6 Health services and resources

- Health expenditure
- Acute care hospital admissions and patient days
- Acute care hospital beds and length of stay
- Nursing homes
- Health workforce
- Medical practitioners

Health expenditure

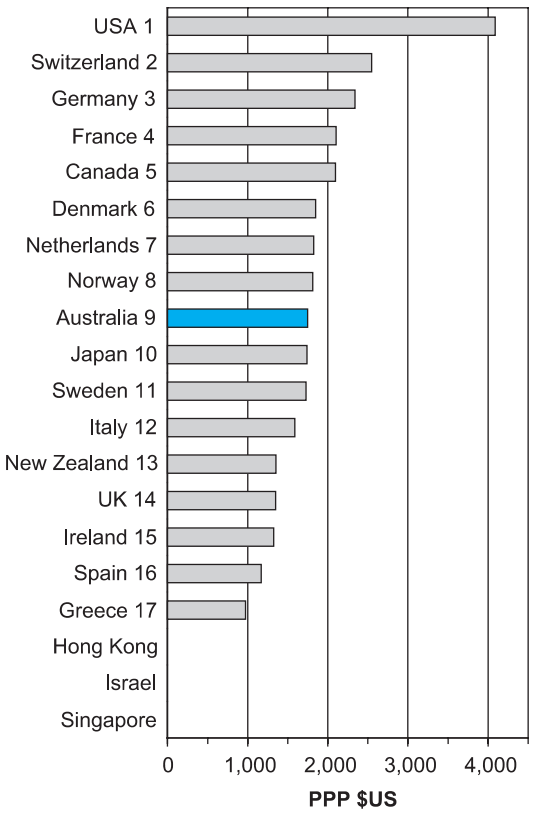

Figure 1: Health expenditure per capita, 1997

Figure 2: Health expenditure as a proportion of GDP, 1997

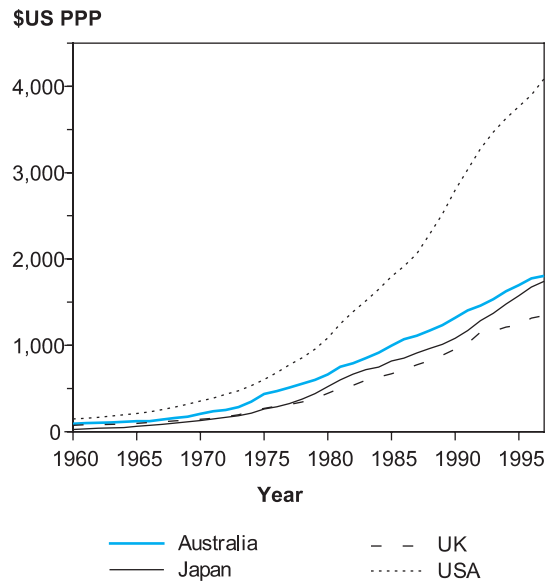

Figure 3: Trends in health expenditure per capita, 1960 to 1997

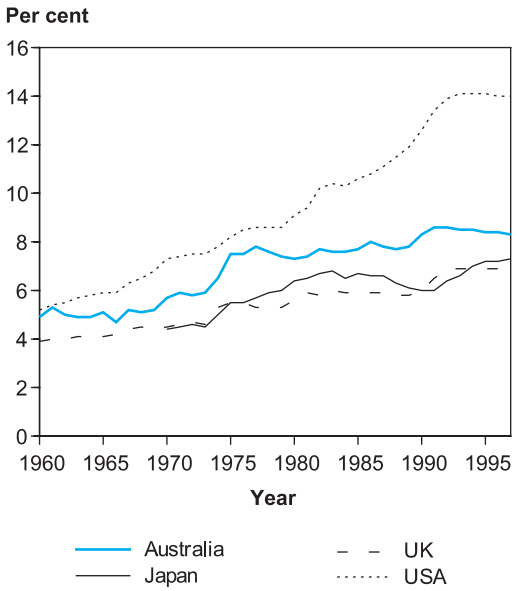

Figure 4: Trends in health expenditure as a proportion of GDP, 1960 to 1997

Health expenditure

Health expenditure indicators, 1997

Country	Health expenditure (billion US$ PPP)[a]	Amount per capita (US$ PPP)	Proportion of GDP (per cent)	Public contribution (per cent)
Australia[b]	32.2	1,750	8.4	68.7
Canada	63.3	2,095	9.3	68.7
Denmark	9.7	1,848	7.7	65.0
France	123.2	2,103	9.9	78.4
Germany	192.2	2,339	10.4	77.4
Greece	10.2	974	7.1	74.8
Hong Kong	—	—	—	—
Ireland	4.8	1,324	7.0	75.0
Israel	—	—	8.4	44.0
Italy	91.3	1,589	7.6	69.9
Japan	219.6	1,741	7.3	77.4
Netherlands	28.5	1,825	8.5	72.0
New Zealand	5.0	1,352	7.6	77.4
Norway	8.5	1,814	7.4	82.2
Singapore	—	—	—	—
Spain	46.4	1,168	7.4	78.7
Sweden	15.3	1,728	8.6	83.3
Switzerland	18.2	2,547	10.2	69.9
UK	79.2	1,347	6.7	84.5
USA	1,095.1	4,090	14.0	46.7

(a) Purchasing power parities (PPP) are used here to convert health expenditure. PPPs show the rate at which a given amount of one currency can be converted into the other in order to purchase the same quantity of a particular item in both countries (OECD 1998).
(b) Australian data is for 1996–97.

Sources: OECD 1998; Israel CBS 1996.

- Expenditure on health care comprises a significant proportion of government budgets in developed countries, and provides some indication of the priority placed by a society on health and health care. The provision of health care services is also an important industry that in itself contributes to national production.
- A number of factors combine to make international comparisons of health expenditure problematic, most notably the lack of standard definitions and data.
- In 1996–97, Australia spent US$32.2 billion on health services, or US$1,750 per person. The amount spent was 8.4% of Australia's gross domestic product (GDP). Almost 69% of this amount was government expenditure, the rest being sourced from the private sector. This is in contrast to expenditure in the United States and Israel, where less than half of the total health expenditure was publicly funded in 1997.
- Australian spending per capita and as a proportion of GDP ranks towards the middle for the developed countries which have data available (Figures 1 and 2). The United States spends more on health services than any other country, both in absolute dollar terms, and as a proportion of GDP—exceeding the next highest country by more than US$1,000 per capita and 3.6% of GDP (Figures 1 and 2). Expenditure per capita in the United States has increased six-fold in the 20 years between 1975 and 1995 (Figure 3).
- Since the mid-1970s, health expenditure as a proportion of GDP has stabilised in many developed countries—including Australia, Japan and the United Kingdom—due largely to government control of public sector health expenditure (Figure 4). However, in the United States, the proportion of GDP spent on health has only recently begun to plateau.

For more information, see:

OECD 1990. Health care systems in transition—the search for efficiency. OECD Social Policy Studies No. 7. Paris: OECD.

AIHW 1996. Health expenditure bulletin, No. 12. Canberra: AIHW.

Acute care hospital admissions and occupancy

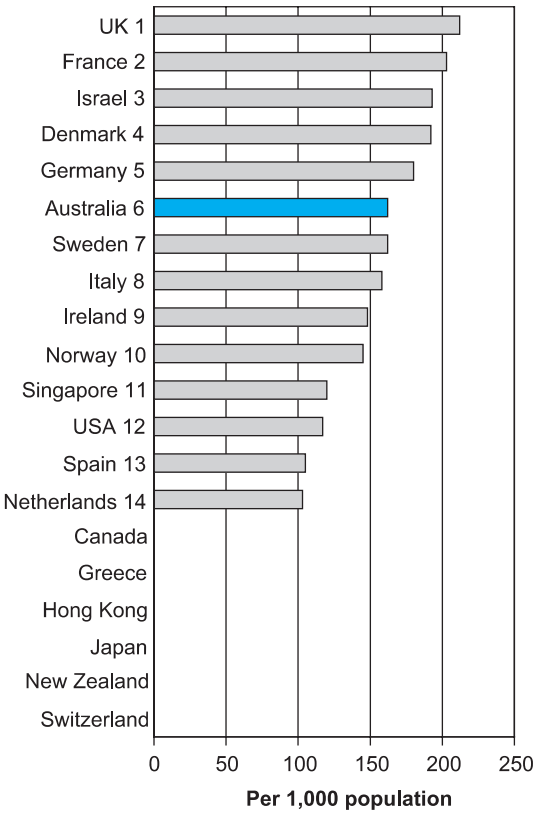

Figure 1: Acute care hospital admissions, 1993

Figure 2: Acute care patient days, 1995

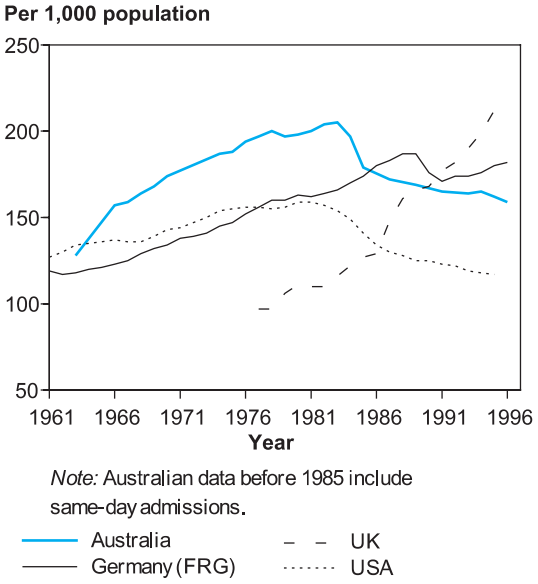

Figure 3: Trends in acute care hospital admissions, 1960 to 1996

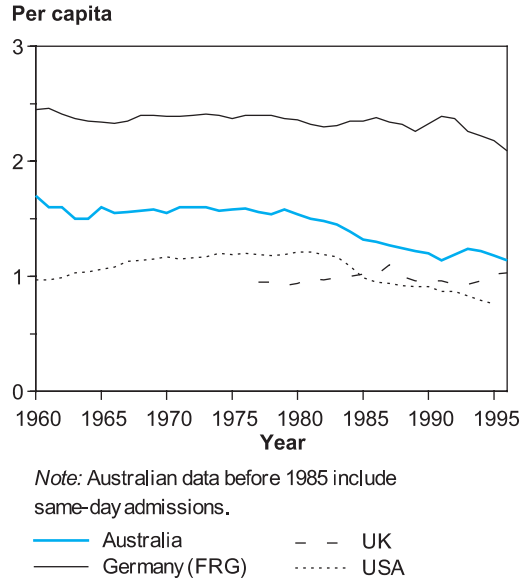

Figure 4: Trends in acute care patient days, 1960 to 1996

Acute care hospital admissions and patient days

Acute care hospital admission rate and patient days per capita[(a)]

Country	Acute care hospital admissions (per 1,000 pop.)				Acute care hospital patient days (per capita)			
	1970	1980	Latest year		1970	1980	Latest year	
Australia[(b)]	174	198	1996–97	159	1.6	1.6	1996–97	1.1
Canada	—	146	1992	114	—	1.6	1995	1.3
Denmark	143	176	1995	192	—	1.6	1995	1.2
France	—	175	1995	203	—	1.8	1997	1.2
Germany (FRG)	134	163	1996	182	2.4	2.4	1996	2.0
Greece	—	—	—	—	—	—	—	—
Hong Kong	—	—	—	—	—	—	—	—
Ireland	156	172	1995	148	1.7	1.7	1997	0.9
Israel	129	154	1995	193	—	—	—	—
Italy	151	177	1995	158	2.1	1.9	1997	1.3
Japan	—	—	—	—	—	—	—	—
Netherlands	97	112	1997	103	1.8	1.6	1997	1.0
New Zealand	—	—	—	—	—	—	—	—
Norway	123	143	1996	145	1.8	1.6	1996	1.0
Singapore	—	—	1995	120	—	—	—	—
Spain	—	—	1994	105	—	—	1996	0.8
Sweden	144	156	1996	159	1.6	1.3	1996	0.8
Switzerland	—	130	1993	142	—	2.0	1996	1.7
UK	—	111	1996	214	—	0.9	1995	0.8
USA	143	159	1996	116	1.2	1.2	1995	0.8

(a) Definitions may vary between countries. Australian data are for public acute and private hospitals, and exclude psychiatric hospitals.
(b) Data for 1970 and 1980 include same-day admissions.

Sources: OECD 1998; Israel CBS 1996.

- The rate of hospital admission constitutes an indicator of the number of episodes of hospital care per person. Patterns and trends in hospital admissions are influenced by several factors, including the level of illness in the population, the age and sex composition of the population, access to hospitals, repeated admissions, medical attitudes in treating an illness or injury in hospital, and financial considerations.
- In 1996–97, there were 1,167 public acute and private hospitals in Australia, with 77,191 beds available on average. The public acute and private hospital admission rate was 159 per 1,000 population. If same-day admissions are included, this figure rises to 288 per 1,000 population. Australia ranks towards the middle among developed countries for which data were available (Figure 1).
- Admission rates to Australian acute care hospitals have fluctuated over the last two decades—an increase during the 1970s was followed by a slight downturn beginning in the early 1980s, a pattern similar to that found in the United States (Figure 3).
- This downturn in admission rates has been noted in many developed countries, triggered by financial pressures and new medical technologies (OECD 1993). Two exceptions, however, were Germany and the United Kingdom, which both saw steady increases in admission rates throughout the 1980s.
- A hospital bed occupied by an admitted patient for all or part of a day is known as a 'patient day'. In 1996–97, the Australian crude patient day rate per capita was 1.1 for public acute and private hospitals. Again, Australia ranks towards the middle among developed countries for which data are available (Figure 2).
- Patient days per capita have declined for a number of developed countries, including Australia, over the previous decade (Figure 4). These declines reflect both changes in admission rates and lengths of stay. Most developed countries have seen notable declines in average lengths of stay; only some have seen declines in admission rates.

For more information, see:

OECD 1994. The reform of health care systems—a review of seventeen OECD countries. Paris: OECD.

AIHW 1998. Australian hospital statistics 1996–97. Canberra: AIHW (Health Services Series No. 11).

Acute care hospital beds and length of stay

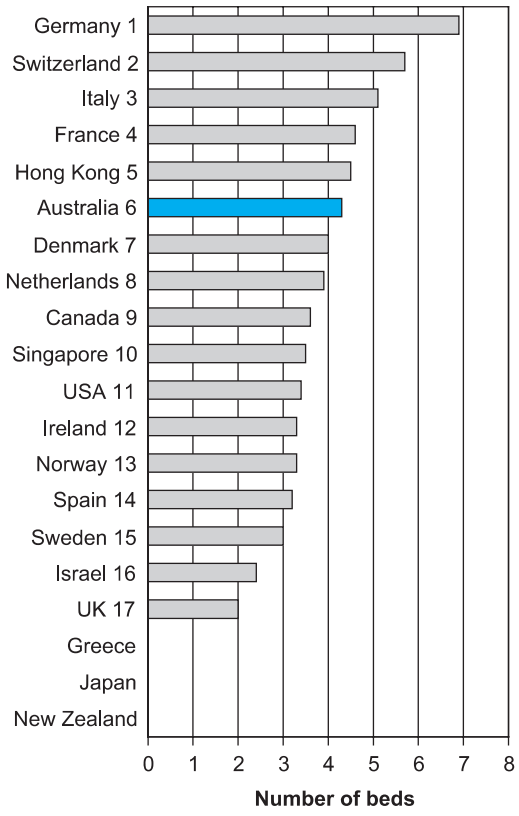

Figure 1: Acute care hospital beds per 1,000 population, 1993–1995

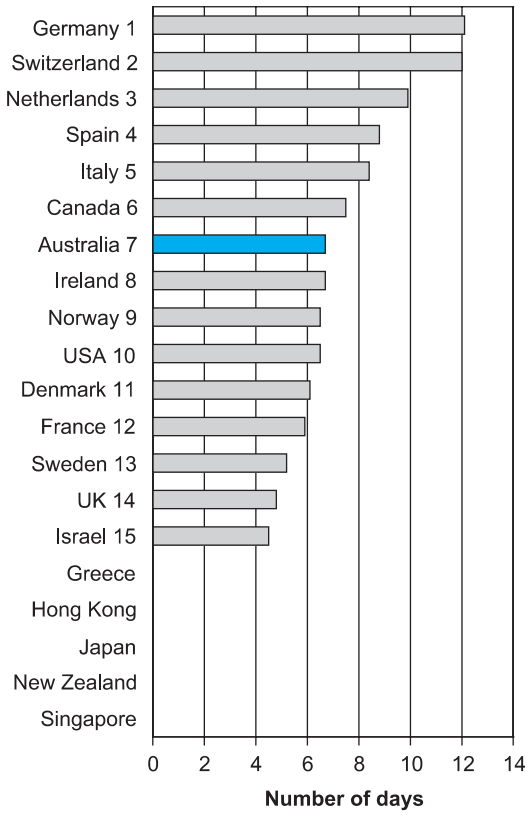

Figure 2: Average length of stay in acute care hospitals, 1995

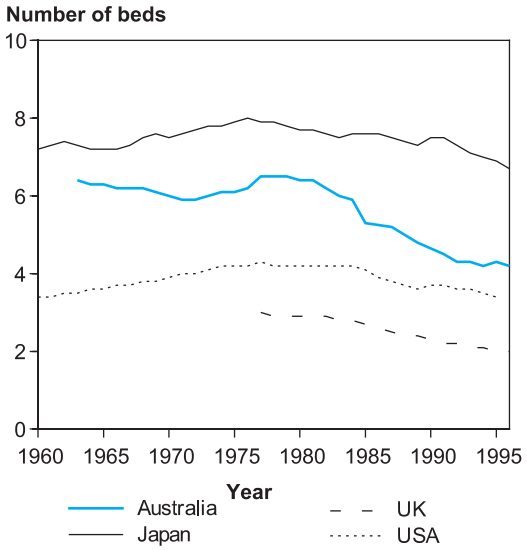

Figure 3: Trends in acute care hospital bed ratio per 1,000 population, 1960 to 1996

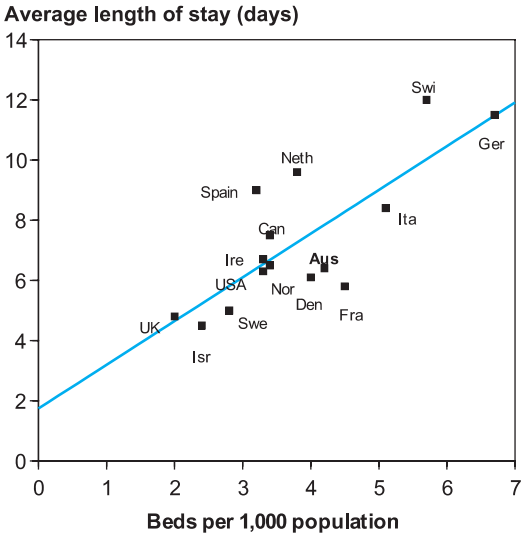

Figure 4: Utilisation of hospital beds, mid-1990s

Acute care hospital beds and length of stay

Acute care hospital beds and average length of stay

Country	Acute care hospital beds (per 1,000 pop.)				Average length of stay (days)			
	1970	1980	Latest year		1970	1980	Latest year	
Australia[(a)]	6.0	6.4	1996–97	4.2	8.9	7.8	1996–97	6.4
Canada	—	4.6	1993	3.6	—	10.2	1996	7.5
Denmark	5.9	5.6	1995	4.0	12.5	9.1	1996	6.0
France	—	6.2	1996	4.5	16.0	9.9	1996	5.8
Germany (FRG)	7.5	7.7	1996	6.7	18.3	14.9	1996	11.5
Greece	—	4.7	1992	3.9	—	—	—	—
Hong Kong	—	—	1993	4.5	—	—	—	—
Ireland	—	5.6	1996	3.4	13.3	9.7	1995	6.7
Israel	—	3.0	1994	2.4	8.6	6.8	1995	4.5
Italy	—	7.6	1995	5.1	—	—	1995	8.4
Japan	—	—	—	—	—	—	—	—
Netherlands	5.5	5.2	1996	3.8	18.8	14.0	1997	9.3
New Zealand	—	—	1991	7.2	—	—	—	—
Norway	5.9	5.4	1996	3.3	14.8	10.9	1996	6.3
Singapore	—	—	1995	3.5	—	—	—	—
Spain	—	—	1994	3.2	—	—	1996	8.5
Sweden	5.9	5.1	1996	2.8	11.0	8.5	1996	5.0
Switzerland	7.1	7.1	1994	5.7	—	15.5	1996	12.0
UK	—	2.9	1996	2.0	—	8.5	1996	4.8
USA	3.9	4.2	1995	3.4	8.2	7.6	1996	6.5

(a) Data for 1970 and 1980 include same-day admissions.
Note: Definitions and concepts may vary between countries. Australian data are for public acute and private hospitals, and exclude psychiatric hospitals.

Sources: OECD 1998; United Nations 1995b; Israel CBS 1996.

- The number of acute care hospital beds per 1,000 population is a useful indicator for measuring the supply of health care services. It should be noted, however, that for this particular indicator some countries count the number of beds 'approved' for use by government health authorities, whereas others, such as Australia, count 'available' beds—those immediately able to be filled if needed.
- The bed ratio in public acute and private Australian hospitals has been falling since the late 1970s. In 1996–97, there were 4.2 beds per 1,000 population in Australian hospitals, down from 6.4 beds per 1,000 population in 1980. Germany, the United Kingdom and the United States have also exhibited declining bed ratios since 1980, although the decline has not been as pronounced as that for Australia (Figure 3).
- The current Australian bed ratio is within the top half of the developed countries included for comparison purposes (Figure 1). The United Kingdom (2.0 beds per 1,000 population) and Israel (2.4) both have low ratios. New Zealand (7.2 in 1991), Germany (6.7) and Switzerland (5.7) exhibit higher ratios.
- In 1996–97, the average length of stay in public acute and private Australian hospitals, excluding same-day patients, was 6.4 days. Germany (11.5 days in 1996) and Switzerland (12.0 days) exhibited longer average stays in 1995, whereas the United Kingdom (4.8 days) and Israel (4.5 days in 1995) had shorter average stays (Figure 2).
- Average lengths of stay in hospitals continue to decrease. Changes to community-based care following discharge, improvements in technology and technique and a decline in 'nursing-home type' patients are some of the contributory factors.
- There is an apparent correlation between availability of beds and length of stay. The higher the bed density per thousand population, the longer the hospital stay (Figure 4).

For more information, see:

Australian Institute of Health and Welfare 1998. Australian hospital statistics 1996–97. Health Services Series No. 11. Canberra: AIHW.

Nursing homes

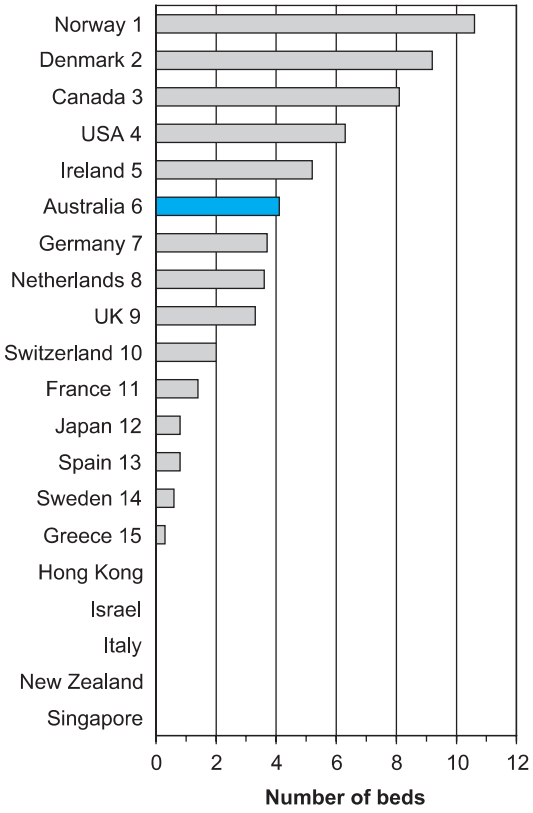

Figure 1: Nursing home beds per 1,000 population, mid-1990s

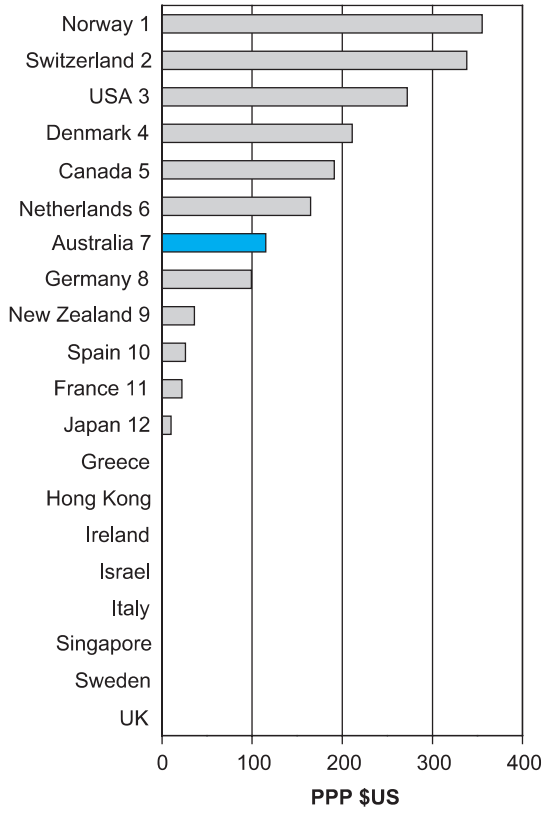

Figure 2: Expenditute per capita on nursing homes, mid-1990s

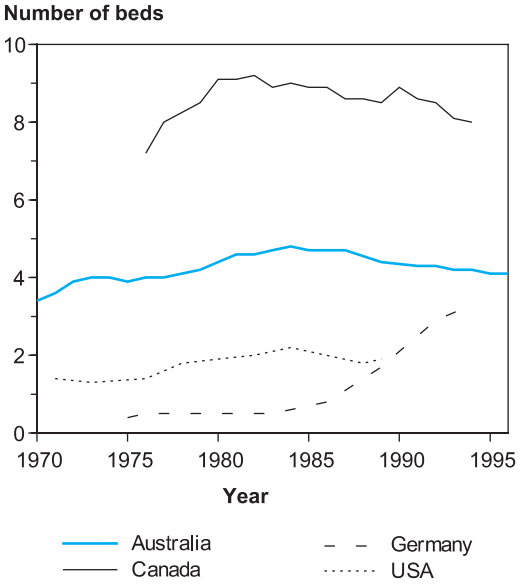

Figure 3: Nursing home beds per 1,000 population, 1970 to 1996

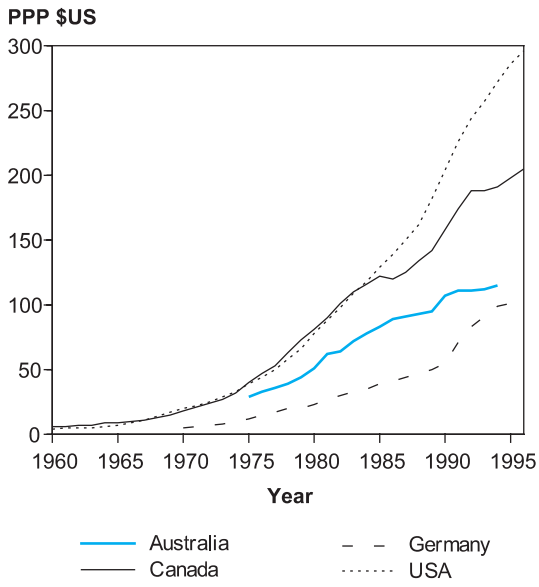

Figure 4: Nursing home expenditure per capita, 1960 to 1996

Nursing homes

Nursing home beds and expenditure

Country	Year	Nursing home beds (per 1,000 pop.)	Expenditure per capita ($US PPP)[(a)]	% of total health expenditure	% government funded
Australia	1994	4.2	115	7.1	76.6
Canada	1994	8.0	191	9.5	69.3
Denmark	1990	9.2	211	15.5	100.0
France	1995	1.4	23	1.2	100.0
Germany	1995	3.7	101	4.7	100.0
Greece	1989	0.3	—	—	—
Hong Kong	—	—	—	—	—
Ireland	1995	5.2	—	—	—
Israel	—	—	—	—	—
Italy	—	—	—	—	—
Japan	1995	0.8	15	0.9	100.0
Netherlands	1996	3.6	180	10.2	97.0
New Zealand	1992	—	36	3.3	95.7
Norway	1993	10.6	355	20.6	100.0
Singapore	—	—	—	—	—
Spain	1994	0.8	26	2.5	19.5
Sweden	1996	0.5	—	—	100.0
Switzerland	1994	2.0	338	14.8	—
UK	1994	3.3	—	—	—
USA	1994	6.3	272	7.5	59.5

(a) Purchasing power parities (PPP) are used here to convert health expenditure. PPPs show the rate at which a given amount of one currency can be converted into the other in order to purchase the same quantity of a particular item in both countries (OECD 1998).

Source: OECD 1998.

- Different countries exhibit different methods of care for their frail and disabled aged persons. In some countries, the burden of responsibility traditionally falls upon the immediate family, who resort to home care. Other countries have well-developed frameworks of community and residential care, involving nursing homes, hostels and domiciliary care.
- In 1994, Australia had 4.2 nursing home beds per 1,000 population, ranking in the upper half of developed countries for which data were available (Figure 1). Norway had the highest bed ratio at 10.6 per 1,000 population in 1993. Sweden, Spain, Greece and Japan had much lower ratios.
- Australia's nursing home bed ratio has shown a slight increase since the mid-1970s, peaking in the mid-1980s (Figure 3). This trend is similar to those for the United States and Canada. There have been substantial increases in the United Kingdom nursing home bed ratio since 1985.
- Japan's 'Gold Plan', implemented in 1990, recognised the weak infrastructure for supplying nursing and rehabilitation services for the elderly, and devoted significant resources towards improvement (Watanabe in OECD 1994). Bed ratios have increased from 0.2 to 0.8 per 1,000 population between 1990 and 1995.
- Care for the aged accounts for a significant proportion of the health budget in several developed countries. In 1994, Australia spent US$115 per capita, or 7.1% of total health expenditure, on nursing home care. Norway, Switzerland and the United States exhibited much higher expenditure on nursing home care at over US$250 per capita (Figure 2). Norway, Denmark, Switzerland and the Netherlands each spent in excess of 10% of their total health expenditure on nursing home care.
- Some 77% of Australian nursing home funding is provided by Commonwealth, State and Territory governments—the balance is sourced privately. In several countries, most notably the Scandinavian countries, health care is entirely provided by government. A large proportion of nursing homes in the United States, in contrast, are privately operated.

For more information, see:
Australian Institute of Health and Welfare 1997. Australia's welfare 1997: services and assistance. Canberra: AIHW.

Health workforce

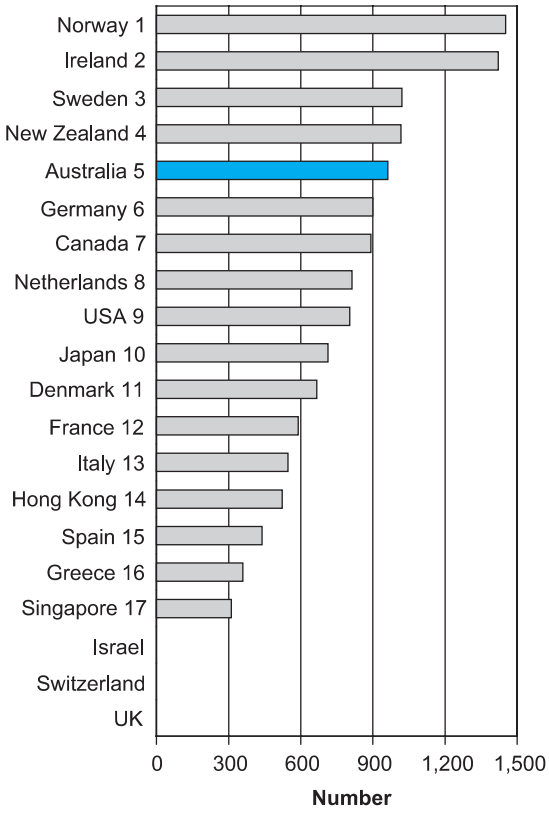

Figure 1: Nurses per 100,000 population, 1995

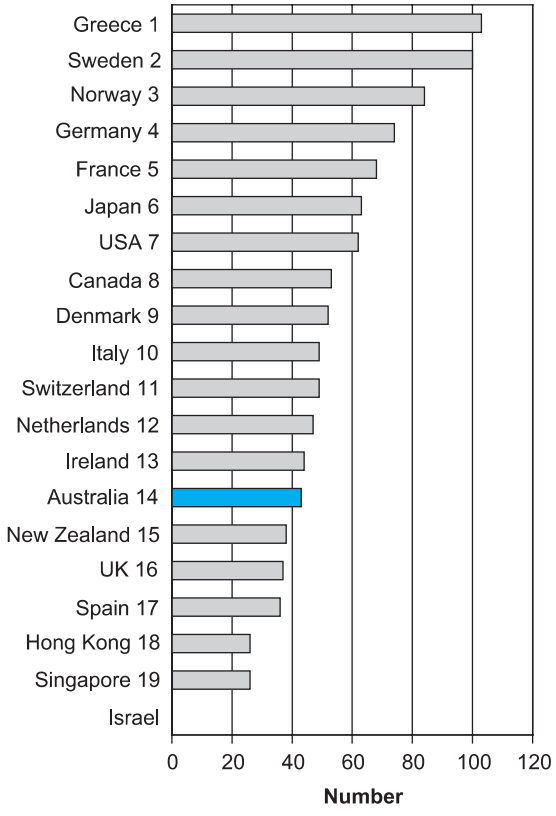

Figure 2: Dentists per 100,000 population, 1995

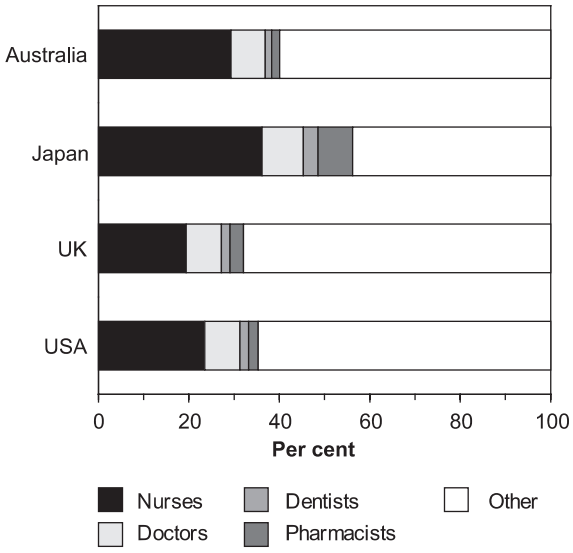

Figure 3: Health professions as a proportion of total health industry, 1993

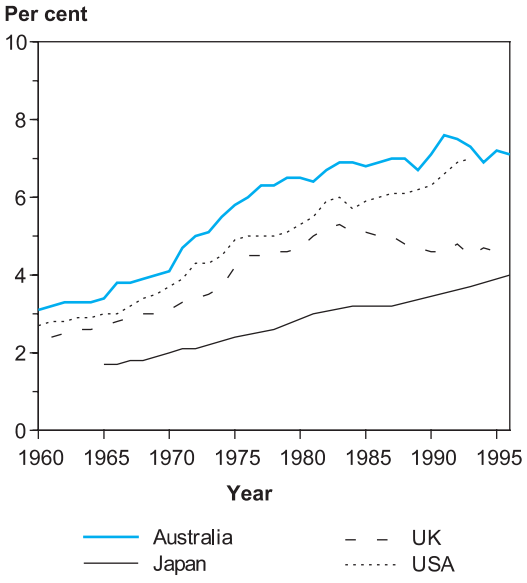

Figure 4: Proportion of the labour force employed in the health industry, 1960 to 1996

Health workforce

Proportion of the workforce employed in the health industry[(a)], and nurses, dentists and pharmacists per 100,000 population

Country	% workforce in health industry		Registered nurses (per 100,000 pop.)		Dentists (per 100,000 pop.)		Community pharmacists (per 100,000 pop.)	
Australia	1996	7.1	1995	962	1995	43	1995	59
Canada	1994	5.5	1995	892	1997	54	1991	62
Denmark	1993	4.3	1995	667	1995	52	1996	18
France	1994	6.9	1995	589	1995	68	1996	99
Germany	1995	6.7	1995	900	1996	75	1996	56
Greece	1992	3.4	1993	359	1995	103	1994	78
Hong Kong	—	—	1993	523	1993	26	1993	15
Ireland	1996	5.1	1996	1,479	1996	44	1996	70
Israel	1994	2.0	—	—	—	—	—	—
Italy	1992	4.8	1995	547	1996	52	1992	96
Japan	1996	4.0	1996	738	1994	63	1994	85
Netherlands	1995	5.3	1993	813	1995	47	1995	17
New Zealand	1991	4.0	1996	1,017	1996	37	1996	66
Norway	1994	15.2	1996	1,489	1996	84	1996	42
Singapore	—	—	1994	311	1994	26	1994	26
Spain	1992	3.8	1996	451	1996	38	1995	106
Sweden	1995	8.0	1995	1,021	1995	100	1996	68
Switzerland	1991	9.5	1990	1,380	1995	49	1990	49
UK	1996	4.5	1988	430	1995	37	1993	59
USA	1993	7.0	1996	814	1996	63	1996	70

(a) Definitions and concepts may vary between countries.

Sources: OECD 1998, United Nations 1996a, Israel CBS 1996.

- The number of health personnel, their distribution and supply reflect changing needs and demands for the provision of health services. Workers employed in the health industry include health professionals (e.g. medical practitioners and nurses), other professionals (e.g. social workers and accountants) and support staff (e.g. clerks and orderlies).
- In the past 15 years, workers employed in the health industry have comprised between 6 and 7% of the total workforce in Australia (Figure 4). In 1996, an estimated 7.1% of the Australian workforce was employed in the health industry. The health industry in Norway, Sweden and Switzerland comprises 8% or more of the workforce. In Greece, Israel, Japan, New Zealand and Spain the health industry comprises 4% or less of the total workforce. However, there may be considerable definitional differences between countries in the data provided to OECD.
- The proportion of the workforce employed in the health industry in Australia, Japan and the United States has steadily increased over the past several decades (Figure 4). A similar increase occurred in the United Kingdom, but plateaued in the mid-1980s.
- Nursing is the largest of the health professions. In 1995, Australia had more registered nurses per 100,000 population than most other developed countries, but the numbers were well below New Zealand and some European countries. Greece and Singapore had comparatively low ratios (Figure 1).
- Australia had a lower ratio of dentists than many other developed countries—7,700 active dentists with a ratio of 43 per 100,000 population in 1995 (Figure 2). Pharmacists numbered approximately 10,700 in 1995—a ratio of 59 per 100,000 population—similar to the ratio for Canada, the United Kingdom and the United States.

For more information, see:

AIHW 1998. Australia's health 1998: the sixth biennial health report of the Australian Institute of Health and Welfare. Canberra: AIHW.

WHO 1997. The world health report 1997: conquering suffering, enriching humanity. Geneva: WHO.

Medical practitioners

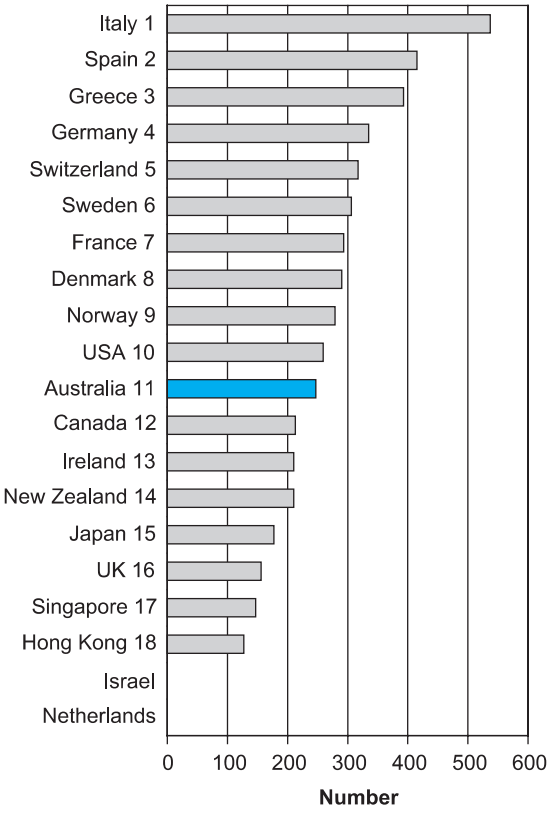

Figure 1: Medical practitioners per 100,000 population, 1995

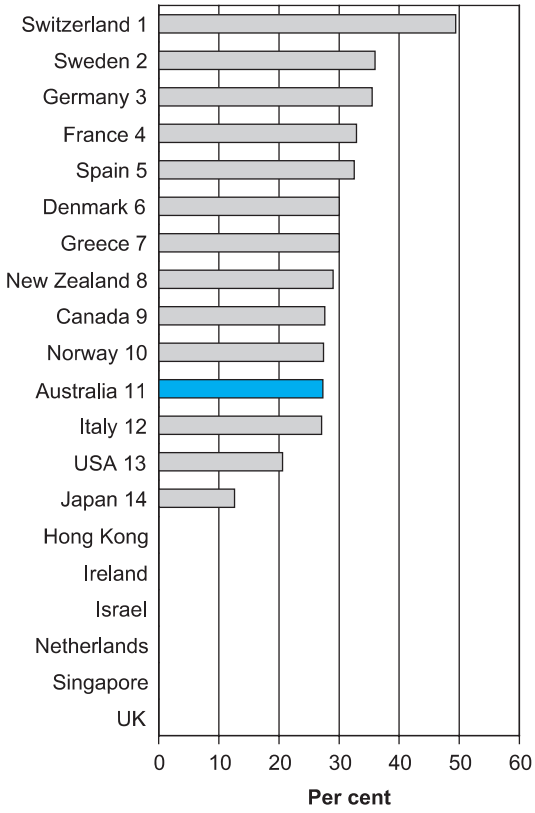

Figure 2: Proportion of medical practitioners who are female, 1995

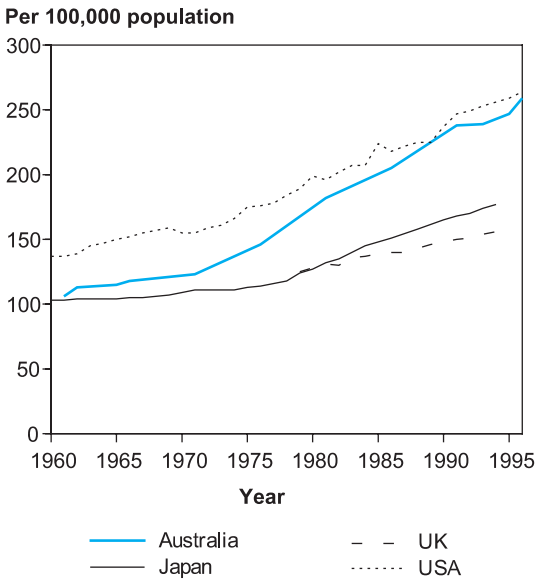

Figure 3: Trends in physician availability, 1960 to 1996

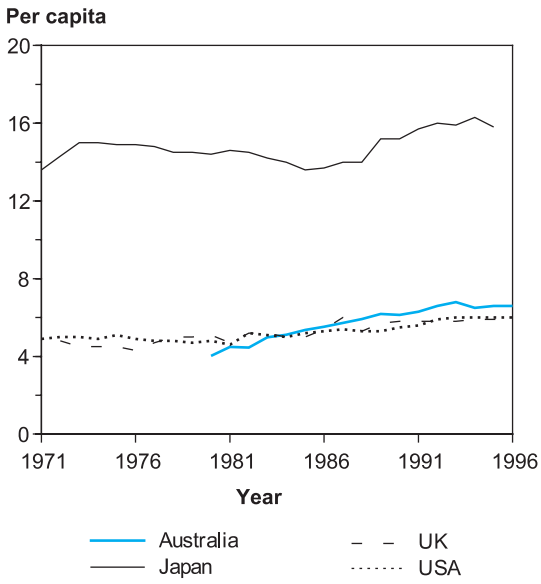

Figure 4: Trends in medical practitioner consultations, 1970 to 1996

Medical practitioners

Numbers and proportions of practising medical practitioners, and medical services per capita[(a)]

Country	Year	Estimated number	Per 100,000 population	Per cent specialists	Per cent female	Medical services per capita	
Australia	1996	47,700	259	33	28	1996–97	6.5
Canada	1996	63,100	211	42	29	1993	6.8
Denmark	1994	15,100	290	5	30	1996	5.3
France	1996	171,800	294	50	34	1993	6.3
Germany	1996	279,300	341	63	36	1995	6.4
Greece	1995	41,100	393	56	31	—	—
Hong Kong	1993	7,600	127	—	—	—	—
Ireland	1996	7,600	210	15	—	1988	6.6
Israel	—	—	—	—	—	—	—
Italy	1996	313,700	546	—	28	1988	11.0
Japan	1994	221,700	177	—	13	1995	15.8
Netherlands	1991	39,100	261	36	23	1996	5.4
New Zealand	1996	7,600	210	30	29	—	—
Norway	1997	12,900	276	64	29	1991	3.8
Singapore	1994	4,300	147	—	—	—	—
Spain	1996	165,700	422	—	32	1989	6.2
Sweden	1996	27,300	309	71	36	1996	2.9
Switzerland	1996	22,900	322	36	49	1992	11.0
UK	1994	91,200	156	–	[(b)]26	1996	5.9
USA	1996	701,200	264	[(b)]51	21	1996	6.0

(a) Definitions and concepts may vary between countries.
(b) 1990 data.

Sources: OECD 1998; United Nations 1996b.

- In 1996, there were 47,700 employed medical practitioners in Australia, or 259 per 100,000 population. The countries that are most similar to Australia in terms of their population age structure and their health systems are Canada and New Zealand. Both have approximately 18% fewer medical practitioners per 100,000 population than does Australia (Figure 1). Most countries have seen a marked increase in the doctor-to-population ratio since 1960, well in excess of population growth (Figure 3).
- The medical workforce is predominantly male, although the percentage of female medical practitioners is increasing in most developed countries. Women comprise a substantial proportion of the medical workforce in Switzerland, Germany and Sweden (Figure 2). Woman are under-represented in Japan and the United States. In 1971, women comprised 13% of the Australian medical workforce; in 1996 this had risen to 28%.
- On average, each Australian person received 6.5 medical services in 1996–97, comprising visits to general practitioners and specialists. Each Australian also received 4.2 other services in 1996–97, mainly comprising pathology tests and diagnostic imaging services.
- International comparisons for medical services per person are complicated by differing definitions between countries—what is counted as a 'physician contact' can vary widely. Many countries include telephone consultations or contacts with hospital in-patients, but others do not.
- Australians receive, on average, around the same number of medical services per capita as most other OECD countries for which data are available. Data for Italy, Japan and Switzerland may include additional items. The Australian rate continues to increase steadily, possibly related to a 40% increase in GPs and specialists between 1984 and 1993. A number of other countries, such as Japan, the United Kingdom and United States, have shown little increase in the rate since 1980 (Figure 4).

For more information, see:

Australian Institute of Health and Welfare 1998. Medical labour force 1996. Canberra: AIHW.