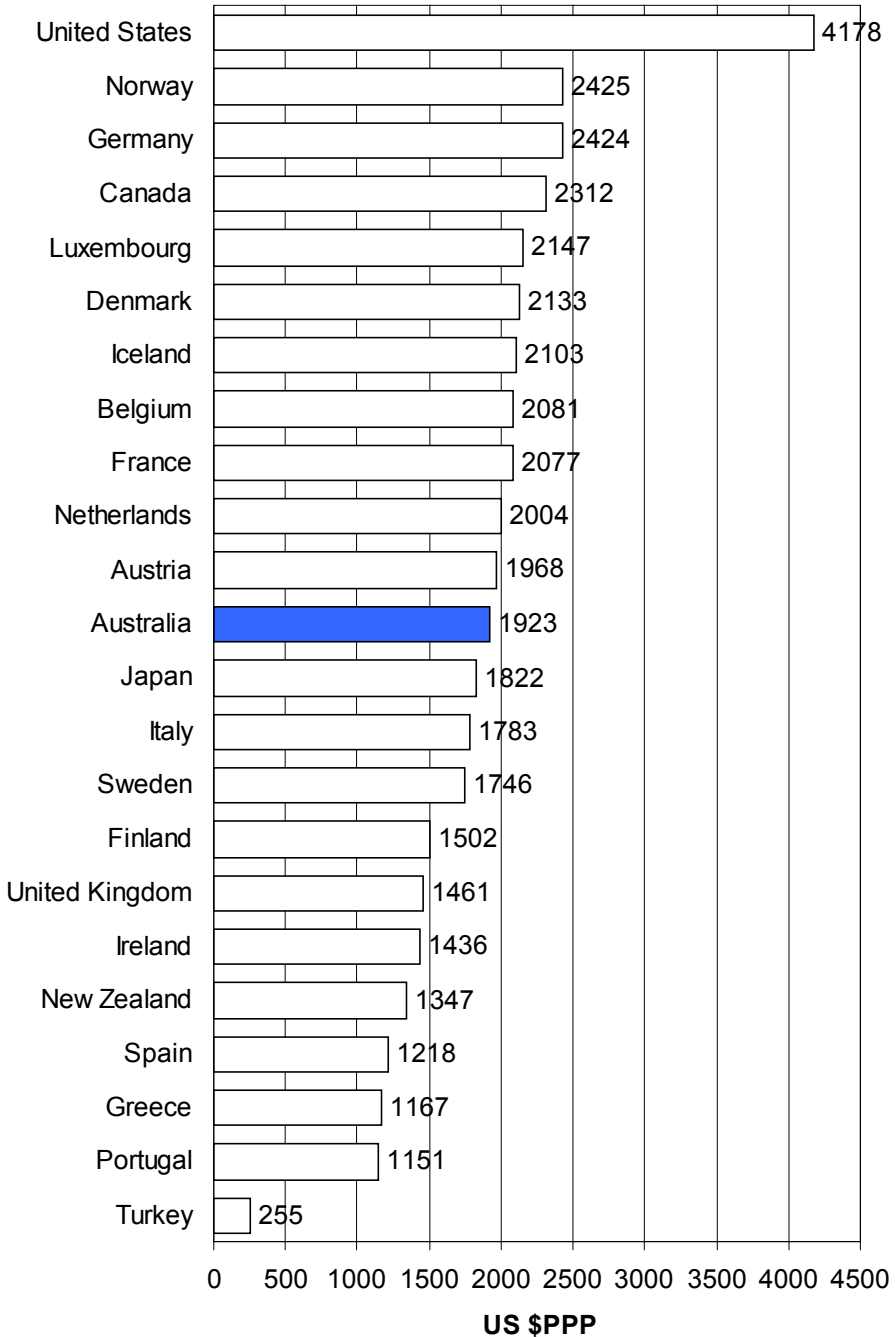
Source: OECD 2000.

at 4.8% of recurrent health expenditure (Australian Institute of Health and Welfare 2000:403). Public health expenditure is difficult to estimate, since these activities appear under several budgetary headings. The argument for increasing public health interventions is that more should be spent on preventing, rather than just treating, the causes of diseases (Sheill and Carter 1998). The Commonwealth thus has increased its expenditure on public health with half transferred to the states as specific purpose grants. While it is difficult to estimate state spending, perhaps half their public health funds now come from the Commonwealth (Lin and King 2000).

Investment in the health sector declined from 7.6% in 1980 to 6.5% in 1997 (OECD 2000). The lack of investment, particularly in public hospitals, is an increasing problem given deteriorating public facilities and the need for expensive equipment.

‘Who pays’ differs according to the type of service (Australian Institute of Health and Welfare 2000:239). This makes it politically and fiscally difficult to change expenditure patterns. For example, the Commonwealth pays the largest share for medical services (general practitioner and ambulatory specialist care), and for nursing homes and pharmaceuticals. The states pay a little more than

Fig. 5. Health care expenditure in US \$PPP per capita in Australia and selected OECD countries, 1998 or latest available year



Source: OECD 2000.

half the cost of public acute hospitals (jointly funded with the Commonwealth), and also for community health services and public health services, while private hospitals are funded mainly by the nongovernment sector. Thus expenditure cannot easily be transferred, for example, from hospitals to primary health care. About 35% of Commonwealth outlays go on medical services, 30% on hospitals, 13% on pharmaceuticals and 11% on nursing homes, while about 70% of state outlays go on hospitals (Australian Department of Health and Aged Care 1999a).

Health care delivery system

Both public and private providers deliver health services in Australia. The private sector delivers almost all primary and much specialist medical care, runs private hospitals, and offers most allied health care. State and Territory governments run public hospitals, offer most public health programmes, and deliver a small amount of primary health care. Over the past decade, Commonwealth and state governments generally have sought to reduce their role in direct health service delivery and to increase the role of voluntary and for-profit providers.

Primary health care and public health services

Primary health care

General practitioners provide the bulk of medical care. These physicians mostly are self-employed and run their practices as small businesses. Their fee-for-service source of income has shifted over the last few decades, however, from the private to the public purse (Medicare). Some general practitioners also enter into contractual arrangements with companies, for example, to provide health checks for employees. Group practices are the norm with solo practitioners now accounting for only 14.5% of total practices (Australian Department of Health and Aged Care 1999b). Recently, there has been a trend towards the ‘corporatization’ of practices with companies taking on the administration of practices under contract to practitioners. Sometimes this has involved the co-location of practitioners with pathologists and other specialists. A small number of general practitioners are salaried employees of Commonwealth, state or local governments.

General practice is the main form of medical practice in Australia, accounting for over 40% of active physicians (as discussed under *Human resources and training*). General practitioners provide general medical care, family planning, counselling, perform minor surgery in their clinics, offer preventive services including immunization, offer health advice to patients, and dispense pharmaceutical prescriptions. They initiate the majority of pathology and radiology investigations. Some general practitioners, mostly in rural areas, also undertake more complex surgical procedures, such as appendectomies.

The 1995 National Health Survey found that nearly one in four people had consulted a doctor in the previous two weeks (Australian Institute of Health and Welfare 1998b:210), and most of these consultations were likely to have been with general practitioners. Surveys of general practitioners in 1991 and 1995 found that patients consult general practitioners on a wide range of problems: hypertension was the most commonly treated health problem followed by upper respiratory tract infection, acute bronchitis, immunization and asthma (Australian Institute of Health and Welfare 1998b:212). Notably, general practitioners manage most problems, making referrals to specialists in only 8.3 per 100 patient encounters. They also prescribe many drugs, at an overall rate of 103.4 prescriptions per 100 patient encounters, principally for antibiotics and painkillers.

Consultations with doctors (clinic visits) have doubled since 1970 and numbered 6.4 consultations per year head of population in 1998, a rate similar to other industrialized countries (OECD 2000).

Individuals are free to choose which general practitioner they wish to consult, restricted only by availability, particularly in rural areas. Patients also may consult more than one general practitioner, since there is no requirement to enrol with a practice. As general practitioners usually are the first point of medical contact (after pharmacists) they act as gatekeepers to the rest of the health care system, especially since Medicare reimburses specialist consultation fees at a higher rate if the patient was referred by a general practitioner.

Other primary health care

Other health care professionals also provide primary health care. Nurses provide a large but unmeasured amount of primary care in general practitioner clinics, in public community health centres and in other venues. Services provided by nurses include health checks, immunizations, reproductive health checks and health counselling. Nurse consultations are not reimbursed through Medicare. Nurse practitioners potentially could undertake more primary care since they now work more independently and their roles and functions are expanding; for example, they prescribe a limited range of drugs and order medical tests.

However, there are currently only a small number of qualified nurse practitioners in Australia. Primary health care is provided also by home nursing services and by nurses in public sector mother and baby health clinics.

Allied health professionals, such as physiotherapists and dieticians, also offer primary health care. Most are in private employment. Consultations may be covered through private insurance schemes although not through Medicare.

The dramatic improvement in dental health in Australia over the last few decades has been attributed to water fluoridation, public health campaigns, and public dental services for school-age children (Australian Institute of Health and Welfare 1998b:131). State-run services provide dental care for school children and for people on low incomes. Otherwise, dental care is financed and delivered mostly privately. Access and equity therefore are issues in relation to people on lower incomes.

Pharmacists are the health professionals most often seen by the public and who provide a significant but unmeasured amount of health advice (Australian Institute of Health and Welfare 1998b:210). The majority of pharmaceutical items are provided through private sector pharmacies that are paid a dispensing fee by the Commonwealth government.

Community health centres are funded by the States, some operating as multiservice centres for a range of health and social services, as in the Northern Territory. Women's health centres opened across Australia in the mid-1970s, funded originally under a Commonwealth community health programme, and numbered about 50 centres at their peak in the mid-1980s (Healy 1998:124).

Complementary and alternative medicines are widely used by the public. A South Australian Health Omnibus Survey reported that over 20% of respondents had consulted an alternative health practitioner, while the 1995 National Health Survey found that nearly 26% of Australians had used vitamin or mineral supplements in the two weeks prior to the survey and over 9% used herbal or natural medications (Australian Bureau of Statistics 1997).

Reform of general practice

Although general practice is the main source of medical care for the population its structure has changed over time, for example, solo practitioners now account for only 14.5% of total practices so that group practice is the norm. Several longstanding concerns are only now being addressed. The first concern is that an oversupply of general practitioners results in over-servicing of patients: as the number of general practitioners grow, so do the number of patient consultations and flow-on in diagnostic, pharmaceutical and Medicare costs. A second concern is that despite an oversupply of general practitioners in urban

areas, there is an undersupply in rural and remote areas. Quality is the third concern such as finding ways to ensure that general practitioners update their knowledge and skills, cooperate more with other health professionals, and undertake health promotion activities.

Oversupply and the urban/rural imbalance are being addressed in various ways, as discussed under *Human resources and training*. This section concentrates on quality issues. Beginning from 1991, the General Practice Reform Strategy undertook several initiatives. The Commonwealth now funds Divisions of General Practice: groups of around 100–300 general practitioners in a geographic area. The basic idea was that general practitioners would benefit from more peer interaction and training opportunities. Funding depends upon the Divisions identifying local populations needs and agreeing on appropriate outcomes. The Divisions offer general practitioners a network for professional support, connect them to other health professionals and consumers, run continuing medical education activities, fund and administer health promotion projects, and coordinate shared care arrangements (Swerissen and Duckett 1997). The Divisions of General Practice are considered a successful initiative, with 123 being established by 1999, which now cover most general practitioners (Australian Department of Health and Aged Care 2000a).

The Practice Incentives Programme offers financial incentives for general practitioners to improve the quality and accountability of their medical services. For example, general practitioners lagged behind in information technology in 1996 since only 30–50% owned a computer and less than 15% used it in clinical practice as opposed to billing (Australian Department of Health and Aged Care 1999b). General practices are paid to meet certain quality requirements for patient treatment, such as effective information management, availability of after-hours service, the training of medical students, and participation in incentive programmes such as immunisation. The introduction of this new payment stream is a small step toward outcome funding, and so far represents only a very small source of revenue for a general practice. The programme was allocated AUS \$92 million in 1997–1998 and has since expanded.

The General Practice Strategy Review Group made several recommendations (Australian Department of Health and Aged Care 1999b). One was to establish a peak body to discuss general practice issues. Others were to broaden general practitioner training, to offer more incentives for involvement in public health activities, to extend alternatives to fee-for-service payments, to expand information technology in general practice, and to strengthen incentives for general practitioners to work in rural and remote areas.

Another concern is that primary health care is under-used by indigenous people. There is little information on the use of mainstream health services by Indigenous people (who are not necessarily identified in utilisation statistics)

but local surveys suggest lower use of general practitioners (Australian Institute of Health and Welfare 2000:213). Indigenous people make greater use than the general population, however, of public hospital services and public community health services (Deeble et al. 1998). Commonwealth and state governments also fund alternative services for indigenous people in order to offer more accessible and responsive services and to empower local communities: thus community-controlled agencies offer primary health care in some areas.

Public health

The high level of health enjoyed by most Australians is partly due to past and continuing investments in public health. There have been a number of important public health initiatives in the last few years. The states have primary responsibility for public health including delivering population health services through Public Health Acts and other legislation. Local governments monitor sanitation and hygiene, food safety and water quality.

Communicable diseases

The impact of infectious disease has been much reduced but it still causes considerable morbidity. Old diseases return if prevention activities falter, and new diseases will continue to emerge.

The Communicable Diseases Network of Australian and New Zealand coordinates the surveillance of national communicable disease, responds to significant communicable diseases outbreaks, develops national policy, and trains communicable disease epidemiologists. The National Notifiable Diseases Surveillance System comes under their auspices and the National Centre for Disease Control based in the Commonwealth Department of Health and Aged Care. This system coordinates the national surveillance of over 40 communicable diseases. In accordance with state public health legislation, health care providers and public health units notify state and territory health authorities of these diseases, who forward notifications to the Commonwealth for analysis and for publication in the regular Communicable Diseases Intelligence Bulletin.

Immunization is principally the responsibility of the states with delivery involving state and local governments and private general practitioners, although the relative balance of providers varies between states. The National Health and Medical Research Council recommends standard immunizations to protect children against diphtheria, tetanus, pertussis, poliomyelitis, invasive *Haemophilus influenzae* type b (HiB), measles, mumps and rubella. The national immunization programme aims to achieve greater than 90% immunization

coverage of children at two years of age, and near universal coverage at school entry, for all diseases specified in the National Immunization Schedule. Another target is near universal coverage of girls and boys under 17 years of age for measles. The National Immunization Committee oversees the programme and access to free vaccines. Australia has high levels of immunization for most vaccine-preventable diseases. For example, the National Measles Control Campaign immunization level for measles is estimated at 89%, which is among the high range of countries, although the goal is near universal coverage (Fig. 6).

Public health programmes

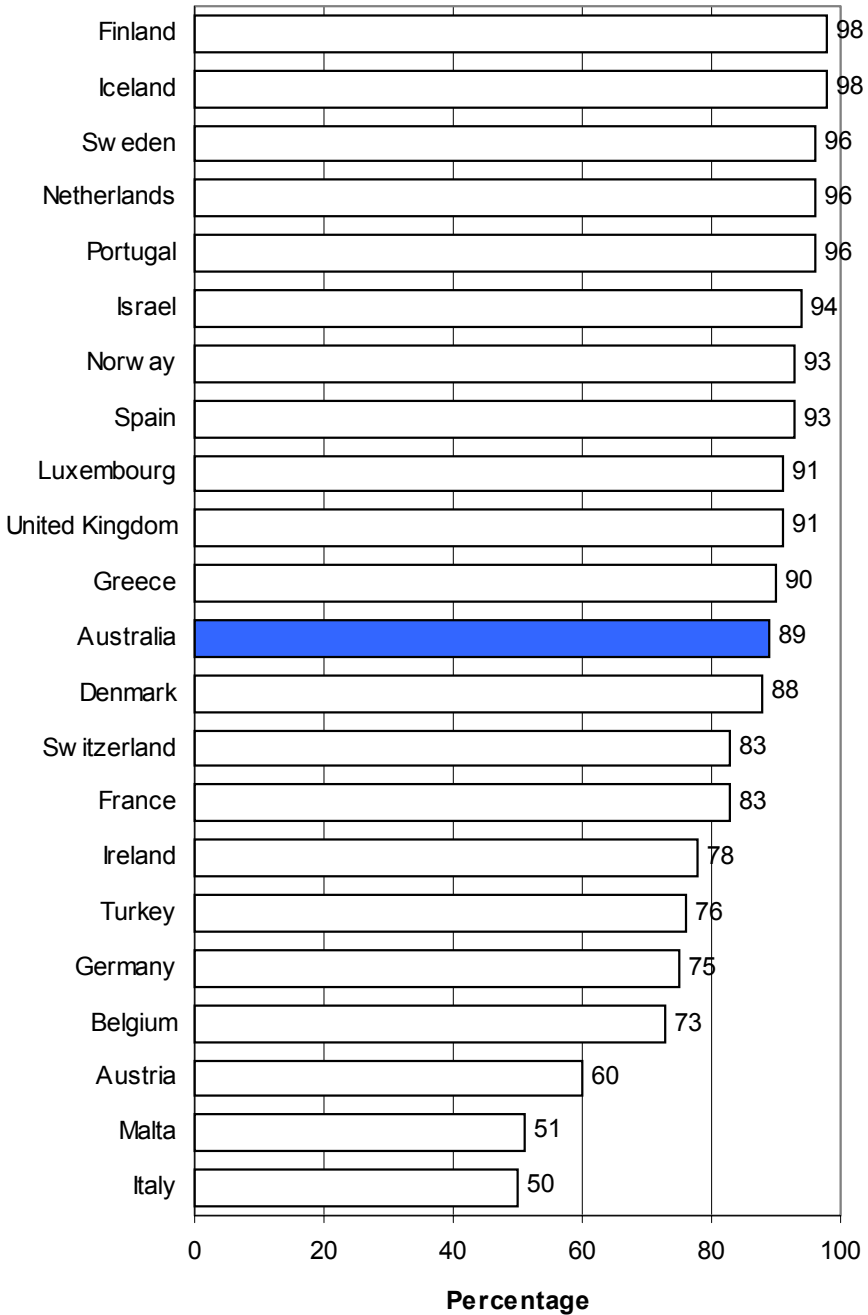
The Commonwealth and states collaborate on many initiatives, which have resulted in some successful public health outcomes. For example, there has been a dramatic reduction in coronary heart disease, a reduction in the incidence of HIV/AIDS in some at-risk populations, a reduction in cigarette smoking, and a decrease in mortality from road traffic accidents (Australian Institute of Health and Welfare 2000). More of the gain, however, is among higher socio-economic groups.

A National Public Health Partnership was set up between the Commonwealth and states from 1996 in order to strengthen collaboration and to improve the health of Australians through a national approach to population health. The Partnership also involves the Australian Institute of Health and Welfare and the National Health and Medical Research Council. Australia has identified six national health priority areas for special attention (cardiovascular disease, cancers, injuries, mental problems, diabetes and asthma) (Australian Institute of Health and Welfare 1998a: 55), as discussed later under *Health for all policy*.

The Commonwealth allocates specific purpose public health grants to the States, now aggregated into 'broadband' grants to allow more flexibility. These Public Health Outcome Funding Agreements also include performance indicators for national strategies such as preventive screening programmes. In 1997–1998, the Commonwealth allocated public health funds to the states for a national drug strategy, women's health, cervical and breast cancer screening, alternative birthing, childhood immunization, and a national education programme on female genital mutilation. Commonwealth support for public health programs accounts for only about one third of community and public health expenditure, however, with the balance coming from state and local governments.

The overall aims of the National Public Health Partnership are to harmonize public health legislation, strengthen the public health infrastructure, develop better information, fund research and development, examine workforce issues, and establish a national planning framework. The Partnership operates through

Fig. 6 Levels of immunization for measles in Australia and western Europe, 1997 or latest available year, per cent



Source: WHO Regional Office for Europe 1999; Australian Childhood Immunisation Register.

working groups for each of these priorities. The information and evidence base is being strengthened through the Public Health Evidence Based Advisory Mechanism. Recent initiatives include a national project to map, monitor and report on the burden of disease in Australia, with particular reference to the population sub-groups and to the burden of disease attributable to social and economic disadvantage.

All states have active population health programmes and list this area as a priority in their strategic health plans. A notable initiative is the Victorian Health Promotion Foundation, established in 1987 as an independent board with bipartisan support, originally funded by a state tax on tobacco products and now funded through general taxation. The foundation offers a substitute to tobacco industry sponsorship to the arts and sports, and supports health promotion programmes such as healthy eating, physical activity, sun protection and responsible drinking (www.vichealth.vic.gov.au). South Australia has a similar statutory agency: Foundation South Australia.

Tobacco control is an example of intergovernmental and cross-sectoral collaboration in interventions ranging across legislation, regulation, public education and service delivery. For example, governments have increased the price of tobacco products through taxes, regulate advertising, require health warnings on tobacco products, set 18 years as the minimum purchasing age, prohibit smoking in government buildings, while increasing legislation bans smoking in public places (Australian Institute of Health and Welfare 2000:307). Breast cancer screening is another example, with half of all women in the target group (aged 50–69 years) screened between 1997 and 1999, with slight falls now evident in mortality rates (Australian Institute of Health and Welfare 2000:328).

Secondary and tertiary care

Specialists

Some medical specialists provide ambulatory secondary care, either as private practitioners in their own consulting rooms or in outpatient departments of public hospitals. All have extensive postgraduate training in their specialty and must be certified by their specialist College Board. Their numbers and the number of sub-specialties have increased greatly since the 1960s (as discussed under *Human resources and training*). All specialists train and most continue to perform some work in hospitals, while senior specialists also maintain private

practices and academic appointments. The Medicare Benefits Scheme reimburses 85% of the schedule fee for out-of-hospital specialist consultations. Specialists are the main routes for admission to hospital for elective surgery, much of which is done in private hospitals. Specialists also perform in-hospital procedures for public and private patients.

Hospitals

Australia had 1051 acute care hospitals in 1998, of which 734 were public hospitals providing 70% of the bed stock, and 317 were private hospitals (Australian Institute of Health and Welfare 2000:266). Public hospitals include government hospitals and those originally established by religious or charitable bodies but now directly funded by government. Large public hospitals provide advanced types of treatment such as intensive care, major surgery and organ transplants. Large tertiary care hospitals also have a teaching function and the hospitals associated with the ten university medical schools receive government funds to support their teaching role.

Private hospitals traditionally provided less complex non-emergency care, such as simple elective surgery, but have extended their clinical capacity since the advent of more accessible technology and new procedures such as minimally invasive surgery. Their increased range of clinical services thus offers an alternative to elective surgery in public hospitals for which there are long waiting lists. Although the stock of public beds declined substantially during the 1990s, the stock of private beds has increased slightly (Australian Institute of Health and Welfare 2000:266).

Hospitals vary in size from 10-bed community hospitals to university teaching hospitals with up to 1000 beds. Private hospitals tend to be smaller with 50–100 beds. Bed numbers are becoming a less relevant measure, however, given the huge increase in day surgery.

Most Australian hospitals can be classified as acute care hospitals since they provide short-stay treatment to patients that require a high level of care or need technology that can be provided only in hospitals. The trend has been towards shorter hospital stays (discussed later). Most hospitals are now general hospitals and most specialist hospitals have merged with general hospitals, although some remain such as some cancer care hospitals and children's hospitals. Psychiatric hospitals are the main exception to the acute care general hospital model since they date from the historical practice of separating mental health services. However, the Commonwealth and state governments are integrating mental health into mainstream health services, as discussed under *Social care*.

Hospital utilization

In Australia, as in other OECD countries, the policy has been to reduce the stock of hospital beds in line with changing methods of managing patients. Although the number of acute hospitals in Australia has increased slightly from 1032 in 1991–1992 to 1051 in 1997–1998, bed capacity has decreased. The number of acute hospital beds per 1000 population has dropped from 6.4 per 1000 population in 1980 to 4.0 per 1000 in 1997 (Table 9). Australia is just below the European Union average of 4.4 acute hospital beds per 1000 population, although there is considerable variation, with 7.1 beds per 1000 in Germany down to 2.0 in the United Kingdom (Table 11 and Fig. 7). The population rate of acute hospital beds has fallen markedly in most OECD countries since the 1970s. The number of all hospitals beds (including long-stay beds) in Australia also has fallen reflecting shorter stays, the growth of nursing homes, and more community-based care.

Table 9. Inpatient utilization and performance, 1970–1997

	1970	1975	1980	1985	1991*	1995	1996	1997
All hospital beds per 1000 population	11.7	11.9	12.3	10.9	–	8.7	8.5	8.3
Acute hospital beds per 1000	6.0	6.1	6.4	5.3	–	4.2	4.1	4.0
Acute admissions per 100 population	17.4	18.0	19.8	17.9	–	16.2	15.9	15.9
Acute admissions per (incl. same-day)	17.7	19.5	20.6	21.2	23.7	28.5	28.9	29.9
ALOS acute beds (excl. same-day)	8.9	8.4	7.8	7.4	–	6.5	6.4	6.3
ALOS in days (incl. same-day)	–	–	–	–	4.8	4.3	4.3	4.2
Acute bed occupancy rate (%)	76.0	74.0	68.0	69.0	73.8	77.0	76.9	77.9

Source: Australian Institute of Health and Welfare 1998; Australian Bureau of Statistics 2000; OECD 2000.

Note: * 1990 figures unavailable.

The way that patients are managed in hospital has changed, as reflected in inpatient utilization indicators. In Australia (as in many OECD countries) patient throughput has increased dramatically with rising admissions, shorter stays, and higher occupancy rates. In Australia, overall admissions for acute care per 100 persons rose sharply in the 1990s, if same-day admissions are included in the count (Table 9). The average length of stay (ALOS) in acute care hospitals (excluding same-day admissions) has fallen over the last few decades to 6.3 days in 1997, reflecting more active patient management, less invasive surgical techniques and greater cost pressures. This trend is similar to many western European countries (Table 11). A different estimate gives 4.1 days in acute care hospitals in 1998 including same-day cases, since their inclusion substantially reduces the average stay (Australian Institute of Health and Welfare 2000:273). Bed occupancy rates have risen during the 1990s from around 74% to 78% with new treatments and cost-effectiveness pressures resulting in greater throughput.

More patients are treated on a same-day basis. For example, in 1991–1992, 31% of separations (discharges) were same-day compared to 46% in 1997–1998 (Australian Institute of Health and Welfare 2000:273). A significant proportion may represent new patients who otherwise would not enter hospital (as suggested by rising admissions) rather than patients diverted from longer inpatient stays. The configuration of hospitals is changing in response to new treatment methods with separate centres, particularly in the private sector, being built for same-day treatment such as day surgery and renal dialysis.

Waiting time for elective surgery in public hospitals is a vexed political issue. The National Waiting Times Data Collection reports a median wait for all patients in 1996 prior to admission of 21 days (8 days for urgent cases) with considerable variation between specialities (Australian Institute of Health and Welfare 1998b:205). In 1997–1998, 11% of patients admitted for elective surgery from the two most clinically urgent groups had an extended wait (Australian Institute of Health and Welfare 2000:324). The waiting time for public hospitals has lengthened because hospital budgets are squeezed. The number of patients using private acute care hospitals has increased throughout the 1990s, despite the earlier decline in private health insurance cover. The states complain that the Commonwealth should increase funds in response to the rising demand for hospital treatment; the Commonwealth responds that the states should increase their share of hospital funding.

State differences

The states vary in their supply of institutional beds and balance between types of beds, reflecting past history, demographics and political choices (Table 10). For example, South Australia has the most hospital beds for its population, while Queensland has the most nursing home beds (apart from the Northern Territory). There are substantial differences also in patient separation (discharge) rates, patient unit costs, and population rates of surgical procedures such as tonsillectomies (Corden and Luxmore 2000). Government reports have drawn attention to such differences as well as to problems of comparability (Steering Committee for the Review of Commonwealth/State Service Provision 1998; Steering Committee For the Review of Commonwealth/State Service Provision 1999). The Australian Health Ministers' Conference set up a Benchmarking Working Group to develop a set of indicators to measure the effectiveness and efficiency of hospital performance; these are to be refined by the National Health Information Management Group (Australian Institute of Health and Welfare 2000:321). The distribution of resources across regions is a political issue in a federal system of government, the aim being to reduce differences (allocative efficiency) while responding to possible differences in population need.

Table 10. Available beds per 1000 population, states and territories, 1997–1998

Institution	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Hospitals									
Public acute	2.9	2.6	2.9	2.7	3.2	2.3	2.5	3.1	2.8
Private acute	1.0	1.3	1.5	1.3	1.7	1.6	–	–	1.2
Public psychiatric	0.2	0.2	0.3	0.3	0.3	–	–	–	0.2
Aged care ^a	87.7	83.5	91.7	89.4	88.8	85.8	87.2	98.3	87.5

Source: Australian Institute of Health and Welfare 2000:268.

Note: ^a Beds per 1000 population aged 70 years and over.

Hospital ownership and management

Many hospitals were established perhaps a century ago in inner urban areas, and since then populations, their health needs and treatment methods have changed. Hospital systems thus need to be reconfigured, but this is extremely difficult to do. Pressures to reconfigure hospitals and to improve cost-efficiency have prompted new models of hospital management. Hospitals in most Australian states have evolved as autonomous institutions. Most states retained independent boards up to the mid 1990s. New South Wales is unusual, however, in that hospitals boards were abolished in the mid-1980s, with hospitals brought under an area health board (currently 17 boards) and its chief executive officer. Hospital mergers and closures have proved difficult, even where several hospitals are grouped under one management structure and budget (Stoelwinder and Viney 2000). Independent hospitals make it even more difficult, however, for a state to reconfigure its overall hospital system. In Victoria, a hospital funding crisis and the need to redistribute hospital beds from inner to outer urban areas, provided the impetus for the state to group Melbourne metropolitan hospitals into networks. In 1995, 35 hospitals were grouped into seven metropolitan networks. Despite some controversial failures to shift hospital resources, involving prestigious hospitals that command considerable public support, nine hospitals (mainly small community hospitals) have been closed or merged (Corden and Luxmore 2000). One criticism, however, is that these networks have resulted in an expensive layer of management, which lead to further restructuring in 2000.

The distinction between the public, private-not-for-profit and private-for-profit sector hospitals increasingly is changing. Privatization strategies have changed the characteristics of both public and private hospitals. Privatization has taken many forms over the last two decades. For example, many public hospitals contract out tasks to private providers and take private patients. Other privatization permutations include a state government contracting with the private sector to finance the construction of a new hospital; contracting with a

private hospital to run the hospital on behalf of the state; or contracting with a private hospital to provide some services for public patients.

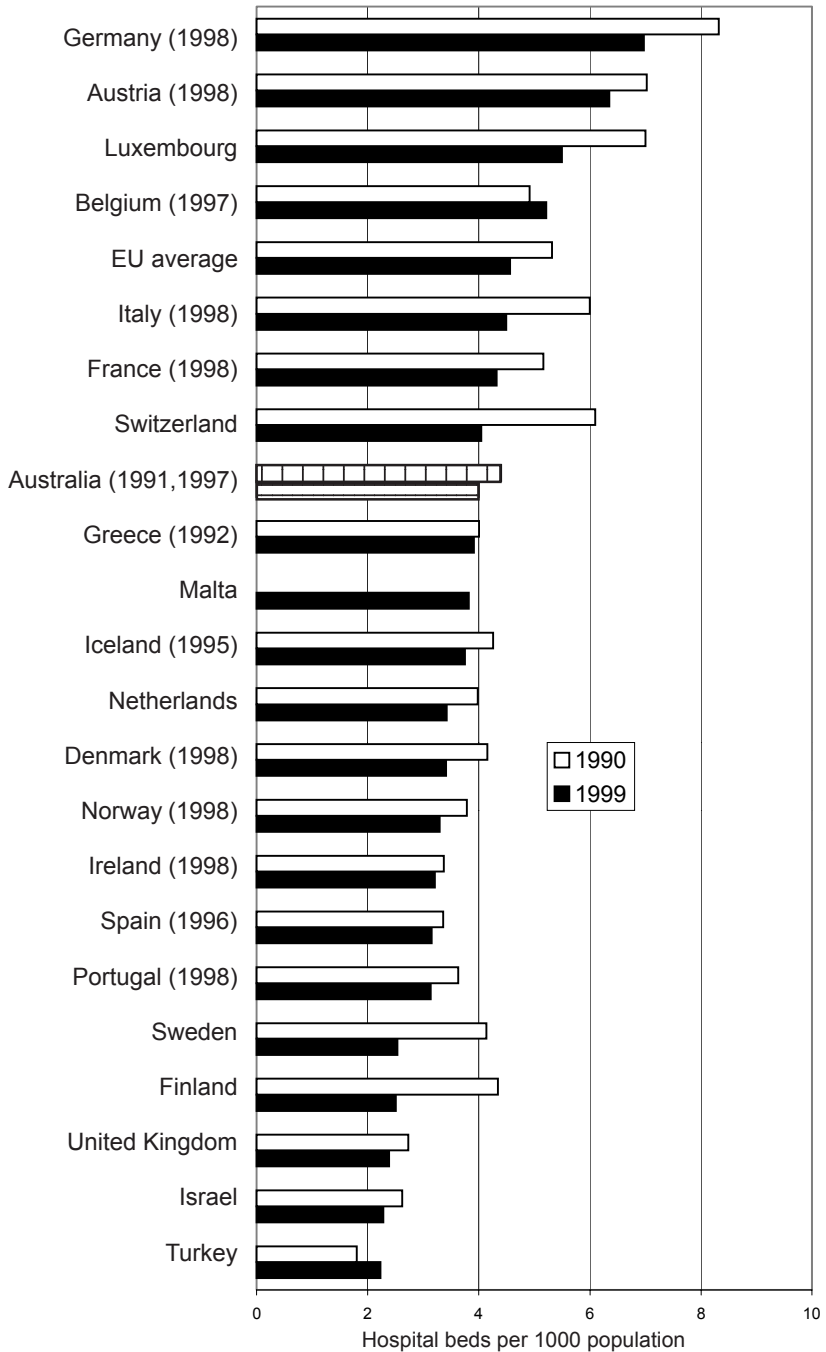
Many privatization initiatives in large part are driven by the need to obtain capital funds to renovate or extend old public hospitals and to build new hospitals in new population areas. The Commonwealth does not fund capital investment so that the states must find ways to raise the capital and are limited in their ability to raise taxes or expand public borrowing. In Victoria, about one quarter of hospital capital between 1997–2001 came from the private sector (Stoelwinder and Viney 2000:218). Co-location has emerged as a popular strategy (Bloom 2000a). Although most large public hospitals already operated private outpatient and inpatient facilities where attending physicians (consultants) treated private patients, co-location involves the establishment of a privately-owned hospital within or adjacent to a public hospital. There are several options. The private

Table 11. Inpatient utilization and performance in acute hospitals in Australia and western Europe, 1998 or latest available year

Country	Hospital beds per 1000 population	Admissions per 100 population	Average length of stay in days	Occupancy rate (%)
Western Europe				
Austria	6.4	24.7	7.1	74.0
Belgium	5.2	18.0	7.5	80.6
Denmark	3.6	18.8	5.6	81.0
Finland	2.4	20.5	4.7	74.0
France	4.3	20.3	6.0	75.7
Germany	7.1	19.6	11.0	76.6
Greece	3.9			
Iceland	3.8	18.1	6.8	
Ireland	3.4	14.9	6.7	82.3
Israel	2.3	18.4	4.2	94.0
Italy	4.6	16.5	7.0	76.0
Luxembourg	5.6	18.4	9.8	74.3
Malta	3.9	-	4.5	72.2
Netherlands	3.4	9.2	8.3	61.3
Norway	3.3	14.7	6.5	81.1
Portugal	3.1	11.9	7.3	75.5
Spain	3.1	10.7	8.5	76.4
Sweden	2.7	16.0	5.1	77.5
Switzerland	5.2	14.2	11.0	84.0
Turkey	1.8	7.1	5.5	57.3
United Kingdom	2.0	21.4	4.8	-
Australia	4.0	29.9	6.3	77.9

Source: Australian Institute of Health and Welfare 1998; World Health Organization 2001.

Fig. 7. Hospital beds in acute hospitals per 1000 population in Australia and western Europe, 1990 and 1999 (or latest available year)



Source: OECD 2000; World Health Organization 2001.

sector might undertake a build-own-operate-transfer hospital that reverts to the public sector after a stipulated period under agreed conditions. The private facility might be physically distinct or linked to the public hospital, provide comprehensive or select services, or might involve the sharing of facilities, staff and services. There were more than 45 substantial private hospital developments in Australia by 1999, of which 20 were co-located private and public hospitals, particularly involving large teaching hospitals. The private sector is believed to have negotiated the more favourable terms in the early days but the public sector has since improved its knowledge and negotiating skills in these public/private financial initiatives (Bloom 2000a).

Social care

Social care is funded by all levels of government and delivered by a mixed economy of government, voluntary sector and commercial providers (Australian Institute of Health and Welfare 1999b). The Commonwealth has become increasingly involved in formulating social policies and funding social programmes, but the states traditionally are responsible for social welfare, many services are delivered by voluntary sector agencies, while much social care relies upon the family. The boundary between health and social care depends upon the social issue and also fluctuates over time; activities across the ‘interface’ thus are subject to continuing negotiations. The needs of frail older people, people with physical or intellectual disabilities, and people with mental health problems, might be met either by institutional care or by community-based services. Areas particularly relevant to the health sector are discussed below: aged care, disability services, and mental health services.

Aged care

Aged and community care has been a controversial and peripatetic policy area, its shifts between government departments reflecting the cross-sectoral issues that are problematic in most developed countries. Aged care in Australia requires collaboration across all levels of government as well as nongovernment sectors in policy-making, financing, administering, and providing services (Gibson 1998; Howe 1998). For example, residential aged care is financed by the Commonwealth and provided mainly by the private sector, while the Commonwealth and states jointly fund and administer community care services.

Dependent older people are cared for in residential aged care facilities, or in their own home or family home, sometimes with help from community services

(such as home help, district nursing and delivered meals). The Commonwealth introduced nursing home subsidies in 1962 as part of a health policy intended to shift the long-term care of older people out of hospitals. Older people increasingly were cared for in Commonwealth subsidized nursing homes rather than in State hospitals, accompanied by a major expansion of the private nursing home sector. The number of hospitals beds for the population shrank from the 1960s onwards while the number of nursing home places soared. Policies from the 1980s onwards have aimed to contain the growth and cost of nursing homes places and to regulate the quality of care (Howe 1998). The growth in nursing home beds per capita now is levelling off since the number of beds has been contained while the number of older people has grown.

Since the Commonwealth funded most of the care of dependent older people, it embarked upon an overhaul of its aged care policies in the mid-1980s (Gibson 1998). Since 1986, residential aged care has been guided by regional planning ratios, the intention being to reduce excessive institutionalisation and support older people where possible in their own homes. A cap was set upon 40 nursing home places per 1000 people aged 70 years or over, 50 hostel places, and 10 community care packages (Howe 1997). The latter were introduced in 1992 to promote a community-based alternative for frail older people whose care needs would qualify them for entry to a residential care facility. In addition, funding for community services was increased under the *Home and Community Care Act 1985*, which set up a joint Commonwealth-State programme. The *Aged Care Act 1997* now governs all aspects of aged care provision, including residential care, flexible care and community services.

Funding arrangements for residential care changed in 1997 and 1998 with the extension of income-tested resident co-payments for nursing homes, which were unified with hostels, with funding allocated on the basis of resident dependency. Formerly, the Commonwealth subsidy and the Old Age Pension had covered most of the fees. New arrangements for accommodation payments were also introduced with all residential care facilities able to seek a contribution (for capital improvements) from residents able to pay. The Aged Care Standards and Accreditation Agency was established as an autonomous agency in 1997 (such standards previously were monitored by the Commonwealth) to ensure that residential aged care facilities maintain high standards of care.

Policies for an ageing population thus have been the subject of considerable attention in Australia for the last two decades, and will remain a policy priority, given the progressive ageing of the population and lobbying by active advocacy groups. While the Government now is seeking to spread the cost, many policy analysts argue that the projected aged care bill over the next fifty years will be affordable (Australian Department of Health and Aged Care 1999c).

Disability services

Disability services are funded under Commonwealth and state agreements and the delivery of such services involves both public and private sectors (Australian Institute of Health and Welfare 1999b). Responsibility has shifted between health and welfare portfolios, and at the Commonwealth level now comes under the Department of Family and Community Services. Disability assistance includes residential care, income support, employment services, rehabilitation services, equipment or environmental modifications, and personal care. The policy is to maintain people with disabilities as far as possible in the community, to promote independence, to improve access, and to promote involvement as members of the community. The National Disability Advisory Council established in 1996 advises government on policies and programmes. Following the Commonwealth *Disability Discrimination Act 1992*, standards and guidelines have been implemented in areas such as the workplace and public transport. The prevalence of disability in the community is measured by the presence of 17 limitations, restrictions or impairments, most recently in the 1998 Survey of Disability, Ageing and Carers (Australian Bureau of Statistics 1999a).

Mental health services

From the 1960s onwards, people with mental health disorders increasingly were treated in the community rather than in long-stay psychiatric hospitals. This became possible with advances in psychotropic drugs while attitudes changed towards incarcerating people. Beds in public psychiatric hospitals in Australia fell from 0.8 per 1000 in 1986 to 0.2 in 1998; between 1992 and 1998, the number of hospitals fell from 45 to 24 and beds from 7266 to 3122 (Australian Institute of Health and Welfare 2000). The shift from institutional to community care, while generally successful has involved debates over rights and appropriate treatments. Another issue is whether funds have followed patients, although some shift is evident with \$23 per annum per person now spent on institutions compared to \$24 on community mental health services (Australian Institute of Health and Welfare 2000). The National Mental Health Strategy aims to 'deinstitutionalize' and 'mainstream' by strengthening community mental health services and by moving treatment out of psychiatric hospitals and into general hospitals. The 1997 National Survey of Mental Health and Wellbeing (Australian Bureau of Statistics 1998) provided epidemiological data on the mental health status of the population and gathered benchmark information that can be used to improve the delivery of mental health services. Of the mental disorders that resulted in hospitalization in 1995–1996, the most common were depression

and schizophrenia, followed by neurotic disorders such as anxiety states and obsessive-compulsive disorders (Australian Institute of Health and Welfare 1998b).

Service delivery in rural Australia

People in rural and remote areas in Australia not only suffer from poorer health than their metropolitan counterparts, but they may also experience significant difficulties in accessing health care services due to difficulties in recruiting and retaining health professionals in rural communities. Historically, services in these areas have been provided by often-isolated practitioners, supported by small bush hospitals providing a limited range of services. The Royal Flying Doctor Service has played an important role in overcoming the ‘tyranny of distance’.

Steps have been taken in recent years to address these challenges, including the *More Doctors, Better Services* component of the 1999–2000 Federal Budget. The initiative included greater incentives for general practitioners to practice in rural areas; an increase in the level of support and education for health professionals in rural areas; and an increase in rural health services.

A specific feature was the Regional Health Services Programme that aims to work with small rural communities to identify local area health priorities, and support new health services designed to meet these needs. It focuses on community involvement to develop local solutions for local problems, and since 1999 over 80 new services have been established with another 75 in the planning phase.

Human resources and training

Healthcare is highly labour intensive. Employment in the health sector reached a peak of 7.6% of the workforce in 1991 before dropping to 6.9% in 1999; labour costs account for nearly two thirds of total health expenditure (Australian Institute of Health and Welfare 1998b). Structural changes during the 1990s included a growth in part-time employment (38% work part-time), continuing contraction in hospital employment, and a strong growth in community health services. Healthcare is a feminised sector with 77% of the total workforce being women. The proportion of women doctors has risen from 19% in 1981 to 30% in 1996, and will continue to rise with more women medical students and as more male doctors reach retirement age. Women comprised 28% of employed

practitioners in 1998 (Australian Institute of Health and Welfare 2000a). The ethnic composition also is changing with a drop in the proportion of medical practitioners born in Australia (to 62%) and an increase in Asian-born physicians (Australian Institute of Health and Welfare 1998b).

Physicians

In 1998, there were 48 934 employed medical practitioners, 20 852 primary care practitioners, 16 490 specialists and 4473 specialists-in-training (Australian Institute of Health and Welfare 2000a). General practitioners thus comprise 43% of all employed medical practitioners. The growth of medical specialization has slowed: the number of specialists increased by 48% between 1986–1991 but by only 12% between 1991–1996 (Australian Institute of Health and Welfare 1998b). Restrictions were placed upon speciality training posts in the late 1970s so that more medical graduates entered general practice; general practitioners thereafter increased by 7% between 1986–1991 and by 15% between 1991–1996.

After a steady increase over earlier decades, Australia had 2.4 physicians per 1000 population in 1998 (Table 12). Many OECD countries saw increases in their medical workforce in excess of population growth (Fig. 8). There are big differences in supply ranging from Italy with 5.5 doctors per 1000 population down to the United Kingdom with 1.6 (Fig. 9). Australia thus has fewer physicians than many countries. There is no agreement, however, on the optimal number of doctors. Further, it is difficult to predict future medical workforce needs given continuing changes in medical knowledge and technology, fluctuations in medical migration (in the case of Australia), temporary exits by women doctors from the medical workforce, and the uncertainties inherent in the six-year lag between entry to medical school and graduation. The usual market signals of supply, demand and pricing are also lacking. For example, a government committee in 1973 recommended a target of 1.8 doctors per 1000 population by 1991, which target was achieved by 1981 largely due to the inflow of medically qualified migrants (Scotton 1998).

The Australian Medical Workforce Advisory Committee established in 1995 monitors the composition and trends in the medical workforce and makes recommendations to government. The current policy is to contain the growth of the medical workforce by, first, limiting entry to medical schools; second, limiting the immigration of trained doctors; and third, restricting the number of medical practitioners eligible to bill Medicare. A second (and somewhat conflicting) concern is to increase the supply of physicians in rural and remote areas. A third concern, at least on the part of the AMA, is to balance supply and

Table 12. Health care personnel (per 1000 population), 1970–1998

	1970	1975	1980	1985	1991	1995	1996	1997	1998
Practising physicians	1.2	1.5	1.8	2	2.2	2.5	2.5	2.5	2.4
Practising dentists	0.3	0.4	0.4	0.4	0.4	0.4	-	-	
Practising certified nurses	4.3	5.7	7.1	8.9	8.5	8.4	8.4	-	-
Practising pharmacists	0.7	0.7	0.7	0.7	0.6	0.6	-	-	-

Source: Australian Institute of Health and Welfare 2000; OECD 2000.

demand, since the inflation-adjusted incomes for physicians declined between 1990–1996, unlike the pattern in some other industrialised countries (Anderson 1998).

The Commonwealth influences the supply of medical graduates through university funding. The Australian Health Minister's Advisory Council in 1996 called for a reduction to 1000 medical graduates from 2002, from the current annual intakes of around 1200 students (see Table 13) (Australian Institute of Health and Welfare 1998b). However, universities are reluctant to reduce their intake and it is politically extremely difficult to close medical schools.

The number of overseas trained doctors entering Australia on temporary contracts increased from 893 in 1993–1994 to 2224 in 1998–1999, mainly for employment in state health services, particularly in hospitals and in rural and remote areas (Australian Institute of Health and Welfare 2000).

Medicare offers another way to control physician numbers. The Commonwealth in 1996 restricted the 'provider numbers' allowed fees reimbursement under Medicare according to the number and practice locations of medical practitioners. To be eligible, general practitioners also must have the relevant qualifications. Further, the Commonwealth decreed that from 2000 no foreign-trained doctors would be eligible to bill Medicare, thus limiting their employment to salaried public hospitals and locum positions (Scotton 1998).

The Commonwealth government aims to increase the supply of physicians in rural and remote areas. The current distribution of generalist doctors and specialists is weighted heavily towards metropolitan areas, and there are more registered nurses in urban and rural centres than in remote areas (Australian Institute of Health and Welfare 2000) the government aims to redress this imbalance through several initiatives. New outreach medical courses are being established in rural locations and urban medical schools are expected to offer more places to rural and indigenous students. General practitioners are paid a grant to relocate to rural areas and rural practitioners will be rewarded for remaining. The Commonwealth 2000–2001 budget made access to health services for rural Australians a major priority (Australian Department of Health

and Aged Care 2000). More funding was announced for medical schools in rural Australia, to pay allied health professionals to work with rural general practitioners, for the establishment of specialist outreach services for rural areas, more scholarships for rural students in Australian medical schools, and programmes to attract pharmacists to rural areas.

Nurses

Nursing is the largest health profession. Since the mid-1980s the total number of employed nurses has been relatively stable, although the skill mix has shifted to better-trained nurses (registered rather than enrolled nurses). In 1996, there were 218 172 nurses employed in nursing in Australia, of whom 171 684 (79%) were registered nurses and 46 488 were enrolled nurses (Australian Institute of Health and Welfare 1999a). Nurse employment has declined throughout the 1990s. This means, for example, more hospital patients per nurse, from 44.6 patient discharges per FTE nurse in 1995–1996, to 49.3 in 1998–1999 (Australian Institute of Health and Welfare 1999).

In 1998, there were 9.5 nurses per 1000 population in Australia, which is around the middle range for western European countries (Fig. 9), but slightly more than in Canada and the USA. There are enormous differences between countries, however, although some differences are due to different definitions of who counts as a qualified nurse. Public hospitals are the largest employers of nurses in Australia (47%) of whom 82% were registered nurses (Australian Institute of Health and Welfare 1999a). The skill mix thus has shifted to highly qualified nurses given the need for more intensive patient care.

There are Australia-wide shortages in many areas of nursing, principally operating theatre, critical and intensive care, accident and emergency, cardio-thoracic, neonatal care, midwifery and mental health (Australian Institute of Health and Welfare 1999a). In this context the Australian Health Workforce Advisory Committee (AHWAC) is undertaking a national review of nursing issues. Initially the focus will be on the nursing sub-specialties of intensive/critical care, emergency, aged care, mental health and midwifery. There is also concern about dropping numbers of nurse trainees and the loss of trained nurses from the workforce – an issue in many industrialized countries.

Education and registration

Eleven universities offer a medical degree. Medical education traditionally was based upon a six-year undergraduate course, but three universities (Flinders University of South Australia, Sydney University and the University of Queensland) have switched to a four-year postgraduate medical degree. In addition to

academic merit, selection criteria take account of psychometric tests, rural home residence and indigenous status. The numbers of medical graduates increased steadily from the 1960s although entries to medical school dropped during the mid-1990s before again increasing (Table 13).

Nurse education completed its move in 1993 (begun in the 1980s) from hospital-based training to a three-year university degree. The number of students entering nurse training dropped in the mid-1990s but increased in the late 1990s (Table 13). From 1991 to 1996, the number of enrolled nurses declined by 38%, but the number of registered nurses increased by nearly 12%. A registered nurse has a minimum of a three-year degree, while an enrolled nurse has a one-year diploma. Australia thus has a more highly trained nursing workforce; it has an older nursing workforce since less than 6% of nurses are aged under 25 years; and more men have entered nursing (comprising 8% of nurses aged under 45 years) (Australian Institute of Health and Welfare 1998b:185).

Statutory boards in the states and territories register medical professionals upon graduation and subject to requirements on practical training. These boards set the educational requirements necessary for registration and practice, set minimum standards of competence, set limits of liability, investigate cases of malpractice, and can revoke licences to practice. The legislation allows for reciprocal recognition across States. Recognized colleges, representing each of the professions or specialties, assist in determining educational curricula and examination requirements, as well as entry criteria for qualification as a practitioner.

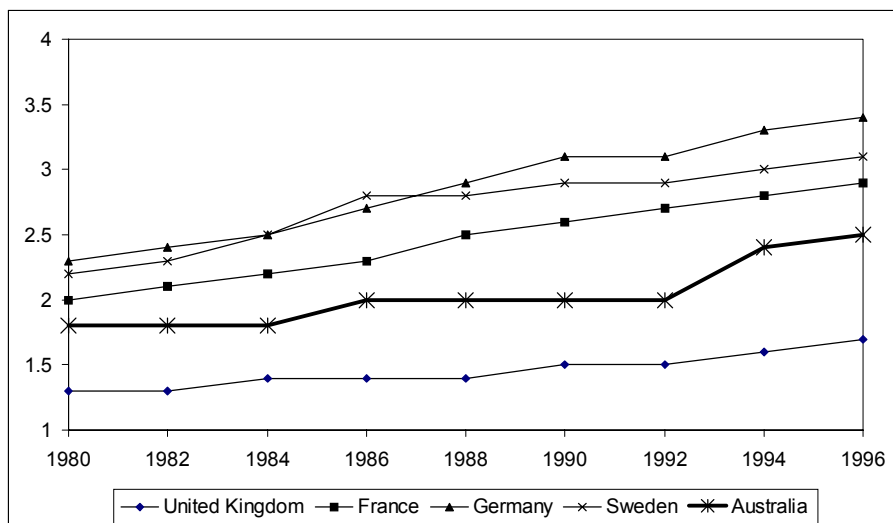
The colleges also set standards for the continuing medical education of health professionals. Postgraduate training is carried out in universities and under the auspices of the professional colleges. Postgraduate training in public health and health administration is offered at twelve universities.

Table 13. Health care entrants and graduates (per 1000 population), 1990–1998

	1990	1995	1996	1997	1998
Graduate physicians, per 1000 population	6.62	6.87	7.25	–	–
Graduate physicians, numbers	1 014	1 241	1 327	1 196	1 206
Undergraduate medicine entrants, numbers	1 405	856	928	1 233	1 221
Graduate dentists, per 1000 population	1.24	1.34	1.29	–	–
Graduate nurses, per 1000 population	36.70	50.09	44.41	–	–
Graduate nurses, numbers	5 212	10 414	10 090	9 356	–
Undergraduate nursing entrants, numbers	7 840	8 146	7 781	7 552	7 856
Graduate pharmacists, per 1000 population	2.10	2.17	2.41	–	–

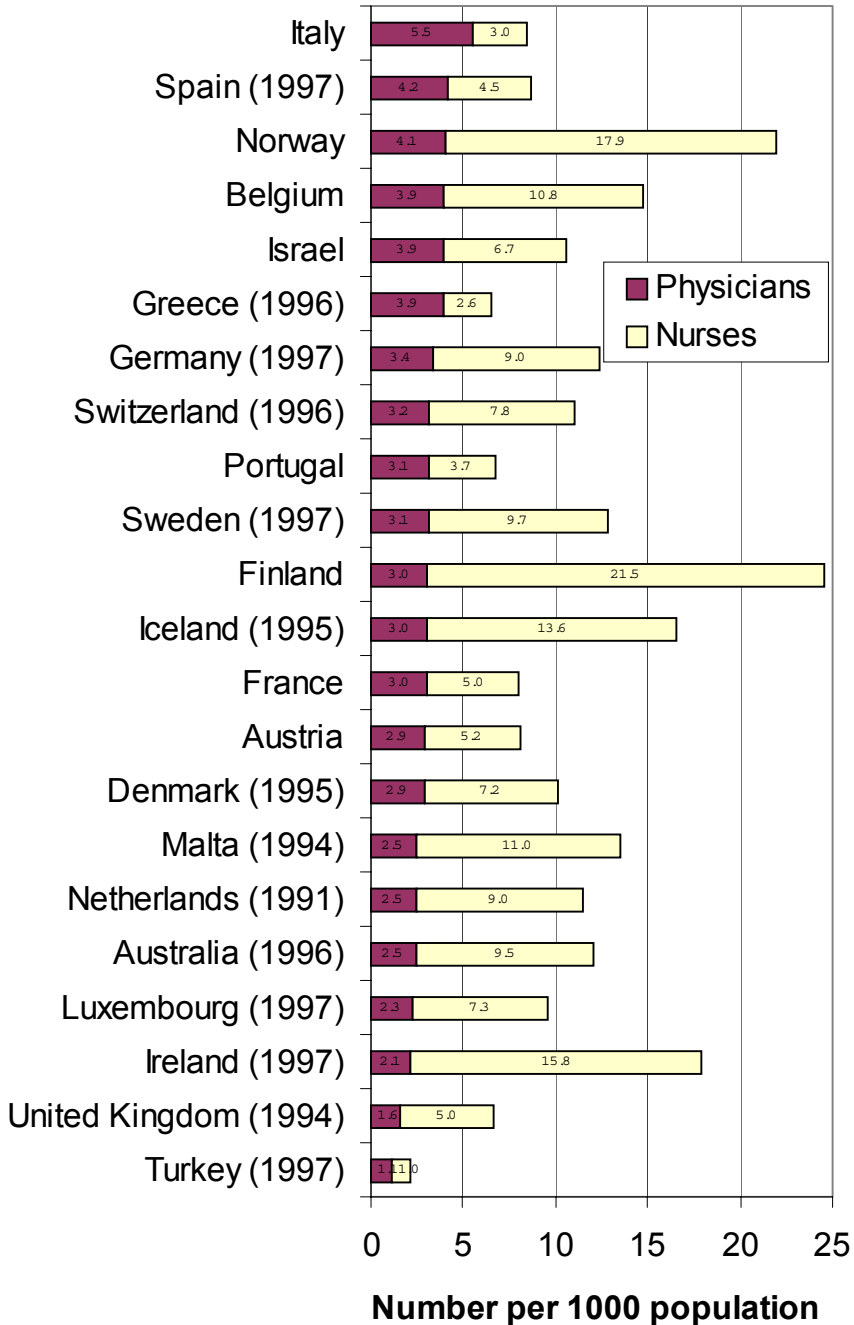
Source: Australian Institute of Health and Welfare 2000.

Fig. 8. Number of doctors per 1000 population in Australia and selected OECD countries, 1980–1996



Source: OECD 2000.

Fig. 9 Number of doctors and nurses per 1000 population in Australia and western Europe, 1998 or latest available year



Source: OECD 2000; World Health Organization 2001.

Pharmaceuticals and health care technology assessment

Pharmaceuticals

The Commonwealth has controlled the supply and costs of drugs through the Pharmaceutical Benefits Scheme (PBS) since 1948. Both the consumption and cost of drugs have risen markedly over that time, although the Australian Pharmaceutical Benefits Scheme has been relatively successful in regulating the quality and cost compared to other industrialised countries (Salkeld et al. 1998). Australians expect reliable, safe and affordable medicines given the past 50 years of government involvement in regulating and subsidizing pharmaceuticals.

Pharmaceutical Benefits Scheme expenditure rose by over one third between 1994–1995 and 1998–1999, while consumers continued to pay about 20% of the total cost of the scheme (Australian Institute of Health and Welfare 2000:306). Pharmaceuticals took 11.3% of total health expenditure in 1997 compared to 8.9% in 1990.

Using medication is the most common health-related action of Australians. The 1995 National Health Survey reported that 59% of the population had used some form of prescribed or non-prescribed orthodox medication in the two weeks prior to the household survey (Australian Bureau of Statistics 1997).

All consumer purchases of pharmaceuticals listed on the schedule of the Pharmaceutical Benefits Scheme are subsidized. Concessional beneficiaries (mainly pensioners) pay a lesser charge than the general public, but all consumers make a co-payment. These subsidies cover most drug purchases and all essential drugs. Nearly three quarters of prescriptions from community pharmacies are subsidised. In February 2000, 574 generic drugs were marketed as 2084 drug products or brands (Australian Institute of Health and Welfare 2000:302). State governments cover the costs of pharmaceuticals supplied to patients in public hospitals.

Several stages are involved before a drug is listed on the PBS schedule. First, a drug must be registered for marketing in Australia. Second, the Pharmaceutical Benefits Advisory Committee, an independent statutory authority, must recommend that the registered drug be listed. Third, the Minister of Health must decide whether to accept the recommendation. Finally, the Commonwealth negotiates a price with pharmaceutical wholesalers.

Pharmaceuticals go through an exhaustive assessment process. A pharmaceutical company submits an application for marketing a new drug to the Therapeutic Goods Administration within the Commonwealth Department of Health, and with advice from an expert committee, this unit considers evidence on pharmaceutical chemistry, toxicology, clinical pharmacology, clinical efficacy and safety (Salkeld et al. 1998). The next stage is an application for the registered drug to be included in the Pharmaceutical Benefits Scheme. The Pharmaceutical Benefits Advisory Committee considers two aspects. One sub-committee evaluates the need for the drug and its effectiveness and safety compared to existing drugs. Another sub-committee considers its comparative costs and effects, as required in a 1987 amendment to the *National Health Act 1953*. This amendment was significant in requiring that cost-effectiveness must be considered, while a methodology since has been developed for undertaking this analysis. The manufacturer must demonstrate the comparative cost-effectiveness of its drug and also prove that the drug has a significant therapeutic advantage over current drugs. This is done in accordance with detailed official guidelines that specify how the evidence for cost-effective is to be presented (Langley 1996; Salkeld et al. 1998).

The Pharmaceutical Benefits Advisory Committee recommends to the Minister for Health whether the drugs should be included in the Pharmaceutical Benefits Scheme and thus be eligible for a subsidy. Since 1993, the committee has based its recommendations on the effectiveness, cost-effectiveness and likely clinical use of a new product, including comparisons to already listed products for the same or similar indications. On the basis of community usage the committee recommends maximum quantities and repeats and may also recommend that a drug be restricted to specified types of patients. The Minister of Health then decides whether to accept the recommendation and the amount of subsidy.

The Commonwealth negotiates a price based mainly upon the cost information provided by the manufacturer and evaluated by the Pharmaceutical Benefits Advisory Committee. The Commonwealth government is effectively the sole purchaser of goods that are listed on the PBS schedule (a monopsony purchaser), and thus is in a strong negotiating position with the pharmaceuticals industry. Drugs listed on this schedule have consistently been priced below the world average (Salkeld et al. 1998). Australia also applies several strategies to promote price competition. First, measures were introduced to narrow the price gap between branded and generic equivalent products. From 1990 where a drug patent had expired, the PBS price is set with reference to the generic product and patients are required to pay the extra if they choose a branded product. From 1994, pharmacists were allowed to substitute an identical generic product without reference to the prescriber. Second, the public subsidy applies

only to the cheaper product when a therapeutically equivalent product exists. Third, over the last ten years the Commonwealth has increased consumer co-payments for pharmaceuticals. Fourth, price controls over the dispensing of pharmaceuticals have been instituted under an agreement with the Pharmacy Guild. Fifth, measures to influence the behaviour of prescribers include restricting PBS subsidies to drugs that have been shown to be cost-effective for particular clinical conditions (Australian Department of Health and Aged Care 1999a).

More attention has gone into information management. A new medication management system will electronically store individual medication records for those Australians who wish to have them available to doctors and pharmacists. The purpose of the new scheme is, first, to avoid potentially dangerous interactions of medicines, and second, to enable the automatic calculation of consumer entitlements to the safety net provisions of the Pharmaceuticals Benefit Scheme (Australian Department of Health and Aged Care 2000a).

Health care technology assessment

New technology and rising consumer expectations produce cost and demand pressures, and the aims of technology assessment are to impose quality and cost controls. Australia has a well-developed and effective two-stage system for the assessment of new medical technologies as well as pharmaceuticals, with separate approvals for use and for public subsidy. First, the Therapeutic Goods Administration (in the Commonwealth Department of Health) examines the safety and efficacy of diagnostic and treatment devices and pharmaceuticals, prior to approval being given for their use in Australia. Second, the Medical Services Advisory Committee considers the cost-effectiveness of medical interventions, and recommends whether the procedure will be covered by medical insurance on the Medicare Benefits Schedule.

State health departments and individual hospitals also decide whether to purchase new technology. 'Big ticket' items inexorably become standard issue in acute care hospitals and specialist community clinics. For example, magnetic resonance imaging units have increased from 11 in 1990 to 84 in 1998; computed tomography scanners have increased from 11 in 1980 to 235 in 1990 to 375 in 1995 (OECD 2000).

New technology will continue to be a major driver of increased costs in the health system, partly by allowing treatment for an expanded array of indicators. This underscores the need to maintain and strengthen mechanisms for technology assessment including the substitution of old technology and the adoption of new technology (Australian Department of Health and Aged Care 2000).

Financial resource allocation

Third-party budget setting and resource allocation

A schematic diagram of the financing flow is set out in Fig. 10. Commonwealth funds for health are raised principally through general taxes (56%) supplemented by the Medicare levy on taxable income (14%). At the Commonwealth level, the health portfolio must compete with other portfolios to maintain or increase its budget share, generally obtaining about 16% of the Commonwealth recurrent budget (Australian Department of Health and Aged Care 1999a). The Commonwealth Department of Health and Aged Care was allocated AUS \$2.15 billion dollars in the 2000–2001 financial year (Australian Department of Health and Aged Care 2000).

Commonwealth spending on health mostly is determined by commitments under four schemes: Medicare (which reimburses private medical care), the Pharmaceuticals Benefits Scheme, the Australian Health Care Agreements (funding for public hospitals), and aged care subsidies.

State government funding for health care comes from two main sources: first, Commonwealth general revenue and specific purpose grants, and second, the state general revenue base. The Commonwealth funds the states through block grants for health, which increasingly are tied to certain conditions, and through untied GST payments.

Commonwealth health grants to the states, under the Australian Healthcare Agreements are five-year agreements, based on a population formula plus components of performance measurement. The fiscal advantage of a state securing large health grants, however, may be offset by a reduction in its other revenue from the Commonwealth. Some grants are subject to fiscal equalization administered by the Commonwealth Grants Commission. The intention here is

to ensure that all states are able to provide an adequate level of services without levying higher taxes or surcharges upon their citizens; that is, the poorer states are cross-subsidized by the richer states.

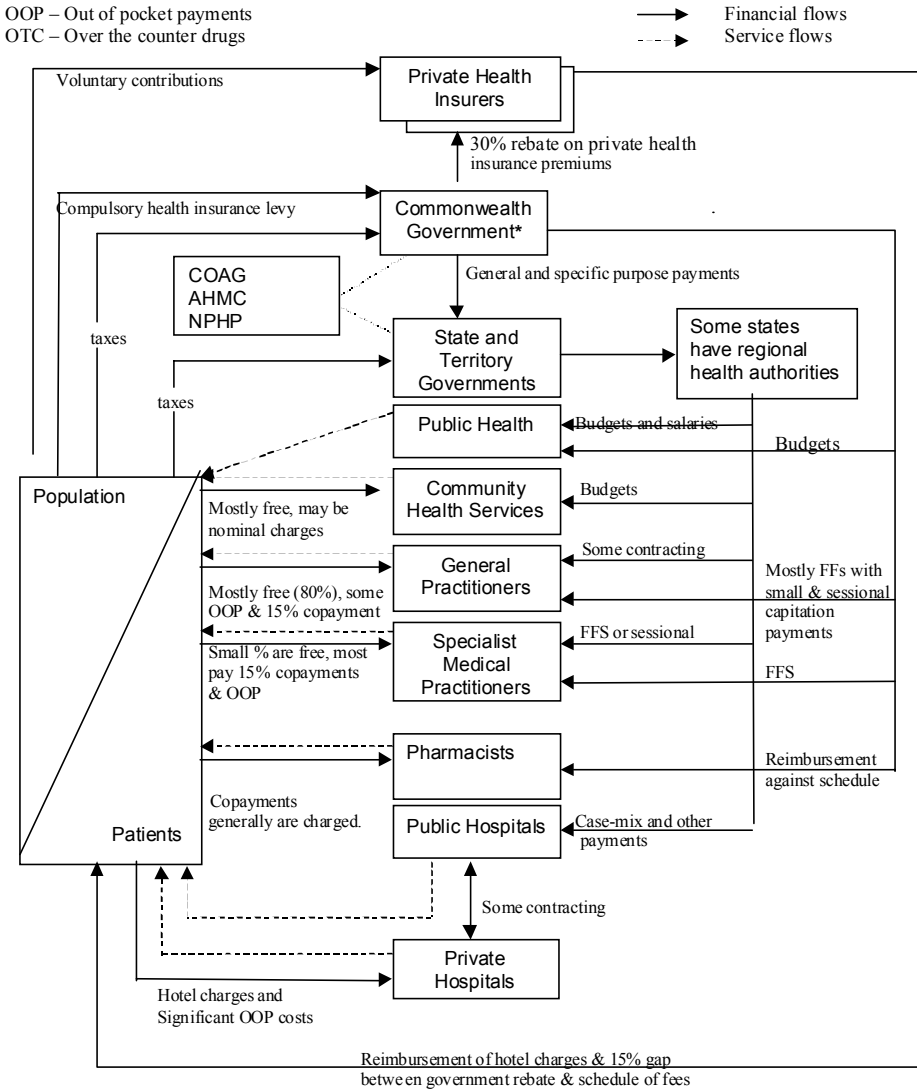
The Australian Health Care Agreements (funds for public hospitals) first were formalised in the 1984–1988 agreement, and are negotiated every five years between the Commonwealth and state governments, the current agreement running from 1999 to 2003. The working assumption is that public hospitals are a state responsibility. The Commonwealth provides capped prospective block grants to the states, who bear most of the risk if demand and costs increase during the five-year period. The renegotiation of these complex agreements involves a debate over the appropriate level of Commonwealth funding, which the states generally regard as insufficient to cover rising hospital costs. The agreements set out a number of conditions and performance indicators, including service targets, but allow the states considerable flexibility over resource allocation to hospitals. The key condition is a requirement for states to provide for treatment to all eligible persons without charge. Cost shifting is always an issue in these negotiations since each party suspects that health care is being ‘cost shifted’ from state-funded to Commonwealth-funded services or vice versa.

A state health department negotiates its budget within the state budgetary process. The health portfolio is highly significant within the state budgetary process, accounting for up to 40% of recurrent funds. The states differ in the way they allocate funds to healthcare administrators and providers. The New South Wales health department allocates funds to 17 area health services according to a resource allocation formula based variously on historical funding, a population-based formula weighted for age and sex, with some adjustment for resource use. The latter includes some activity-related measures such as casemix (Stoelwinder and Viney 2000). Other states negotiate contracts with providers, such as hospitals, and fund hospitals partly on a casemix formula, as discussed in the next section. Much of the budgetary attention of a state health department, as well as the state treasury, concerns payments to hospitals, since these generally take at least half the state health budget.

Payment of hospitals

Commonwealth funding for public hospitals is indirect to the states through the Australian health care agreements. Each state government then determines the overall level of funding and associated conditions for its public hospitals. As the states are responsible for meeting any increase in the demand for services over the five-year life of an agreement, and given their limited revenue raising

Fig. 10. Financing flow chart of Australia



*Commonwealth Government includes the following Departments: Health and Aged Care, Finance and Administration, Veterans Affairs, Family and Childrens Services
 Source: OECD Secretariat

capacity, they aim to improve cost-efficiency. The last decade has seen substantial changes in the way that public hospitals are funded; in particular, purchaser specificity and provider accountability have increased. State governments thus want to know what they are paying hospitals to produce.

State governments occasionally purchase hospital services from private providers under detailed purchase-of-service contracts. Commonwealth direct funding for private hospital services is limited to the reimbursement of 75% of the Medical Benefits Scheme fee for medical practitioners' services. Private health insurance may cover private hospital accommodation and medical and other inpatient services. Private insurers usually pay when patients use private facilities in either public or private hospitals, although private patients may have to pay some out-of-pocket costs. Approximately 63% of private hospital activity is funded through private health insurance funds. So far, the Australian private insurance industry has not adopted an active 'managed care' approach to paying private hospitals, as done, for example, by the insurance industry in the United States.

Most public hospitals (as autonomous organizations) are responsible for managing the funds they receive from the state. Given that it is politically difficult for a state government to allow a hospital to 'fail', that is, go bankrupt, if it mismanages its budget or if there are unforeseen costs, state governments exert precautionary budget controls principally through payment methods. State governments differ on how they fund public hospitals, most using variations on global prospective budgets and patient casemix payments.

Hospitals previously were funded using one or a mix of methods: an historical budget according to line items (such as salaries); patient cost per day (particularly in long-stay hospitals); or cost per patient stay. There was little standardization across hospitals or states. Most states had moved towards a mix of historical and negotiated hospital budgets by the 1980s. In the mid-1980s, some states, notably Victoria, negotiated detailed 40–50 page contracts known as health service agreements based on global prospective budgets and output goals. The next step, in the 1990s, was the introduction of casemix payments, whereby the funds received by a hospital would depend in part on the type and mix of cases that it treated.

Casemix payments

Australia has a long history of casemix funding, that is, 'paying hospitals a benchmark price for the mix of patients (cases) they treat' (Duckett 2000:147). Australia began to pilot the United States diagnosis related group (DRG) method of payment in 1985, and now has over 15 years experience in the intricacies of

DRG systems. Australia has produced its own standardized classification system, currently with 667 categories, known as the Australian National Diagnostic Related Groups (AN-DRGs). Pushed by the Commonwealth, all states (except New South Wales) now use the DRG system to fund public hospitals. The large hospitals all have computerized databases that keep transaction costs low. New South Wales has retained a large element of population funding in paying hospitals and uses casemix information more as a management tool.

Victoria was the first state to adopt casemix funding in 1993 prompted by a 10% cut in the state health budget. Cost efficiency pressures were the impetus for all state governments. DRG payments initially were followed by rises in admissions as hospitals sought to achieve the same level of funding, despite a payment ceiling on patient throughput. The two states that first introduced casemix funding, Victoria and South Australia, have increased patient throughput despite reduced hospital budgets. In Victoria, costs per separation (patient discharge) declined by 25% between 1991–1992 and 1996–1997 (Duckett 2000:156). Victoria thus has been judged the most efficient producer of casemix-adjusted public hospital services in Australia (Steering Committee for the Review of Commonwealth/State Service Provision 1998).

The states differ in how they incorporate casemix into hospital funding. The first issue is how to treat fixed and variable costs. Some states include both fixed hospitals costs and variable patient costs in the one payment; others pay a fixed grant to cover hospital overhead costs with another payment to cover the variable costs based upon the ‘casemix’. A second issue is how to handle the occasional very expensive cases. For example, some states require hospitals to fund the difference between the cost of a patient’s treatment and the DRG reimbursement up to a threshold value, above which all patient costs are funded from a ‘cost outlier pool’. A third issue is flexibility in that rather than an overall casemix, some states purchase clinical service groups (groups of DRGs), although a hospital cannot transfer funds between groups without government permission. A fourth issue is that some states assume that economies of scale exist so that larger hospitals are paid less than smaller hospitals for each DRG, while other states assume diseconomies of scale so that the reverse applies.

In summary, there appears to be an efficiency advantage in casemix funding (although this is contested) in that targets have been achieved through efficiencies rather than through service cuts in the context of state government budget constraints. There is, however, little evidence of the impact of casemix funding upon effectiveness, that is, upon patient health outcomes and service quality (Podger and Hagan 2000). A common criticism is that patients are discharged ‘quicker but sicker’. Attention now is being paid to developing comparable measures of quality and health outcomes.

Payment of health care professionals

The *Workplace Relations Act 1996* shifted the industrial relations focus away from centrally determined awards towards enterprise level bargaining on wages and employment conditions. Each state employs doctors to provide hospital services to public patients. The contractual terms and conditions and rates of payment of doctors employed by public hospitals vary across states. There are two main categories. Salaried medical officers are engaged as employees of the hospital and are paid a salary to work at the hospital full time. Visiting medical officers are engaged as independent contractors of the hospital and can be paid a fee-for-service for each procedure or on a sessional basis for a certain amount of time per week.

General practitioners charge a fee-for-service. They can bill patients directly, or 'bulk-bill' the Health Insurance Commission that administers Medicare, provided that the physician accepts 85% of the Medicare Benefits schedule fee as payment for their service. Most general practitioners 'bulk-bill' on a regular basis; in the 12 month period from July 1999 to June 2000, 79% of services were effectively free to patients through bulk-billing (Health Insurance Commission 2000). Alternatively, general practitioners may charge the patient a higher amount and the patient may then claim the 85% rebate on the schedule fee from the Health Insurance Commission. General practitioners may also be paid a small amount (in terms of their overall income) to deliver agreed public health services. Although the Medical Benefits schedule fee acts as a brake on medical fees (but also provides guaranteed payments), funding usually has not been used as a lever to change clinical practice.

Health care reforms

Various health system reforms embarked upon in OECD countries over the last two decades (Ham 1998; Saltman et al. 1998; Davis 1999) also have been tried in Australia. Health system reforms have been introduced by invoking terms such as transparency and value for money, and by invoking ‘ideas in good currency’ such as ‘managed competition’, ‘re-engineering hospitals’ and ‘evidence-based health care’ (Bloom 2000). Market-like reforms have been introduced such as budgetary incentives and competition, funding hospitals according to performance, greater emphasis upon micro-efficiency, some separation of purchasers and providers, and treating patients as customers. No matter the methods, however, much the same goals are sought in health care reform:

“At the heart of health reform everywhere is a search for a better answer to essentially the same questions: how is a health system best funded, how should provision be structured, how should equity be ensured and protected and how can quality be monitored and maintained?” (Bloom 2000:348–9).

The Australian health care system generally enjoys both political and public support so that changes, although numerous, have been incremental rather than radical in nature. Radical change is extremely difficult in the Australian political system (compared, for example, to New Zealand) given the federal form of government, which gives rise to many checks and balances, and the necessity to achieve agreement between the Commonwealth and the states (Bloom 2000). This section goes on to summarize the main thrust of current health care reforms and to flag reform directions for the next decade.

Aims and objectives

The main determinants of reform over the last decade in the Australian health care system, as in many OECD countries, have been efforts to contain costs and achieve greater efficiency while ensuring the quality of health care. The particular concerns in Australia have been as follows:

- cost pressures upon Commonwealth and state governments given limited budgets and rising health expenditures;
- the need to ration supply in the face of growing demand fuelled, for example, by new technologies, rising expectations and an ageing population;
- the lack of integration of health care services particularly for patients with complex health needs;
- an imbalance between the growing demand for private hospital care and falling private health insurance membership (now reversed);
- the persistence of serious health inequalities, most notably among Aboriginal and Torres Strait Islander people;
- the need to raise and monitor health service standards to improve the quality of care;
- better-informed patients who want more say in their health care.

The three main objectives of current health care reforms in Australia are as follows:

- to build a high-performing and sustainable health care system that provides cost-effective health services;
- to ensure that the public sector is complemented by a private sector that is fair, affordable, and represents good value for money;
- to improve the health outcomes of all Australians, particularly indigenous Australians and those living in rural and remote areas.

Reform implementation

The main historical phases during the twentieth century in the development of the Australian health care system can be summarized as follows.

First, a 1946 referendum followed by a Constitutional amendment (Section 51, xxiiiia) allowed the Commonwealth to make laws affecting health including the ‘provision of pharmaceutical, sickness and hospital benefits, medical and dental services’. Under the *Hospital Benefits Act 1946*, the Commonwealth

and states negotiated agreements on funding public hospitals. In the 1950s the Commonwealth began to subsidize drug purchases under the Pharmaceutical Benefit Act 1950, and medical services under the *National Health Act 1953*. This basic framework remains in place.

Second, universal publicly funded health insurance, Medibank, was introduced in 1975 but by 1981 had been scaled back to a voluntary health insurance scheme. Australia's current universal national health insurance scheme, Medicare, was introduced in 1984 and its basic features have continued unchanged.

Third, since the mid-1980s incremental but cumulatively substantial changes have been made to the health care system, although the main structural features have been preserved. A series of micro-economic reforms have significantly changed funding and management in the health care system. These policy and procedural changes have added up to almost constant organisational changes for many health providers.

The next sections go on to summarize key reform areas and the likely direction of future policies under the following headings: health for all; improving cost-effectiveness; improving quality and outcomes; improving equity; and altering the balance between sectors.

Health for all policy

Australia applied the type of concepts set out in the WHO health for all policy in its National Health Priority Areas initiative in July 1996. These priorities, agreed by the Australian Health Ministers, are a collaborative effort involving Commonwealth and state governments. Six national health priority areas have been selected for special effort: cardiovascular disease, cancers, injuries, mental health problems, diabetes and asthma. These areas were selected for several reasons: they are major causes of premature death and poor health; offer cost-effective opportunities for prevention and treatment; exhibit marked population inequalities; and data are available to monitor progress towards specified targets. The burden of disease has been calculated for these conditions (about 70% of the total health burden), as well as their associated health system costs, and a set of indicators have been developed in order to monitor progress towards national health targets (Australian Institute of Health and Welfare 2000).

As well as specific health programmes (such as managing hypertension), public health initiatives play an important role in improving the health status of Australians. For example, getting people to quit smoking will help their general health as well as reduce mortality and morbidity from specific health problems such as cardiovascular disease and lung cancer. Australia has adopted a number of national strategies aimed at addressing underlying and often interacting risk

factors. These include the National Tobacco Strategy; Acting on Australia's Weight; the National Food and Nutrition Policy; Developing an Active Australia; A Framework for Action for Physical Activity and Health; and the National Primary Prevention Strategy. Thus public health initiatives increasingly are treated as a health policy priority.

Improving cost-effectiveness

Much of the impetus for health system reforms in OECD countries has come from government efforts to manage increases in costs and obtain value for money. Per capita health expenditure (in real terms) in Australia has increased on average by 2.7% each year between 1985 and 1997. Total expenditure on the Australian health care system (in constant prices) has increased on average each year since 1970. Australia spends 8.5% of its GDP on the health care system, which is around the OECD average. Whether this is the optimal health care expenditure is as much a political and social as a technical judgement.

Most cost-containment measures use supply-side mechanisms. The Commonwealth has expenditure caps in place upon its funds for public hospitals (the Australian Health Care Agreements), but not upon Medicare Benefits, Pharmaceuticals Benefits or the Private Health Insurance Rebate. Cost containment also relies upon internal mechanisms within each of these three programmes, as discussed below. For example, the Pharmaceutical Benefits Scheme, and to a much lesser extent the Medical Benefits Scheme, subsidize services on the basis of evidence of their efficacy and cost-effectiveness.

The Medicare Benefits Schedule sets fees that are intended to contain public outlays and cost inflation by encouraging bulk-billing (and thus limit above schedule fees). Other cost containment measures include price-volume caps, targets negotiated with pathologists and radiologists, and restrictions on provider numbers (the number of doctors eligible to bill Medicare). Other options being canvassed include the following: 'blended payments' to reduce fee-for-service incentives that encourage maximum throughput; 'reward-sharing' from better prescribing and referral patterns; payments for achieving population health targets (such as child immunization); and capitation payments per patient. Fiscal incentives for physicians, however, must support improved service quality and health outcomes and not just control costs.

The Pharmaceuticals Benefits Scheme aims to increase the efficiency and effectiveness of drug consumption in Australia. The scheme has introduced co-payments and 'catastrophe' cover (whereby consumers make co-payments up to a nominated amount beyond which further consumption is wholly subsidized). Pharmacists can suggest alternative drugs to consumers (generic substitution), while similar drugs are aggregated into classes (and consumers

must pay more for expensive drugs). Australia has a sophisticated system of approving, listing and subsidising drugs, and its record in containing prices and costs is good by international standards. Yet the Pharmaceuticals Benefits Scheme remains the fastest growing component of health outlays, partly due to technological advances and the increased effectiveness of new drugs. Australia may be close to exhausting demand-side measures to contain costs (over 80% of PBS costs are subsidies for concession card holders). The emphasis now is upon translating cost-effectiveness in pricing into cost-effectiveness in prescribing. A supply-side strategy not so far invoked (given its considerable problems) would be to set an expenditure limit upon the Pharmaceuticals Benefits Scheme.

The Commonwealth funds public hospitals through capped block grants to the States under five-year agreements. The Commonwealth thereby limits its risks to a five-yearly negotiation, often highly politicised and publicised, and to whatever indexation arrangements are put in place for the five-year period. This formula is based on an economy-wide cost index, adjusted for changes in the age-weighted population make-up of each state. The states incur the financial risks over the five years for financial over-spends, as well as the humanitarian and political risks if they allow long hospital waiting lists (queuing by rationing). This has involved considerable conflict over real and perceived cost shifting between the Commonwealth and the states. The latest Australian Health Care Agreement took more steps to share the risks, and to encourage closer links between the three main health-funding programmes. At the state level, governments in the 1990s moved toward funding hospitals according to performance, principally through casemix-based payments. There is some evidence that those states that quickly implemented casemix-based purchasing have achieved more substantial efficiency gains.

'New public management' methods intended to achieve efficiencies included the introduction of market structures and practices, as promoted by the Productivity Commission and in the National Competition Policy. The former Liberal Government in Victoria, in particular, adopted market strategies although less so in health than in other sectors. Examples include the public hospitals contracting out for services, competing for a larger market share of patients, and competing to supply regional or statewide services (such as lithotripsy or complex neurosurgery). Victorian hospital patient unit costs have declined but it is unclear whether cost-efficiency gains resulted from competition, casemix payment systems, or hospital reorganization. Whether among hospitals, general practitioners, or aged care homes, there is little evidence as to whether competition has produced cheaper or better services. While a purchaser-provider split has been taken up by some states, there are concerns about the costs of another level of bureaucracy.

While considerable progress has been made with mechanisms to improve technical efficiency, such as casemix funding, much remains to be done to develop good measures of allocative efficiency. The Productivity Commission wants better measures of the health services that state governments provide or purchase, partly in order to compare apparent variations between the states in service performance. Considerable measurement difficulties would have to be overcome, however, before funding hospitals on the basis of health outcomes for patients: thus hospital ‘league tables’ continue to be regarded with caution.

Improving quality and health outcomes

The primary goal of a health care system is to produce good health care for the population. Quality and outcomes issues now receive more attention in Australia, the public agenda having been dominated for the last two decades by cost-efficiency issues. Governments have a responsibility to get ‘value for money’ when devoting public resources to health, but still do not know enough about which health care interventions are effective, for what conditions, under what circumstances, and at what cost (Podger and Hagan 2000). Balancing cost-containment initiatives with efforts to improve the quality of care is a major challenge.

The first requirement is a good information and evidence base upon which to base population health programmes and clinical interventions. Australia by international standards has good national data collections. However, better and more relevant information is required since government programmes, urged by the Productivity Commission, increasingly incorporate performance targets and outcomes measures. Evidence-based health care also is an idea in good currency (Frommer and Rubin 2000). The Commonwealth has subsidized the Australasian Cochrane Centre since 1992 to produce systematic reviews of the effects of healthcare clinical interventions upon which to develop evidence-based guidelines. The National Health and Medical Research Council issues guidelines on evidence-based practice, as do the professional colleges. The Commonwealth government has announced the establishment of a National Institute of Clinical Studies (NICS) to look at ‘best practice’ in treating the illnesses that most commonly cause admission to hospital, and to work with the medical profession to identify and develop clinical guidelines.

The second requirement is to ensure that this evidence is disseminated and used. Many health care organizations and professional groups now undertake quality assurance programmes. These include the voluntary scheme for accrediting hospitals, the many schemes in place in hospitals such as clinical audits, and requirements by the medical colleges for their members to engage in continuing medical education. Few formal, standardized and mandatory

schemes have been put in place, however. Thus quality continues to be everyone's concern but no-one's responsibility (Lapsley 2000:287).

Tools for measuring and improving the quality and safety of care health care must confront three broad kinds of concerns (Podger and Hagan 2000). First, the over-use of services includes the excessive or unnecessary use of X-rays and other diagnostic tests, unnecessary procedures such as hysterectomies and open-heart surgery, and over-prescribing of antibiotics. Those practices make patients vulnerable to harmful side effects and also waste money and resources that could be put to better use.

Second, the under-use of preventive, diagnostic or therapeutic health services includes delays in seeking care or receiving no care at all. In spite of the universal nature of Medicare, geographic, cultural, organizational and other barriers can limit a person's ability to seek or receive appropriate care.

Third, system failures include inadequacies in technical and interpersonal aspects of care. Inferior care results when health care providers lack necessary expertise, do not properly explain proposed interventions, or cannot communicate adequately with consumers. Examples include preventable adverse drug reactions, failure to monitor or follow up abnormal test results, failure to coordinate care, and failure to respond to ethnic and cultural differences among patients.

'Integrated care' initiatives are intended to remedy one aspect of system failure. Australian health care service delivery is fragmented between uncoordinated services and programmes delivered by a multiplicity of providers. Much discussion has ensued over the years on how best to integrate this 'jigsaw' of services (National Health Strategy 1991). The aim of an integrated health care system is to build services around the needs of people, rather than providers or institutions, by managing a continuum of care (a seamless system) for a defined population. The Australian government is piloting integrated care in coordinated care trials for people with above-average health needs (mainly those suffering from a chronic illness). These include trials aimed at improving the health of Aboriginal and Torres Strait Islander people. Early indications suggest there are gains to be made in terms of improved patient care.

Better patient information may also help to avoid system failures. The 2001–2002 Commonwealth Budget provided AUS \$18.5 million (matched by the states and territories) to support a two-year research and development program on a proposed national health information network, *HealthConnect*. Drawing on the potential of electronic health records to improve information flow, the network (if developed in full) will enable the safe electronic collection, storage and exchange of health information Australia-wide, with the permission of the person receiving the care. Under *HealthConnect*, health-related information

about a person would be collected in a standard format (or ‘event summary’) at the point of care, such as at a hospital or a general practitioner’s surgery. This information could then be retrieved at any time and exchanged via a secure network between authorized health care providers. The information gathered by this means will not only greatly improve individual treatment and care but also provide a better evidence base for the Australian health care system.

The general practice sector has been slow to take formal action to improve the quality of medical care. Although private general practice is the cornerstone of the Australian health care system it has remained ‘a cottage industry’ (Richardson *et al.* 1998:196). General practice has been the least affected during the health system reforms of the last decade or so. A start was made in 1991 under the General Practice Strategy in enhancing knowledge and skills, and by 1996 most general practitioners were members of Divisions of General Practice. Further, general practitioners now must have postgraduate vocational qualifications in order to register with Medicare. While billing practices are scrutinized by the Health Insurance Commission, there is little or no monitoring of the quality of medical services.

The Australian health system is moving from a preoccupation with provider issues to considering how to monitor the quality of health care that consumers receive. Apart from better patient records, another strategy is to empower the patient (or the patient’s agent) with information to inform choice and health behaviours. The government could help redress information asymmetry by acting as a source of authoritative health information and by communicating it to target populations. There is mounting evidence that informed consumers can make rational choices about health care. More say by patients in their own health care is perhaps the best guarantee that reforms to the system will be soundly based (Podger and Hagan 2000). This may also increase demand, however, resulting in the policy dilemma of empowering consumers versus containing costs.

A key criterion for evaluating health care systems is its acceptability among patients, the public and providers (Duckett 2000a:230). A survey of public opinion in five nations (Australia, Canada, New Zealand, the United Kingdom and the United States) found that in no nation was a majority content with the health system but that the concerns differed somewhat depending on the type of health system (Donelan *et al.* 1999). A salutary finding for health policy-makers in Australia, however, was that consumer dissatisfaction in Australia with some aspects of the health care system, such as consumer costs and hospital waiting lists, had risen over the last decade (Hall 1998-9). Only 18% of Australians thought the system worked well and needed only minor changes, compared with 34% feeling that way ten years ago. The survey was undertaken,

however, at a low point in Commonwealth funding for hospital services accompanied by well-publicised Commonwealth and state negotiations. Such findings also can be interpreted in various ways: that health services are worse, that public expectations are higher, or that the population views health reform as an ongoing process.

The last few decades have seen the emergence of active and vocal consumer groups. All the Australian states have developed consumer rights and complaints procedures of varying effectiveness, although there is little evidence that these have fed back into health policy-making (Lapsley 2000). The states have been required since 1993, under the Healthcare Agreements, to develop Public Patients' Hospital Charters. All States also have grievance procedures in place that cover the whole health system, either through State ombudsmen or through Health Services Commissioners. For example, South Australia passed the *Ombudsman Act 1972* on the Scandinavian model; in Victoria consumers can complain to the Health Services Commissioner (www.dhs.vic.gov.au). Private hospital patients can complain to the Private Health Insurance Ombudsman, a statutory body funded by the Commonwealth through a levy on private insurance funds.

Improving equity and access

There is bipartisan agreement in Australia on the importance of ensuring universal access through removing financial barriers to access to the health care system (Duckett 2000a:225). The key means have been universal health insurance (Medicare), the ability of doctors to bulk bill Medicare for their patients and thus avoid patient co-payments, and guaranteed access to public hospitals. Access barriers remain, however, in terms of the geographic distribution of health services, and differences in waiting times for hospital treatment (with higher income of privately insured patients able to secure quicker access to treatment from private hospitals). Equity of outcomes is a particularly problematic in relation to the worse health outcomes for Aboriginal people.

Altering the balance

By international standards, Australia has a substantial private sector involvement in health care, which accounts for around one third of total health expenditure (including out-of-pocket payments) and two thirds of health services delivery, which shares have remained relatively unchanged over the last decade.

The Commonwealth government (Liberal/National coalition) has changed the balance between public and private insurance. Private health insurance fell

in membership and revenue after the introduction of Medicare: the proportion of the population with private health insurance fell from over 60% in 1983 to 30.1% in 1998. The Commonwealth has reversed the decline in membership to ensure greater choice as well as universal access. Thus 45.1% of the population had private hospital cover as at March 2001, up from 30.1% in 1998 (Private Health Insurance Administration Council). A viable private insurance industry must be more active, however, in securing cost-effective care for its members (Richardson et al. 1998:196). The future of private hospitals in large part is tied to the future of private health insurance. The government is committed to the survival and viability of private hospitals. They provide about one third of the stock of acute care beds, and are expanding their capacity in one-day surgery, which reduces the pressure on waiting lists for elective surgery in public hospitals (Foley 2000).

The balance between the Commonwealth and the states is continually renegotiated in federal systems of government, and the main political parties in Australia each take positions on the question of Commonwealth versus 'states rights'. The Commonwealth has strengthened its policy and funding powers in the health sector since the 1940s, however, and is unlikely to retreat. The Council of Australian Governments (COAG) is addressing the perennial issue of functional overlaps between the Commonwealth and the States. To the public, however, gaps in health services matter more than overlaps. Intergovernmental relations arguably proceed more smoothly now that funding mostly is formalized in five-year agreements and the conflicting incentives surrounding cost shifting are being addressed.

Finally, the balance between types of health care will continue to change with changing population needs and changing technology. More health care is shifting from institutions to community-based health care services and from a stay in hospital to one-day admissions. The balance between preventive and curative health care services has also changed slightly in Australia with more effort directed to population health interventions. The goal of improving health outcomes for the population has directed more attention to public health, which currently attracts less than 2% of total health expenditure. A substantial part of "the burden of disease" is attributable to 10 risk factors, all or which can be significantly reduced through public health interventions.

Conclusions

Australians have reason to be satisfied with their health care system in that the population enjoys good health, most have ready access to health services, services usually are of high quality, and the public make fair payments and share the fiscal risks of ill-health (Podger and Hagan 2000). The health care system in general thus enjoys both political and public support. Australia historically is committed to public financing and public involvement in health care. There are no calls to radically change the sources of revenue or the amount of spending. Medicare has retained bipartisan political support since its introduction in 1984 and the major political parties are committed to its continuation. The cost of the health system to the economy is reasonable (in international terms) at around 8.5% of GDP.

Although the overall picture is positive, there is dissatisfaction with particular parts of the health care system (such as hospital waiting lists), and among particular population groups (such as people in rural areas). Recent consumer satisfaction surveys also suggest little room for complacency. Despite these tensions, however, there is no strong demand for radical change. Australia's health care system has evolved slowly and incrementally for several reasons: a federal system of government; a bicameral Parliament; responsibility for health care divided between levels of governments; and a pluralist health care field including a large private sector. The ability of this complex system and its many stakeholders to agree upon or to adapt quickly to major change is limited. Although the history of health reform in Australia can be characterized as incremental, this is not to suggest that change has been insignificant or imperceptible. On the contrary, there is a lively public debate, well covered by the media, on the future of health care, the many tensions within the system, controversies about ongoing structural changes, and concerns about the quality of care.

The main hallmarks of Australian reform include the following: the preservation of universal tax-financed health care; the dominance of ‘supply-side’ theory in order to contain costs; a strong ‘stewardship’ role for government; some alteration in the public/private mix with attempts to strengthen the market; and a continuing commitment to ‘social solidarity’ and equity (Bloom 2000).

The three basic goals of health care system reform are equity (fair payment, fair access to and use of services and equity of outcomes), efficiency (value for money), and quality (high standards and good health outcomes)

Equity has been protected in that Australia retains a largely tax-funded health care system. Patient co-payments have increased but concessions have been made for low-income and high-use groups. Efforts have been made to improve allocative (or distributional) equity across states, across geographic areas and across population groups. The health status of indigenous people, however, remains a glaring and intractable problem. To this can be added more recent concerns with the poorer health access and outcomes for people in the vast rural and remote areas of Australia. These differences between groups threaten social solidarity. Further, there is concern that a two-tier health system could develop in hospital care between public patients and private patients with private insurance.

Efficiency has been improved with health sector reforms in Australia over the last decade. Australian spending on healthcare is about the level that might be expected for a prosperous country (around 8.5% of GDP), and cost increases largely have been contained. Both Commonwealth and state funding programmes have achieved some success in containing costs, principally through supply-side methods. The health care system has invested considerable effort in micro-economic measures, such as formal intergovernmental programmes, casemix funding, and better management information systems. The extent and reasons for some of the cost-efficiency gains are arguable, however, as is their effect on cost-effectiveness.

Quality is firmly on the health policy agenda at the beginning of the twenty-first century. Health outcomes for the population generally are positive with long life expectancies and falling mortality rates for many diseases and conditions. The country produces well-trained health professionals and education and training curricula are regularly reviewed. However, more attention is being paid to improving the quality of health care delivery and to measuring and monitoring specific health outcomes. Australia collects considerable health data but there are yet few formal systems in place for monitoring standards. More consideration also is being given to the establishment of quality assurance schemes.

Health care reform in Australia is an ongoing process in the context of changing population health needs, advances in technology, and changes in governments and their ideological preferences. Concerns about health system viability, efficiency and effectiveness will continue to be addressed in the twenty-first century.

References

- ANDERSON, G. F. (1998) *Multinational Comparisons of Health Care, Expenditures, Coverage and Outcomes*. New York: the Commonwealth Fund.
- AUSTRALIAN BUREAU OF STATISTICS (1997) *National Health Survey: Summary of Results, Australia 1995*. Canberra: ABS.
- AUSTRALIAN BUREAU OF STATISTICS (1998) *Mental Health and Wellbeing, Profile of Adults, Australia, 1997*. Cat. No 4326.0, Canberra: ABS.
- AUSTRALIAN BUREAU OF STATISTICS (1999) *The Health and Welfare of Australia's Aboriginal and Torres Strait Islanders*. Canberra: ABS & AIHW.
- AUSTRALIAN BUREAU OF STATISTICS AND AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1999) *The Health and Welfare of Australia's Aboriginal and Torres Strait Islanders*. Canberra: ABS.
- AUSTRALIAN BUREAU OF STATISTICS (1999a) *Disability, Ageing and Carers: Summary of Findings, Australia 1998*. ABS Cat. No. 4364.0: Canberra: ABS.
- AUSTRALIAN BUREAU OF STATISTICS (1999c) *Older People, Australia: A Social Report 1999*. ABS Cat, No 4109.0, Canberra: ABS.
- AUSTRALIAN BUREAU OF STATISTICS (1999d) *Australian Social Trends, 1998*. No Canberra: ABS.
- AUSTRALIAN BUREAU OF STATISTICS (2000) *Yearbook Australia 2000*. Cat. No. 1301.0.0, Canberra: ABS.
- AUSTRALIAN DEPARTMENT OF HEALTH AND AGED CARE (1999) *Public and Private: In Partnership for Australia's Health*. Canberra, Department of Health and Aged Care.
- AUSTRALIAN DEPARTMENT OF HEALTH AND AGED CARE (1999a) *Health Expenditure: Its Management and Sources*. Canberra, Department of Health and Aged Care.

AUSTRALIAN DEPARTMENT OF HEALTH AND AGED CARE (1999b) *Synopsis of the Reports of General Practice Reviews*. Canberra, Department of Health and Aged Care.

AUSTRALIAN DEPARTMENT OF HEALTH AND AGED CARE (1999c) *Ageing Gracefully: An Overview of the Economic Implications of Australia's Ageing Population Profile*. Canberra, Department of Health and Aged Care.

AUSTRALIAN DEPARTMENT OF HEALTH AND AGED CARE (2000) *Budget Papers 2000–2001, Fact Sheet 3*. Canberra, Department of Health and Aged Care.

AUSTRALIAN DEPARTMENT OF HEALTH AND AGED CARE (2000a) *Technology, Health and Health Care*. Canberra, Department of Health and Aged Care.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1998) *Australian Hospital Statistics 1996–1997*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1998a) *International Health: How Australia Compares*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1998b) *Australia's Health 1998*. Cat. No. AUS 10, Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1998c) *Health in Rural and Remote Australia, 1998*. Cat. No. 8919.0 Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1999) *Health Expenditure Bulletin No. 15: Australia's health services expenditure 1997–1998*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1999a) *Nursing Labour Force 1998*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (1999b) *Australia's Welfare 1999: Services and Assistance*. Cat. No. AUS 16, Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (2000) *Australia's Health 2000*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (2000a) *Medical Labour Force 1998*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (2001) *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (2001a) *Health expenditure Bulletin No. 17: Australia's health services expenditure to 1999–2000*. Canberra: Australian Institute of Health and Welfare.

AUSTRALIAN INSTITUTE OF HEALTH AND WELFARE (2001b) *National Public Health Expenditure Report 1998–1999*. Canberra: Australian Institute of Health and Welfare.

BLOOM, A. (2000) Context and lead-up to health reform, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

BLOOM, A. (2000a) Hospital co-locations: private sector participation in the hospital sector, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

BUTLER, J. R. G. (1998) Health expenditure, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.

CORDEN, S. AND LUXMORE, J. (2000) Managing performance for better results, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

DAVIS, K. (1999) International health policy: common problems, alternative strategies, *Health Affairs*, 18(3): 135-43.

DEEBLE, J., MATHERS, C., SMITH, L., *et al.* (1998) *Expenditures on Health Services for Aboriginal and Torres Strait Islander People*. Cat. No. HWE 6. Canberra: AIHW, DHFS & NCEP.

DONATO, R. AND SCOTTON, R. (1998) The Australian health care system, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.

DONELAN, K., BLENDON, R. J., SCHOEN, C., DAVIS, K. AND BINNS, K. (1999) The cost of health system change: public discontent in five nations, *Health Affairs*, 18(3): 206–16.

DUCKETT, S. J. (1998) Economics of hospital care, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.

DUCKETT, S. J. (2000) The evolution of the purchaser role for acute in-patient services in Australia, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

DUCKETT, S. J. (2000a) *The Australian Health Care System* South Melbourne: Oxford University Press.

FOLEY, M. (2000) The changing public-private balance, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

FROMMER, M. S. AND RUBIN, G. L. (2000) Evidence-based health care, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

- GARDNER, H. AND McCOPPIN, B. (1989) Emerging militancy? The politicisation of Australian allied health professionals, in H. Gardner (eds) *The Politics of Health: The Australian Experience*. Melbourne: Churchill Livingstone.
- GIBSON, D. (1998) *Aged Care: Old Policies, New Problems*. Cambridge UK: Cambridge University Press.
- GLOVER, J., HARRIS, K. AND TENNANT, S. (1999) *A Social Health Atlas of Australia, Vol 1: Australia 2nd edition*. Adelaide: Public Health Information Development Unit, University of Adelaide.
- HALL, J. (1998-9) Five country survey shows rising dissatisfaction with health care systems, *Healthcover*, 8(6): 11-15.
- HAM, C. (1998) Lessons and conclusions, in C. Ham (eds) *Health Care Reform*. Buckingham: Open University Press.
- HEALTH INSURANCE COMMISSION (2000) Annual Report 1999-2000. Canberra, Health Insurance Commission.
- HEALY, J. (1998) *Welfare Options: Delivering Social Services*. Sydney: Allen & Unwin.
- HINDLE, D. AND PERKINS, R. (2000) Health care financing in Australia and New Zealand, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.
- HOWE, A. (1997) The aged care reform strategy: a decade of changing momentum and margins for reform, in A. Borowski, S. Encel and E. Ozanne (eds) *Ageing and Social Policy in Australia*. Cambridge: Cambridge University Press.
- HOWE, A. (1998) The economics of aged care: achieving quality and containing costs, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.
- HURST, J. AND JEE-HUGHES, M. (2000) *Performance Measurement and Performance Management in OECD Health Systems*. Paris: OECD.
- INDUSTRY COMMISSION (1997) *Private Health Insurance*. Report No. 57. Canberra, Australian Government Publishing Service.
- KEWLEY, T. H. (1973) *Social Security in Australia: 1900-1972*. Sydney: Sydney University Press.
- LANGLEY, P. C. (1996) The November 1995 revised Australian Guidelines for the economic evaluation of pharmaceuticals, *PharmacoEconomics*, 9: 341-52.
- LAPSLEY, H. (2000) Quality measures in Australian health care, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

- LIN, V. AND KING, C. (2000) Intergovernmental reforms in public health, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.
- LYON, K. (2000) They said it couldn't be done: contracting for veterans' hospital care in Australia, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.
- MATHERS, C. (1994) *Health Differentials Among Adult Australians Aged 25–64 Years*. Health Monitoring Series No 1. Canberra: Australian Government Publishing Service.
- MOONEY, G., JAN, S, WISEMAN, J. (1998) Economic issues in Aboriginal health care, in G. Mooney, Scotton, R (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.
- MOSSIALOS, E. AND LE GRAND, J. (1999) Cost containment in the EU: an overview, in E. Mossialos and J. Le Grand (eds) *Health Care and Containment in the European Union*. Aldershot, England: Ashgate.
- NATIONAL HEALTH STRATEGY (1991) *The Australian Health Jigsaw: Integrated Health Service Delivery Issues Paper No. 1*. Canberra, Australian Government Publishing Service.
- OECD (1999) *OECD Health Data 99: Comparative analysis of 29 countries*, OECD.
- OECD (2000) *OECD Health Data 2000: Comparative analysis of 29 countries*, OECD.
- OECD (2000a) *OECD Economic Surveys: Australia 1999/2000*. Paris, Organisation for Economic Co-operation and Development.
- OWENS, H. (1998) Health insurance, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.
- PODGER, A. AND HAGAN, P. (2000) Reforming the Australian health care system: the role of government, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.
- PRIVATE HEALTH INSURANCE ADMINISTRATION COUNCIL Quarterly Reports. Canberra, PHIAC. www.phiac.gov.au
- PRIVATE HEALTH INSURANCE ADMINISTRATION COUNCIL (1998) *Annual Report 1997–98*. Canberra, PHIAC.
- PUSEY, M. (1991) *Economic Rationalism in Canberra: A Nation Building State Changes Its Mind*. Melbourne: Cambridge University Press.
- RICHARDSON, G., MAYNARD, A., CULLUM, N. AND KINDIG, D. (1998) Skill mix

changes: substitution or service development?, *Health Policy*, 45: 119–32.

SALKELD, G., MITCHELL, A. AND HILL, S. (1998) Pharmaceuticals, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.

SALTMAN, R. B., FIGUERAS, J. AND SAKELLARIDES, C. (1998) *Critical Challenges for Health Care Reform in Europe*. Buckingham: Open University Press.

SAX, S. (1984) *A Strife of Interests: Politics and Policies in Australian Health Services*. Sydney: Allen & Unwin.

SCOTTON, R. (1998) The doctor business, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.

SHEILL, A. AND CARTER, R. (1998) Public health: some economic perspectives, in G. Mooney and R. Scotton (eds) *Economics and Australian Health Policy*. Sydney: Allen & Unwin.

Steering Committee for the Review of Commonwealth/State Service Provision (1998) *Report on Government Services*, Vol. 1: Education, Health, Justice, Emergency Management. Canberra, Commonwealth of Australia.

Steering Committee For the Review of Commonwealth/State Service Provision (1999) *Report on Government Services*. Canberra, AusInfo.

STOELWINDER, J. AND VINEY, R. (2000) A tale of two states: New South Wales and Victoria, in A. L. Bloom (eds) *Health Reform in Australia and New Zealand*. Melbourne: Oxford University Press.

SWERISSEN, H. AND DUCKETT, S. (1997) Health policy and financing, in H. Gardner (eds) *Health Policy in Australia*. Melbourne: Oxford University Press.

UNITED NATIONS POPULATION DIVISION (1998) *World Population Prospect: the 1998 revision, Vol 1*. New York: United Nations.

WORLD BANK (2000) *World Development Report 2000/2001: Attacking Poverty*. Oxford: Oxford University Press.

WORLD HEALTH ORGANIZATION (2001) *Health for all database*. Copenhagen: WHO Regional Office for Europe.

WORLD HEALTH ORGANIZATION (2000) *The World Health Report 2000. Health Systems: Improving Performance*. Geneva: World Health Organization.

WORLD HEALTH ORGANIZATION REGIONAL OFFICE FOR EUROPE (1999) *Health 21: Health for All in the 21st Century*. Copenhagen: WHO Regional Office for Europe.