6 Technical notes

6.1 Methods used to produce estimates

State and Territory expenditure tables

In this edition, health expenditure matrices, which have provided the basis for the calculation of national estimates of health expenditure in all issues of the *Health Expenditure Bulletin* since 1986, have been calculated on a State and Territory as well as a national basis. These State and Territory tables are intended to give some indication of differences in the overall levels of expenditure on health in the States and Territories; they do not necessarily reflect levels of activity by State and Territory Governments. For example, States and Territories pursue a variety of funding arrangements involving inputs from both government and non-government sources. As a result, one State or Territory may have a mixture of services and facilities that is quite different from another. These estimates will enable a State or Territory to monitor the impact of policies on overall expenditure on health provided within its borders.

Where funding data have only been provided on a national basis, the AIHW calculates allocations for those expenditures by State and Territory and by source of funds.

Expenditure by the Commonwealth Government

The bulk of the expenditures by the Commonwealth Government can be readily allocated on a State and Territory basis. These include:

- specific purpose payments to the States and Territories for public hospitals;
- other specific purpose payments to the States and Territories;
- residential aged care subsidies;
- Medicare benefits payments; and
- payments under the PBS.

However, some Commonwealth Government expenditure data are not available on a State and Territory basis. In those cases, other usage indicators have been used to derive estimates on a State and Territory basis for the data. For example, grants to medical service providers aimed at enhancing or modifying medical practice are allocated according to the proportion of vocationally registered general practitioners in each State or Territory. Expenditures on community and public health that are not part of Specific Purpose Payments (SPPs) to the States and Territories are allocated according to the allocation of similar payments that are part of SPPs.

Expenditure by State and local government authorities

The ABS produces annual estimates of public finance, which form part of the Australian National Accounts. Up to 1996–97, public finance data were reported on a 'cash' basis. From 1997–98, reporting is on an 'accrual' basis for most jurisdictions. Where States or Territories have not reported on an accrual basis, their cash accounts have been modified to conform with accrual definitions.

There have always been difficulties associated with the way the ABS has classified government expenditures according to their purpose (function). Since moving to accrual-based accounting, the emphasis of the ABS and the State and Territory Treasuries has been on ensuring that transaction type classifications of expenditure are correct (that is, ensuring that expenses and revenues are correctly classified in the State and Territory accounts). Less attention has been given, to date, to the verification of expenditure according to function. As a consequence, only the ABS estimates of total expenditure by State and local governments in each State and Territory are used as a guide to the overall estimate of State and local government recurrent expenditure on health. Some minor adjustments are made to take account of research expenditure that is counted by the ABS as having primarily an education purpose, but which has a health outcome focus.

However, although those ABS total State government-funded health expenditure numbers appear reliable, the allocations between different areas of health expenditure are far from accurate.

Of most concern have been the ABS's distributions of expenditure between public hospital services, nursing homes (high-level residential aged care), community and public health services, administration and research. Therefore, the AIHW relies on estimates and reports of expenditure provided by State and Territory health authorities for public hospitals, high-level residential aged care and dental services expenditure data. These have proven to be consistent over time. In most years the ABS public finance database estimates have been used for State, Territory and local government expenditure on administration, ambulance services and pharmaceuticals, and the ABS *Research and Experimental Development Survey* series has provided information about research. Estimates of expenditure by the States and Territories on community and public health services are then derived by subtraction. Thus, this is a residual category and has been somewhat volatile.

In 1998–99, as part of the process for collection of data for a study into expenditure on health goods and services for Aboriginal and Torres Strait Islander people, each of the States and Territories provided detailed expenditure and revenue information for programs for which they have primary responsibility. That information has been extensively checked and verified with the provider departments. Because of the rigorous processes gone through in verifying the accuracy of those data the AIHW has, wherever possible, incorporated them into the State/Territory estimates of health expenditure. This has raised some doubts as to the reliability of previously published estimates for some areas of health expenditure in 1996–97 and 1997–98. As a consequence, there have been some adjustments to the previously published data

for those years (see Section 6.4 'Revisions of definitions and estimates'). The States and Territories again supplied data in this format for 1999–00.

It should also be noted that the estimates of expenditure on public hospitals in this publication reflect the level of expenditure on goods and services provided within hospitals, including those community and public health services that are operated by public hospitals. The estimate of community and public health services includes only expenditure on community and public health services that is not included as part of the gross operating expenditures of public hospitals. This complicates State-by-State comparisons as far as expenditure on those services is concerned, because the proportion of community and public health services carried out by hospitals varies from State to State.

Expenditure by the non-government sector

Non-government sector expenditure is split into three columns in the various State matrices. These are health insurance funds, individuals and other non-government sources.

Expenditure by health insurance funds on health goods and services within a State or Territory is assumed to be equal to the level of expenditure by health insurance funds that operate from that State or Territory. In the case of New South Wales and the Australian Capital Territory, it is assumed that their combined total expenditure is equal to the level of expenditure by health insurance funds registered in New South Wales. This is then split between New South Wales and the Australian Capital Territory according to the number of available hospital beds. In 1997–98 and 1998–99, expenditure by health insurance funds has been reduced by the extent of the Commonwealth subsidy through the PHIIS and the 30% rebate.

Estimates of expenditure by individuals are derived from the ABS estimates of Household Final Consumption Expenditure (HFCE). Estimates of funding by health insurance funds are derived elsewhere and these are deducted from HFCE to arrive at an estimate of expenditure financed by individuals.

6.2 Definitions, sources and notes

General

The total expenditure and revenue data used to generate the tables are, to the greatest possible extent, produced on an accrual basis. That is to say, the total expenditure reported for each area relates to expenses incurred in respect of the year in which they are reported.

However, the data used in constructing expenditure estimates for the different sources of funds (for example, benefits paid by private health insurance funds) are the reported cash outlays of those sources of funds in each year. Those cash outlays

do not necessarily relate to expenditures incurred in the year in which they are reported.

This means that, if a funding source reported cash outlays on a particular area of expenditure in one year, which really related to expenses incurred in the previous year, the contribution of that source of funding would be overstated in one year and understated in the previous year. As a further consequence, the contribution of the major source of funding related to that area of expenditure would be understated in one year and overstated in the previous year.

The AIHW collects information for estimates of health expenditure from a wide range of sources. The ABS, the Commonwealth Department of Health and Ageing, and State and Territory health authorities provided most of the basic data used in this publication. Other major data sources include DVA, the Private Health Insurance Administration Council, Comcare and the major workers' compensation and compulsory motor vehicle third-party insurers in each State and Territory.

The term 'public (non-psychiatric) hospital' is used in this bulletin to refer to those hospitals operated by, or on behalf of, State and Territory Governments that provide a range of general hospital services. They are, essentially, those hospitals that were included as recognised public hospitals for the purposes of the Commonwealth and State Medicare agreements.

The 'Medical services' category in Appendix Tables A1–A12 and B1–B32 covers medical services provided on a fee-for-service basis, including medical services provided to private patients in hospitals. It also includes some expenditure on private medical services that is not based on a fee for service. However, it does not include expenditure on medical salaries or visiting medical officers at public hospitals.

The 'Commonwealth' column in Appendix Tables A1–A10 includes expenditure by DVA on behalf of eligible veterans and their dependants.

'Benefit paid pharmaceuticals' are pharmaceuticals in the PBS and the Repatriation Pharmaceutical Benefits Scheme for which the Commonwealth paid a benefit. Pharmaceuticals listed in the PBS for which a prescription is required, but where all the costs are met by the patient, are included in 'all other pharmaceuticals'. Also included in 'all other pharmaceuticals' are over-the-counter medicines such as aspirins, cough and cold medicines, vitamins and minerals, and some herbal and other remedies.

Box 1: Periods relating to OECD year 2000

Country	Financial year
Australia	*1 July 2000 to 30 June 2001*
Canada	*1 April 2000 to 31 March 2001*
France	*1 January 2000 to 31 December 2000*
Germany	*1 January 2000 to 31 December 2000*
Japan	*1 April 2000 to 31 March 2001*
Netherlands	*1 January 2000 to 31 December 2000*
New Zealand	*1 July 2000 to 30 June 2001*
Sweden	*1 January 2000 to 31 December 2000*
United Kingdom	*1 April 2000 to 31 March 2001*
United States	*1 October 1999 to 30 September 2000*

For the ten countries included in the international comparison of health expenditure (see Table 32–Table 34), the OECD financial year 2000 refers to the periods listed in Box 1.

Definition of health expenditure

The term 'health expenditure' includes expenditure on health goods and services, health-related services and health-related investment. Health goods and services expenditure includes expenditure on health goods (pharmaceuticals, aids and appliances), health services (clinical interventions), and health-related services (public health, research and administration), often termed 'recurrent' expenditure. Health-related investment is called capital formation or 'capital' expenditure.

The Institute's definition of health expenditure follows closely the definitions and concepts provided by the OECD's *System of Health Accounts* (OECD 2000) framework. It does not include:

- expenditure that may have a 'health' outcome but which is undertaken outside the health sector, such as expenditure on building safer transport systems or removing lead from petrol or the education of health professionals;
- expenditure on personal activities not directly related to maintaining or improving personal health;
- expenditure that does not have health as the main area of expected national benefit.

6.3 Deflators

Deflation of current price estimates of health expenditure to constant prices indicates changes in the volumes of particular health goods, services and capital formation. These measures are expressed in dollar values, using the values of the reference year

(in this publication, 1999–00). The process is undertaken using a number of input price deflators, either chain price indexes or implicit price deflators (IPDs). The major indexes used in deriving constant price estimates in this publication are listed in Table 35. All indexes are sourced from the ABS except for the IPD, total health price index, which is an Institute-derived measure.

In this publication, both chain price indexes and IPDs have been used to deflate current price estimates of components of health expenditure and derive constant price estimates of expenditure on individual areas of health expenditure.

The chain price indexes published in the ABS national accounts are annually re-weighted chain Laspeyres price indexes and are calculated at such a detailed level that the ABS considers them to be analogous to chain volume measures and measures of pure price change. In this publication, the chain price index for:

- gross fixed capital expenditure is used to deflate capital expenditure and capital consumption;
- government final consumption expenditure on hospital and nursing home care is used to deflate most institutional services and facilities that are provided by or purchased through the public sector.

An IPD is an index obtained by dividing a current price value by its corresponding chain volume estimate expressed in terms of the reference year prices. Thus, IPDs are derived measures and are not normally the direct measures of price change by which current price estimates are converted to volume measures. The IPD for GDP is the broadest measure of price change available in the national accounts. It provides an indication of the overall changes in the prices of goods and services produced in Australia, whether for use in the domestic economy or for export.

The consumer price index (CPI) and its health services sub-group have not generally been used to measure movements in overall prices of health goods and services. This is because the CPI measures only movements in prices faced by households when purchasing services. In the case of the health services sub-group of the CPI, this includes private health insurance cover. The CPI does not, for example, include government subsidies, benefit payments and non-marketed services provided by governments.

Table 35: Total health price index and industry-wide indexes (reference year 1999–00 = 100), 1990–91 to 2000–01

Year ended 30 June	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total health price index	82.3	86.1	88.0	88.7	89.6	91.7	93.7	95.5	97.5	100.0	103.9
Final consumption expenditure (FCE) by governments											
Hospital/nursing home care	84.7	86.9	87.8	88.6	90.1	91.9	93.5	95.2	97.8	100.0	103.4
Total, non-defence FCE	82.6	86.5	88.5	89.1	89.7	91.2	93.1	94.6	96.5	100.0	103.6
Final consumption expenditure (FCE) by households											
Doctors and other health professionals	65.7	68.5	68.5	71.7	78.6	84.2	88.6	94.6	96.9	100.0	106.7
Dental services	68.0	72.0	74.5	77.7	81.2	84.9	88.4	91.9	94.9	100.0	105.5
Medicines/aids and appliances	80.6	84.6	85.1	87.0	90.9	93.5	97.5	99.2	99.3	100.0	104.0
Total health FCE	72.2	75.0	75.8	77.5	80.8	85.1	90.8	95.5	97.0	100.0	105.4
Gross fixed capital expenditure											
Commonwealth	134.1	129.4	126.3	124.2	120.4	117.9	111.7	107.9	104.9	100.0	99.8
State and local	96.5	96.5	96.8	97.6	98.6	100.2	99.4	100.1	100.6	100.0	102.2
Private capital	100.2	99.1	100.3	101.8	101.9	101.8	99.4	98.9	99.5	100.0	104.3
Gross domestic product	88.0	89.7	90.7	91.6	92.8	95.0	96.6	97.9	98.0	100.0	104.8

6.4 Revisions of definitions and estimates

Definitions

'High-level residential aged care' refers to services of a type that were formerly provided to patients in nursing homes.

Facilities that were formerly classified as nursing homes are now incorporated into the new class of facility known as 'residential aged care facilities'. Aged persons' hostels are also included in this new class of facilities, as are aged persons' complexes.

Residents in such facilities are classified according to the level of care that they need and receive. There are eight care level categories and residents who are classified into the four highest categories are considered to be receiving 'health care'. The expenditure associated with that care is included as high-level residential aged care.

Estimates

Some estimates of recurrent health expenditure have been revised since the publication of *Health Expenditure Bulletin No. 17 (HEB17)*. The major revisions relate to expenditure on aids and appliances.

The estimate of total expenditure on health for 1996–97 was revised upwards from $44,851 million to $45,195 million, an increase of $344 million. The 1997–98 estimate was revised upwards by $712 million from $47,648 million to $48,360 million. The 1998–99 estimate was revised from $51,011 million to $51,680 million, an increase of $669 million.

Aids and appliances

1996–97 estimates

Since the publication of *HEB17,* the national estimate for expenditure on aids and appliances has increased by $315 million. This takes it from $842 million to $1,157 million. This is because the ABS revised its estimates of household final consumption expenditure (HFCE) for medicines, aids and appliances substantially due to the establishment of a new benchmark based on the 1998–99 detailed retail industry survey. The previous HFCE series were based on an extrapolation of the old retail trade survey of 1991–92 using indicators based on subsequent monthly retail trade data between 1991–92 and 1998–99. The new survey includes cash purchases not within the scope of existing collections. Also, at the macroeconomic level, there are a number of factors affecting volume and price and hence the values over time. As the population ages there is a greater demand for, and with technological advance, supply of, an ever-increasing range of aids and appliances. The low value of the Australian dollar has served to increase the price of imported medical devices, which are underpinned by rising prices as a result of research and development costs associated with technological advances.

1997–98 estimates

The 1997–98 national estimate was increased by $395 million, from $823 million to $1,218 million, because of ABS revisions to HFCE benchmarks.

1998–99 estimates

Expenditure on aids and appliances was revised upwards by $676 million due to ABS revisions, from $634 million to $1,310 million.

High-level residential aged care

1997–98 estimates

Estimates of high-level residential aged care were revised from $3,536 million to $3,486 million because of revisions to State data.

1998–99 estimates

The 1998–99 national estimate was revised from $4,066 million in *HEB17* to $3,696 million because DVA payments of $300 million to the (then) Department of Health and Aged Care for high-level residential aged care were not deducted from the latter's expenditure.