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Please note that there is the potential for minor revisions of data in this report. Please check the online version at <www.aihw.gov.au> for any amendments.

Contents

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Summary

Public health focuses on prevention, promotion and protection rather than on treatment, on populations rather than on individuals, and on the factors and behaviours that cause illness and injury.

Public health includes a wide variety of activities. However, the estimates included in the *Public health expenditure in Australia* series relate only to public health activities where the funding was provided by the key health departments and agencies in Australia.

Total expenditure continues to increase

Total expenditure on public health activities in Australia in 2008–09 was $2,300.2 million or $106 per person on average. This was an increase of $120.5 million, or 5.5%, on what was spent in 2007–08. After adjusting for the effects of inflation, there was a real increase in expenditure of 2.2% from 2007–08 to 2008–09, continuing the growth in public health expenditure which has averaged 7.3% per year since 1999–00.

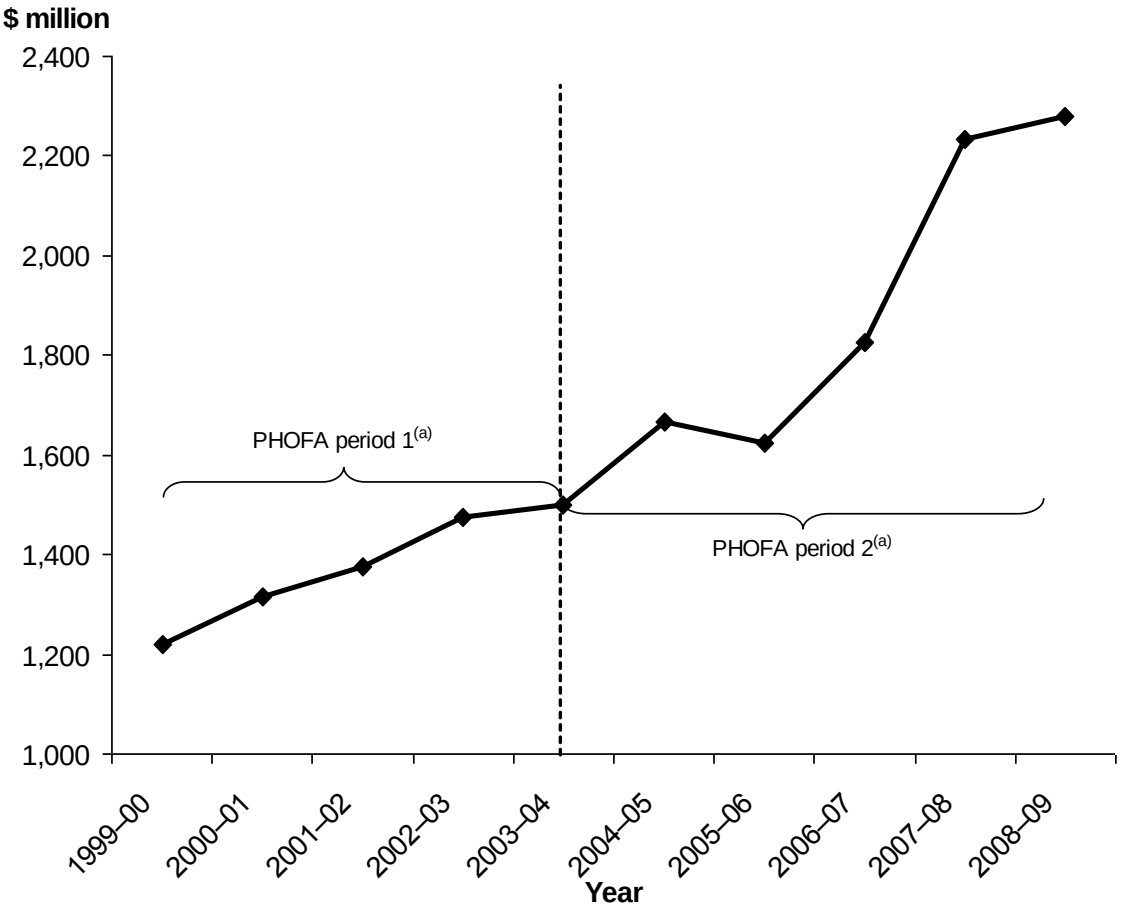
Prior to 2007–08, the proportion of public health expenditure to total recurrent health expenditure was maintained at 1.8% to 1.9%. Since then the relatively large growth in public health expenditure has meant that public health expenditure as a proportion of total health expenditure increased to 2.2% in 2007–08 and was 2.1% in 2008–09.

Priorities continue to evolve

Public health activity is reported against eight core categories encompassing a range of preventative, health promotion and research activities.

Over the decade to 2008–09 there have been relative peaks in public health expenditure, often as a result of the varying implementation and ongoing cost profile of programs across years. As shown in Figure A, such peaks occurred in 2004–05 and 2007–08. The latter is attributed to expenditure on the National Human Papillomavirus vaccination program in that year.

The areas of public health expenditure that had the largest increases in real terms from 2007–08 to 2008–09 were the *Selected health promotion* (15.8%) and *Screening programs* (12.7%). The largest decrease in expenditure was for *Organised immunisation* activities (–12.0%), which was largely due to declining expenditure associated with the catch-up elements of the National Human Papillomavirus vaccination program. Despite the 2008–09 decline, *Organised immunisation* expenditure grew by an average of 13.7% per year between 1999–00 and 2008–09—the fastest growth rate of all the public health activities over that period.



(a) The first PHOFA period in this report was from 1 July 1999 to 30 June 2004, and the second was from 1 July 2004 to 30 June 2009. See Box 2.1 for details.

Figure A: Total government expenditure on public health activities, constant prices, 1999-00 to 2008-09

1 Introduction

This publication reports estimates of recurrent expenditure (referred to as 'expenditure' throughout the report) on public health activities in Australia that were funded by the Australian Government and state and territory health departments during 2008–09. *Public health expenditure in Australia, 2008–09* continues the Australian Institute of Health and Welfare's (AIHW) series of reports on national public health expenditure, which have been produced since 1999–00.

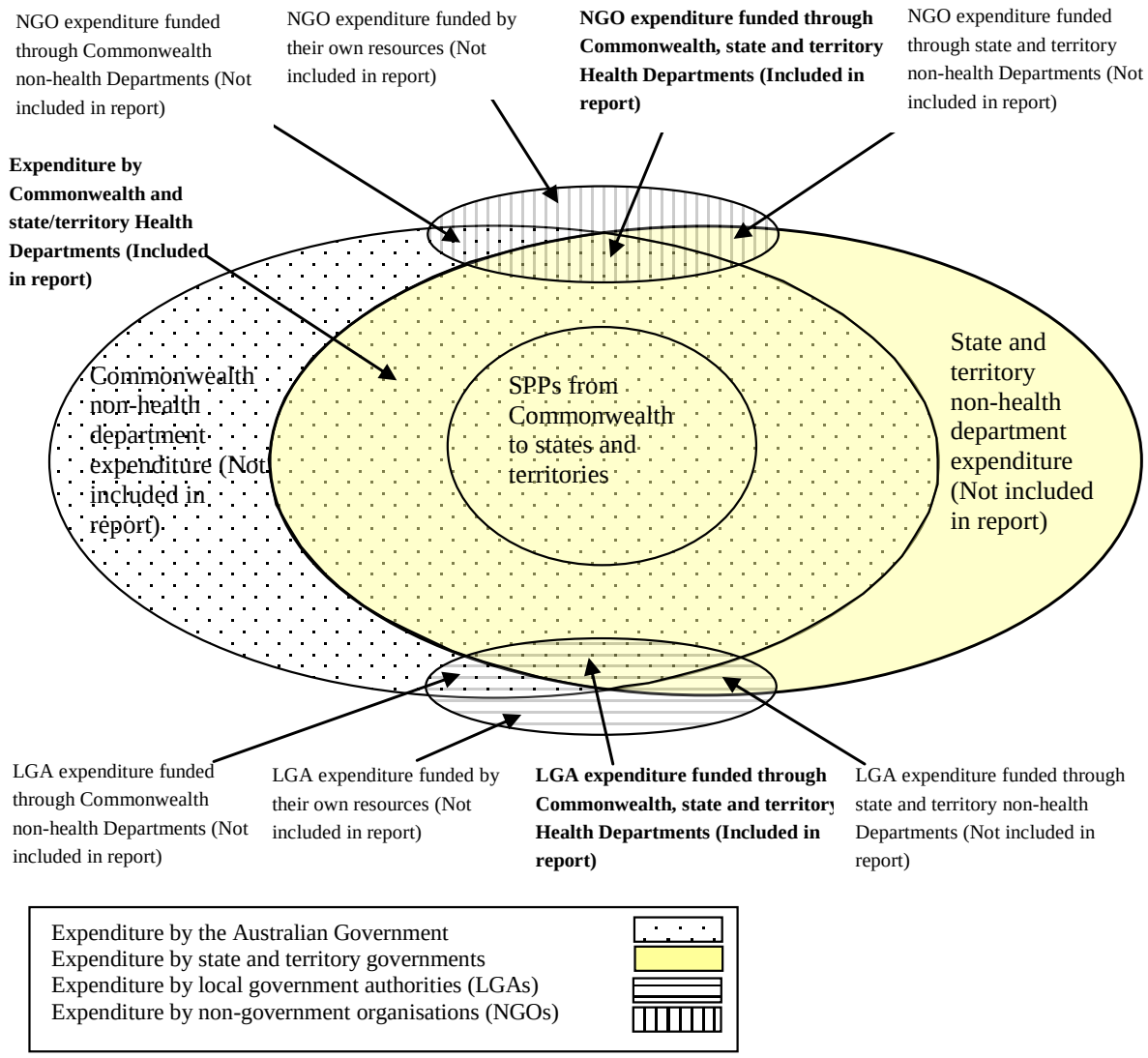
Detailed time series data are available in online data cubes at <www.aihw.gov.au/expenditure/datacubes/index.cfm>

The public health expenditure estimates reported here relate only to those funded by the key health departments and agencies in the various jurisdictions. They do not include funding of public health activities by non-health government departments (such as education, veterans' affairs, law enforcement, transport and environment), non-government organisations or households. With the exception of cervical screening and immunisation, expenditure on preventative services delivered in clinical settings by general practitioners and other clinicians is also excluded. Although clinical services make important contributions to public health in Australia, they are outside the scope of this particular study. The public health activities included have been determined by the National Public Health Expenditure Project Technical Advisory Group.

Much of the analysis done in this report compares growth in expenditure over the period 1999–00 to 2003–04 with growth over the period 2003–04 to 2008–09 (see Figure A and Box 2.1). These analysis periods coincide with the periods of the Public Health Outcomes Funding Agreements (PHOFAs). While the original PHOFAs were for the 2 years 1 July 1997 to 30 June 1999, the first PHOFA period included in this report began on 1 July 1999 and ended on 30 June 2004, and the final PHOFA period covered 1 July 2004 to 30 June 2009. However, this does not mean that the trends in expenditure in this report are necessarily resulting from differences in the PHOFAs themselves. These are merely convenient periods in which to look at shorter-term trends in expenditure.

While the final PHOFA ended on 30 June 2009, a National Partnership Agreement on Preventative Health was signed by all jurisdictions in the 2008–09 reporting period. As the implementation of the agreement did not begin until 2009–10, public health expenditure carried out under this new agreement is not included in this report.

Figure 1.1 illustrates the portion of the public health expenditure that is captured by this report.



Note: Not to scale.

Figure 1.1: Expenditure on public health activities included and not included in this report

1.1 What is public health?

Public health activities focus on prevention, promotion and protection rather than on treatment, on populations rather than on individuals, and on the factors and behaviours that cause illness and injury rather than the illness and injury itself.

These activities can take the form of programs, campaigns, or events. They draw on a large variety of methods such as health education, lifestyle advice, infection control, risk factor monitoring, and tax loadings to discourage unhealthy lifestyle choices and changes to the social environment to support healthier behaviour choices. They apply in a multitude of settings (such as schools, homes, workplaces and media outlets), and relate to a broad spectrum of health issues. Public health activities are carried out by the Australian Government, and state, territory and local government agencies, as well as non-government

agencies—such as cancer councils and the Heart Foundation—and private health professionals.

In this report, public health activity is reported against the following eight core categories:

- *Communicable disease control*
- *Selected health promotion*
- *Organised immunisation*
- *Environmental health*
- *Food standards and hygiene*
- *Screening programs*
- *Prevention of hazardous and harmful drug use*
- *Public health research*

Definitions for each of the core categories are provided in the Appendix under 'Definition of public health activities'.

While jurisdictions were provided with a data collection guide and an associated template to help collect and classify data according to the above categories, there may be some inconsistencies in the manner in which jurisdictions have classified similar programs and the associated expenditure against the categories above.

1.2 Public health funding and expenditure

This report looks at what is spent on public health activities from two perspectives—funding and expenditure. These concepts, while related, are quite distinct and must be kept in mind when considering public health spending (Box 1.1).

Box 1.1: Defining health funding and expenditure

Health funding

Health funding is reported in terms of who provides the funds used to pay for health expenditure. Thus, although state and territory governments incur about three-quarters of the total public health expenditure, they provide less than half the overall funding from their own revenue from fiscal and other sources.

The Australian Government, as well as funding expenditures incurred through its own programs, provides Specific Purpose Payments (SPPs) to states and territories—most notably through the PHOFAs and the Australian Immunisation Agreements—to help fund public health activities done by, or on behalf of, each state and territory government.

Health expenditure

Health expenditure is reported in terms of who incurs the expenditure, rather than who ultimately provides the funding for that expenditure. In the case of many vaccination programs for example, the related expenditures are incurred by the state and territory governments, even though a large proportion of those expenditures are funded by the Australian Government through SPPs.

As well as funding its own public health programs and activities in 2008–09, the Australian Government provided several 'public health' SPPs to state and territory governments including the PHOFAs. Those SPP funds provided to the states and territories had to be spent on agreed public health activities within their jurisdiction. For PHOFA grants, expenditure is not tied to specific activities, but rather must be spent on agreed public health outcomes. Consequently, the estimates of funding by the Australian Government are higher than its estimated expenditures. The estimates of net funding for public health by individual state and territory governments have been derived by deducting their estimated receipts of public health SPPs from the reported total expenditure incurred by them on public health programs. Consequently, net funding by states and territories is lower than the expenditures they directly incur.

1.3 Technical notes

A full set of technical notes is given in the Appendix.

Indirect expenditures included in the estimates

As well as the amounts that each jurisdiction estimated were spent directly on public health activities, the estimates include allocations of corporate overheads and other 'on-costs' incurred by the various health authorities to support those public health activities. These include expenditures on human resources management, legal and industrial relations activities, staff development and finance expenses, developing and maintaining information systems, and a variety of other corporate activities.

Net funding by states and territories

Estimates for net funding for public health activities by states and territories are presented in this report. These estimates provide an indication of the amount of public health activities that a particular jurisdiction funded from its own revenue sources. These estimates are derived by subtracting the value of SPPs provided by the Australian Government to states and territories from the total level of expenditure reported by the respective jurisdiction.

As SPPs may fund a range of programs, in some instances not all of the programs funded under a SPP may meet this report's definition of a public health activity. If this occurs, the level of public health expenditure reported by the jurisdiction will be less than the associated amount of SPP funding. In this case, subtracting the total Australian Government provided SPP funding from the amount of public health expenditure reported by a jurisdiction may understate the actual level of net funding by the state or territory. For example, in Victoria, Commonwealth SPPs for both PHOFA and the Prevention of Hazardous and Harmful Drug Use categories are not fully expended on activities within the reports' defined public health activities. Specifically, this results in 20% of the PHOFA funding and the SPP funding for the Illicit and other drugs of dependence subcategory of the Prevention of Hazardous and Harmful Drug Use category, or $21.8 million in total, being spent on activities outside the scope of this report, which leads to an understatement in net funding levels for Victoria.

Current prices and constant prices

The tables and figures in this report detail expenditure in terms of current and constant prices. The term 'expenditure at current prices' refers to expenditure reported for a particular year, unadjusted for inflation. 'Expenditure at constant prices', on the other hand, has been 'deflated' to remove the effects of inflation, so that expenditure in one year can be compared with expenditure in other years in a series. This deflation is achieved by using annually re-weighted chain price indexes produced by the Australian Bureau of Statistics (ABS) (see section on 'Deflators' in the Appendix). These price indexes are referenced to a particular year in the series (the reference year), which is given a value of 100. Because the reference year for the chain price index in this series is 2008–09, the constant price estimates indicate what expenditure would have been, had 2008–09 prices applied in all years.

In some cases the figures in the tables presented in this report may not add to the totals provided due to rounding.

2 Government funding of public health activities

Total government funding on public health activities was estimated to be $2,300.2 million in 2008–09. This was an increase of $120.5 million from 2007–08, and represented an increase of 5.5% over the previous year in current price terms (Table 2.1).

The Australian Government contributed an estimated $1,297.7 million or 56.4% of the total public health funding in 2008–09, compared with $1,376.0 million (63.1%), in current prices, in 2007–08. The decrease in this contribution was largely caused by the winding down of the National Human Papillomavirus vaccination catch-up program, with expenditure on vaccines for *Organised immunisation* activities decreasing by $123 million in 2008–09 compared with 2007–08.

Of the total public health funding by the Australian Government in 2008–09, $633.7 million was directly spent on its own public health programs. Funding by state and territory governments from their own sources was estimated at $1,002.4 million in 2008–09, compared with $803.7 million in the previous financial year. The states with the largest contributions were New South Wales, Queensland and Victoria, which together constituted almost 70% of the total public health funding provided by the state and territory governments, noting that about 77% of the population resides in these states (Table 2.2).

Table 2.1: Total government funding of expenditure on public health activities, current prices, by source of funds, 2007–08 and 2008–09

	2007–08		2008–09	
Source of funds	**Amount ($ million)**	**Share of total (per cent)**	**Amount ($ million)**	**Share of total (per cent)**
Funding by the Australian Government				
Direct expenditure	583.6	26.8	633.7	27.6
SPPs to state and territory governments	792.4	36.4	664.0	28.9
Australian Government funding	*1,376.0*	*63.1*	*1,297.7*	*56.4*
Funding by state and territory governments				
Gross expenditure	1,596.1	73.2	1,666.4	72.4
SPPs from the Australian Government	792.4	36.4	664.0	28.9
Net funding by states and territories	*803.7*	*36.9*	*1,002.4*	*43.6*
Total funding/expenditure	**2,179.7**	**100.0**	**2,300.2**	**100.0**

Source: AIHW health expenditure database.

Table 2.2: Net funding for public health activities by states and territories, current prices, and shares of the total funding, by state and territory, 2007–08 and 2008–09

	2007–08		2008–09	
State/territory	Amount ($ million)	Share of total (per cent)	Amount ($ million)	Share of total (per cent)
NSW	179.8	22.4	256.4	25.6
Vic	190.4	23.7	208.3	20.8
Qld	171.1	21.3	217.5	21.7
WA	75.4	9.4	101.6	10.1
SA	75.4	9.4	91.2	9.1
Tas	24.0	3.0	25.7	2.6
ACT	24.7	3.1	27.6	2.8
NT	62.8	7.8	74.2	7.4
Total	**803.7**	**100.0**	**1,002.4**	**100.0**

Note: These figures are estimates only. See 'Net funding by states and territories' in the technical notes.

Source: AIHW health expenditure database.

2.1 Specific Purpose Payments to state and territory governments

Total public health funding to state and territory governments through SPPs in 2008–09 was estimated at $664.0 million, compared with $792.4 million in 2007–08 (Table 2.1). The higher level of funding in 2007–08 was largely for the purchase of a vaccine ($302.1 million), used in the National Human Papillomavirus program (included under Organised immunisation). The catch-up phase of the program was done through general practice and community-based programs. While the catch-up component did not cease until June 2009, expenditure on the program declined in 2008–09.

In 2008–09 64% of SPP funding ($427.2 million) was for the purchase of essential vaccines listed on the National Immunisation Program Schedule. Funding of health programs through the PHOFAs constituted a further 26% of the SPP funding ($171.2 million), and 8% ($50.9 million) was for *Prevention of hazardous and harmful drug use* (Table 2.3; Box 2.1).

Table 2.3: SPPs for public health, current prices, by state and territory, 2008–09 ($ million)

Category	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
PHOFA funding	53.9	41.5	33.6	15.4	13.0	6.0	3.6	4.2	**171.2**
Communicable disease control	3.7	2.7	2.8	1.8	1.0	0.5	0.4	1.0	**13.8**
Selected health promotion	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Food standards and hygiene	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	**0.8**
Organised immunisation	138.0	101.3	88.6	49.4	27.3	10.8	7.0	4.7	**427.2**
Prevention of hazardous and harmful drug use	17.9	13.6	5.3	5.8	3.6	2.5	1.0	1.2	**50.9**
Total funding	**213.7**	**159.2**	**130.4**	**72.5**	**45.1**	**19.9**	**12.0**	**11.2**	**664.0**

Note: Estimates and comparisons across states and territories need to be interpreted with care. For further information, see 'Net funding by states and territories' in the technical notes.

Source: AIHW health expenditure database.

Box 2.1: Public Health Outcome Funding Agreements

The PHOFAs are funding agreements between the Australian Government and each state and territory government. While there were three separate PHOFA periods, only the two most recent periods fall within the time span looked at in this report. The original PHOFAs covered the period 1 July 1997 to 30 June 1999. The second set of PHOFAs began on 1 July 1999 and ended on 30 June 2004. The third covered the period 1 July 2004 to 30 June 2009. The agreements provide funding to achieve outcomes in the following broad areas of public health:

- communicable diseases
- cancer screening
- health risk factors—in particular alcohol and tobacco use, women's health, and sexual and reproductive health.

Funding provided under these agreements is broadbanded, giving state and territory governments the flexibility to manage local needs and priorities within the total pool of funds allocated to them (DoHA 2006). As a result, it is not possible to track the PHOFA funding through to individual core public health activities, but rather the state and territory governments report their total expenditure on public health activities, regardless of how these activities may have been funded. In some cases, state and territory programs funded by PHOFA payments may not meet the definition of public health activities used in the report. For example, in 2008–09, Victoria allocated approximately 20% of its PHOFA funding to programs that fell outside the definition of public health activities used in this report.

To show how growth in expenditure has changed over time, some of the expenditure tables in this report show estimates of average annual growth in expenditure during each of the most recent PHOFA periods. Trends in expenditure in this report do not necessarily result from differences in PHOFA funding periods; they are merely convenient periods of time in which to examine shorter-term trends in expenditure.

3 Government expenditure on public health activities

A breakdown of the total estimated expenditure on public health activities by Australian and state/territory governments shows that $1,666.4 million (72.4% of total expenditure) was spent by the state and territory governments. The balance of $633.7 million related to programs and activities for which the Australian Government was directly responsible (Table 3.1).

Overall government expenditure was highest for:

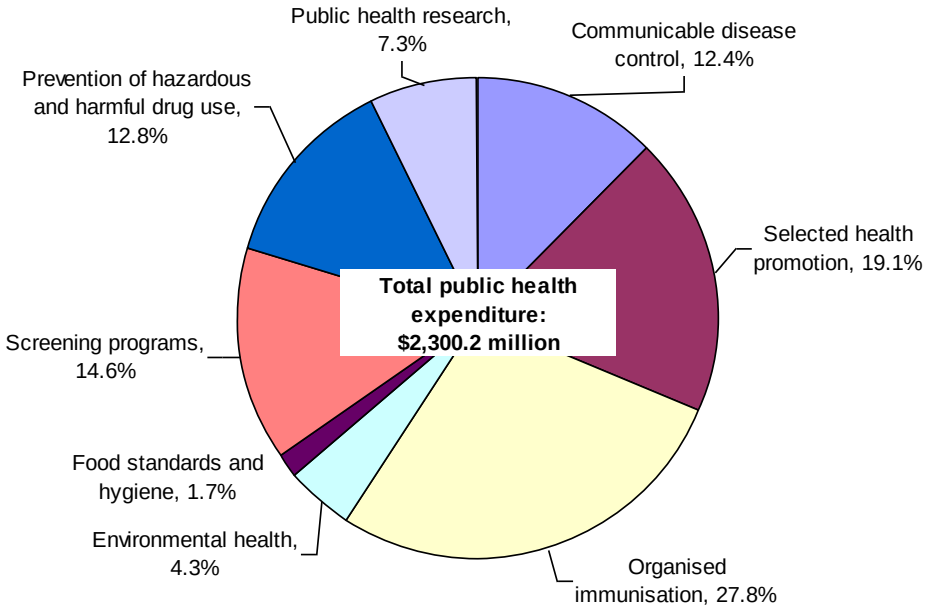
- *Organised immunisation*—$639.4 million (27.8% of total expenditure on public health activities)
- *Selected health promotion*—$438.3 million (19.1%)
- *Screening programs*—$336.3 million (14.6%) (Table 3.1; Figure 3.1).

The category for which there was the highest amount of direct Australian Government expenditure was *Public health research* with $138.6 million (21.9% of total direct Australian Government expenditure), while state and territory governments directed $574.7 million (34.5%) of their expenditure to *Organised immunisation* activities.

Table 3.1: Total government expenditure on public health activities, current prices, by activity, 2008–09 ($ million)

Activity	Australian Government	State and territory governments	Total
Communicable disease control	25.1	259.8	**284.9**
Selected health promotion	132.9	305.4	**438.3**
Organised immunisation	64.7	574.7	**639.4**
Environmental health	20.3	79.6	**99.9**
Food standards and hygiene	19.0	19.0	**38.0**
Screening programs	110.5	225.8	**336.3**
Prevention of hazardous and harmful drug use	122.6	172.4	**295.0**
Public health research	138.6	29.7	**168.3**
Total expenditure	**633.7**	**1,666.4**	**2,300.2**

Source: AIHW health expenditure database.



Source: Table 3.1.

Figure 3.1: Proportion of total government expenditure on public health activities, by activity, 2008–09

Expenditure on *Organised immunisation* activities in 2008–09 continued to make up the largest share of total expenditure (27.8%); however, this share fell from the 2007–08 level of 32.3%. Activities that increased their share of public health funding from 2007–08 to 2008–09 include *Selected health promotion* (16.8% to 19.1%), *Screening programs* (13.3% to 14.6%) and *Communicable disease control* (11.8% to 12.4%) (Table 3.2).

All states and territories had the largest expenditure levels for *Organised immunisation* activities. The second largest area of expenditure was *Communicable disease control* for New South Wales, Western Australia, the Australian Capital Territory and the Northern Territory, *Selected health promotion* for Victoria and South Australia, *Screening programs* for Queensland, and *Prevention of hazardous and harmful drug use* for Tasmania (Table 3.3).

Table 3.2: Total government expenditure on public health activities, current prices, by activity ($ million)

Activity	2007–08 Amount ($ million)	2007–08 Share of total (per cent)	2008–09 Amount ($ million)	2008–09 Share of total (per cent)
Communicable disease control	256.7	11.8	284.9	12.4
Selected health promotion	366.6	16.8	438.3	19.1
Organised immunisation	704.0	32.3	639.4	27.8
Environmental health	95.5	4.4	99.9	4.3
Food standards and hygiene	38.6	1.8	38.0	1.7
Screening programs	289.1	13.3	336.3	14.6
Prevention of hazardous and harmful drug use	271.9	12.5	295.0	12.8
Public health research	157.2	7.2	168.3	7.3
Total expenditure	**2,179.7**	**100.0**	**2,300.2**	**100.0**

Source: AIHW health expenditure database.

Table 3.3: Total government expenditure on public health activities by states and territories, by activity, 2008–09 ($ million)

Activity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Communicable disease control	85.2	47.0	46.0	30.1	16.8	7.0	8.7	19.0	259.8
Selected health promotion	64.5	102.0	55.0	29.3	27.2	6.6	6.3	14.5	305.4
Organised immunisation	196.5	127.6	114.6	50.5	37.4	12.9	10.7	24.5	574.7
Environmental health	15.0	6.7	25.8	13.2	5.6	4.8	3.2	5.2	79.6
Food standards and hygiene	4.9	1.9	2.0	3.2	2.6	0.5	3.0	1.0	19.0
Screening programs	64.2	52.1	56.3	18.5	17.4	6.1	3.7	7.5	225.8
Prevention of hazardous and harmful drug use	32.8	22.6	46.7	23.7	24.4	7.3	3.8	11.0	172.4
Public health research	7.1	7.5	1.4	5.6	4.9	0.3	0.3	2.6	29.7
Total expenditure	**470.0**	**367.5**	**347.9**	**174.1**	**136.3**	**45.6**	**39.6**	**85.4**	**1,666.4**

Source: AIHW health expenditure database.

3.1 Public health expenditure per person

This section looks at public health expenditure on a per person basis. It aims to remove the influence of changes in population from the analysis and allow comparative assessments to be made across different-sized populations.

As the Australian population grows, it could be anticipated that overall public health expenditure must also increase to maintain the average level of public health services provided per person in the community. However, it is important to note that economies of scale and changes in demographic profiles (such as the ageing of the Australian population) can affect expenditure levels for some public health programs. Even with these

considerations, per person expenditure comparisons still remain a useful analytical technique.

During 2008–09, estimated government public health expenditure per person was $105.84, which was $3.41 more than the previous year, not adjusted for inflation. While per person expenditure experienced only a slight increase in constant price terms, this followed a 20.2% real increase in per person expenditure between 2006–07 and 2007–08. Real growth in per person expenditure between 1999–00 and 2008–09 averaged 5.7% per year, and 7.2% between 2003-04 and 2008–09 (Table 3.4).

There was some volatility in annual real growth between 1999–00 and 2008–09, with peaks in 2002–03, 2004–05 and 2007–08. This volatility can reflect the expenditure profile of certain public health initiatives, which can have significant upfront costs before stabilising. In relation to the 'peak' in 2007–08, there was significant expenditure associated with the National Human Papillomavirus program and its associated catch-up component. The catch-up component of the program was wound down in 2008–09, contributing a lower level of per person expenditure growth.

Table 3.4: Average public health expenditure per person[(a)], current and constant[(b)] prices, and annual growth rates, 1999–00 to 2008–09

	Amount ($)		Change from year to year (per cent)	
Year	Current	Constant	Current price increase	Real growth
1999–00	48.03	64.21		
2000–01	52.56	68.32	9.4	6.4
2001–02	55.85	70.55	6.3	3.3
2002–03	60.75	74.72	8.8	5.9
2003–04	63.09	74.93	3.9	0.3
2004–05	71.66	82.91	13.6	10.7
2005–06	71.95	79.58	0.4	-4.0
2006–07	82.71	87.90	15.0	10.5
2007–08	102.43	105.70	23.8	20.2
2008–09	105.84	105.84	3.3	0.1
	Average expenditure per person		Average annual growth rates (per cent)	
1999–00 to 2003–04[(c)]	56.06	70.54	7.1	3.9
2003–04 to 2008–09	82.95	89.48	10.9	7.2
1999–00 to 2008–09	71.49	81.47	9.2	5.7

(a) Based on annual mean resident population for year ended 30 June.

(b) Constant price public health expenditure for 1999–00 to 2008–09 is expressed in terms of 2008–09 prices.

(c) The periods 1990–00 to 2003–04 and 2003–04 to 2008–09 are used to show the funding growth for the periods covered by separate PHOFAs. See Box 2.1 for details.

Source: AIHW health expenditure database.

3.2 Public health expenditure per person in each state and territory

To estimate total government public health expenditure occurring within each state and territory, direct expenditure by the Australian Government has been apportioned across each state and territory (see 'Method for allocating direct expenditure by the Australian Government to states and territories' in the Appendix). This means that the following estimates show all expenditure on programs, which meet this reports' definition of public health activities, in the state or territory regardless of the source of the funding.

In 2008–09, the highest average expenditure per person occurred in the Northern Territory, with expenditure of $411.83 compared with the national average of $105.84 per person. The Australian Capital Territory had the next highest average per person expenditure of $142.66. In the case of the Australian Capital Territory, it is important to note that some of the activities covered by those expenditures are used by the population in the surrounding regions of New South Wales.

While these results may indicate that there are some economies of scale in providing public health services to larger populations, it is also true that average expenditure per person is influenced by other non-public health factors such as location, population demographics, and services provided by other agencies, such as non health state government departments and local governments within a jurisdiction which are not considered to be in-scope for this report.

This last point may partly explain why expenditure in states such as Victoria, where local governments play a large role in the provision of public health services (Table A2), is lower than may be expected based purely on population share. For example, nearly half of all childhood vaccinations in Victoria are administered through local government councils. These services are not funded by the Victorian Government, and the expenditure is not captured in this report. The opposite will be true in the Australian Capital Territory, however, as there are no local governments and all functions typically carried out by councils in other jurisdictions are the responsibility of the Australian Capital Territory Government.

Care must be exercised when comparing estimates of expenditure on public health across jurisdictions, because different jurisdictions often need to direct more effort and resources to particular activities to meet the needs that are of primary concern to their populations. In the case of the Northern Territory, expenditure on public health activities is likely to be higher than the national average as a result of the relative isolation of the population, and the higher proportion of Aboriginal and Torres Strait Islander people in the population, who have a much poorer average health status.

There are also some methodological differences across jurisdictions arising from data collection processes and the treatment of some overheads that need to be considered when making comparisons (see 'Jurisdictions' technical notes' in the Appendix).

Table 3.5: Estimated total government expenditure[(a)(b)] per person[(c)] on public health activities in each state and territory, current prices, 2008–09 ($)

Activity	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Communicable disease control	13.20	9.89	11.68	14.75	11.56	15.18	26.16	86.29	13.11
Selected health promotion	15.25	25.06	18.68	19.27	23.01	19.46	24.17	71.27	20.17
Organised immunisation	30.17	26.10	28.72	25.31	25.62	28.28	32.99	113.17	29.42
Environmental health	3.05	2.18	6.84	6.90	4.41	10.60	10.20	24.32	4.60
Food standards and hygiene	1.57	1.23	1.32	2.30	2.50	1.89	9.33	5.35	1.75
Screening programs	14.52	13.40	18.43	13.84	16.57	18.60	15.97	38.50	15.47
Prevention of hazardous and harmful drug use	10.30	9.84	16.31	16.31	20.81	20.36	16.65	54.82	13.58
Public health research	7.41	7.77	6.66	8.83	9.49	6.99	7.18	18.12	7.74
Total	**95.46**	**95.46**	**108.65**	**107.50**	**113.97**	**121.36**	**142.66**	**411.83**	**105.84**

(a) Includes expenditures incurred by state and territory governments that are wholly or partly funded by the Australian Government through SPPs to states and territories.

(b) Includes estimates of direct expenditure incurred by the Australian Government on its own public health programs, which have been apportioned across states and territories (see Appendix).

(c) Based on the annual mean resident population for the jurisdiction concerned.

Note: Estimates and comparisons across states and territories need to be interpreted with care. For further information see 'Jurisdictions' technical notes' in the Appendix.

Source: AIHW health expenditure database.

3.3 Public health expenditure as a proportion of total recurrent health expenditure

Public health expenditure as a percentage of total recurrent health expenditure is an important measure of the allocation of health expenditure in Australia. This expenditure ratio also forms a Council of Australian Governments performance indicator under the National Healthcare Agreement (CRC 2010).

In the 8 years from 1999–00 to 2006–07, the public health share of total recurrent health expenditure remained consistent at about 1.8% to 1.9% (AIHW 2008). In 2008–09 the share was 2.1% of total recurrent health expenditure which was slightly lower than the 2.2% recorded for 2007–08 (Table 3.6).

The proportion of public health expenditure to total government recurrent health expenditure was 2.8% in 2008–09. This proportion has risen from 2.6% in 1999–00 with a peak in 2007–08 of 3.2%, reflecting the high level of expenditure on the National Human Papillomavirus vaccination program in that year.

Table 3.6: Total recurrent health expenditure and public health expenditure, current prices[(a)(b)], 1999–00 to 2008–09 ($ million)

Year	Total government public health expenditure ($ million)	Total recurrent health expenditure ($ million)		Public health as a proportion of total recurrent expenditure (per cent)	
		All funding sources	Government funding	All funding sources	Government funding
1999–00	915	49,564	34,799	1.8	2.6
2000–01	1,014	54,978	37,918	1.8	2.7
2001–02	1,091	59,522	40,695	1.8	2.7
2002–03	1,201	64,822	44,931	1.9	2.7
2003–04	1,263	69,901	48,008	1.8	2.6
2004–05	1,452	76,781	52,949	1.9	2.7
2005–06	1,479	81,933	56,609	1.8	2.6
2006–07	1,727	89,449	61,745	1.9	2.8
2007–08	2,180	98,017	68,653	2.2	3.2
2008–09	2,300	107,116	75,276	2.1	2.8

(a) Constant price public health expenditure for 1999–00 to 2008–09 is expressed in terms of 2008–09 prices.

(b) The public health expenditure figures may not reconcile with those used in Health Expenditure Australia 2008–09 due to the timing of possible data revisions.

Source: AIHW health expenditure database.

4 Growth in expenditure on public health activities

Between 1999–00 and 2008–09, estimated expenditure in constant price terms grew at an average rate of 7.3%. All public health activities experienced real increases in expenditure over the 10-year period, with the highest average annual growth rates being recorded for *Organised immunisation* (13.7%) and *Selected health promotion* (7.9%) (Table 4.1).

Expenditure on *Selected health promotion* experienced the highest growth in real expenditure from 2007–08 to 2008–09 (15.8%). Real expenditure on *Organised immunisation* declined by 12.0% over the same period; however, the expenditure in 2008–09 was the second highest for *Organised immunisation* expenditure since 1999–00.

Table 4.1: Total government expenditure on public health activities, constant prices[(a)], by activity, 1999–00 to 2008–09 ($ million)

Year	Communicable disease control	Selected health promotion	Organised immunisation	Environmental health	Food standards and hygiene	Screening programs	Prevention of hazardous and harmful drug use	Public health research	PHOFA administration[(b)]	Total
1999–00	202.5	221.8	201.2	77.2	33.4	238.1	157.6	88.8	0.3	**1,221.0**
2000–01	212.6	242.4	219.6	85.0	45.6	239.2	184.9	85.6	0.3	**1,315.2**
2001–02	234.9	275.3	223.5	91.7	41.6	237.3	174.3	97.2	0.3	**1,376.2**
2002–03	246.1	260.9	313.2	91.2	41.7	224.5	188.4	108.3	0.3	**1,474.6**
2003–04	241.8	255.1	318.5	95.1	42.1	234.5	199.5	111.8	0.3	**1,498.6**
2004–05	268.0	266.8	391.3	96.6	37.9	256.7	237.9	122.9	0.3	**1,678.5**
2005–06	273.6	277.3	354.8	94.5	38.0	251.8	208.6	136.8	0.3	**1,635.6**
2006–07	270.3	301.4	463.7	93.9	36.7	278.4	236.0	157.0	–	**1,837.4**
2007–08	265.0	378.6	726.8	98.7	39.9	298.5	281.1	162.3	–	**2,250.9**
2008–09	284.9	438.3	639.4	99.9	38.0	336.3	295.0	168.3	–	**2,300.2**
Growth rate (per cent)										
2007–08 to 2008–09	7.5	15.8	–12.0	1.2	–4.8	12.7	5.0	3.7	–	**2.2**
Average annual growth rates (per cent)										
1999–00 to 2003–04[(c)]	4.5	3.5	12.2	5.3	6.0	–0.4	6.1	5.9	–2.9	**5.3**
2003–04 to 2008–09	3.3	11.4	15.0	1.0	–2.0	7.5	8.1	8.5	–	**8.9**
1999–00 to 2008–09	3.9	7.9	13.7	2.9	1.4	3.9	7.2	7.4	–	**7.3**

(a) Constant price public health expenditure for 1999–00 to 2008–09 is expressed in terms of 2008–09 prices.

(b) In previous reports, direct expenditure incurred by the Australian Government in administering the PHOFAs was reported separately, as it could not be specifically allocated to any of the core public health activity categories. From 2006–07, this expenditure has been treated as corporate overhead expenditure and apportioned across all categories.

(c) The periods 1990–00 to 2003–04 and 2003–04 to 2008–09 are used to show the funding growth for the periods covered by separate PHOFAs. See Box 2.1 for details.

Source: AIHW health expenditure database.

At the jurisdictional level, the highest average annual real growth in estimated public health expenditure over the period 1999–00 to 2008–09 was recorded by Queensland (11.1%) followed by Victoria (7.3%) and New South Wales (7.0%). Other jurisdictions had average real growth rates ranging from 2.9% in the Australian Capital Territory to 6.9% in Western Australia (Table 4.2).

The highest real growth in public health expenditure between 2007–08 and 2008–09 was in Northern Territory with a rate of 9.3%. Western Australia recorded the second highest rate of expenditure growth (6.9%) while the Australian Government (5.2%), Queensland (4.2%), New South Wales (4.1%) and South Australia (0.9%) were the other jurisdictions to experience real expenditure growth over this period. While some jurisdictions experienced lower levels of expenditure in 2008–09 compared with 2007–08, over the period 2003–04 to 2008–09 all jurisdictions increased real expenditure, by an average of 8.9% per year.

Table 4.2: Total government expenditure on public health activities, constant prices[(a)], by jurisdiction, 1999–00 to 2008–09 ($ million)

Year	Australian Government	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
1999–00	350.4	255.8	195.6	135.0	95.5	80.0	26.5	30.7	51.6	**1,221.0**
2000–01	381.3	263.8	235.3	144.4	100.7	84.7	28.3	29.1	47.7	**1,315.2**
2001–02	395.5	282.1	239.6	158.5	108.1	86.4	29.9	29.1	47.0	**1,376.2**
2002–03	394.0	290.7	278.5	182.1	118.8	101.0	34.2	30.7	44.5	**1,474.6**
2003–04	411.1	310.4	263.0	183.7	121.0	94.6	32.2	30.9	51.7	**1,498.6**
2004–05	558.4	325.7	258.1	194.2	120.6	95.8	30.3	33.0	62.5	**1,678.5**
2005–06	498.9	318.0	265.1	206.5	130.2	93.0	32.1	31.1	60.6	**1,635.6**
2006–07	553.8	352.8	295.3	246.9	139.5	112.9	37.6	32.9	65.7	**1,837.4**
2007–08	602.3	451.7	398.9	333.8	162.9	135.1	47.8	40.3	78.1	**2,250.9**
2008–09	633.7	470.0	367.5	347.9	174.1	136.3	45.6	39.6	85.4	**2,300.2**
Growth rate (per cent)										
2007–08 to 2008–09	5.2	4.1	–7.9	4.2	6.9	0.9	–4.7	–1.6	9.3	**2.2**
Average annual growth rates (per cent)										
1999–00 to 2003–04[(b)]	4.1	5.0	7.7	8.0	6.1	4.3	5.0	0.2	0.0	**5.3**
2003–04 to 2008–09	9.0	8.7	6.9	13.6	7.6	7.6	7.2	5.1	10.5	**8.9**
1999–00 to 2008–09	6.8	7.0	7.3	11.1	6.9	6.1	6.2	2.9	5.7	**7.3**

(a) Constant price public health expenditure for 1999–00 to 2008–09 is expressed in terms of 2008–09 prices.

(b) The periods 1990–00 to 2003–04 and 2003–04 to 2008–09 are used to show the funding growth for the periods covered by separate PHOFAs. See Box 2.1 for details.

Source: AIHW health expenditure database.

Appendix: Technical notes

Data revisions

Since the last *Public health expenditure in Australia* report was released in November 2009, some minor revisions have been made to certain expenditure estimates. These revisions have been made on the basis of updated advice having been provided by the respective jurisdictions. All estimates in this report reflect the updated data.

Definition of public health activities

Table A1: Definition of core public health activities used to compile *Public health expenditure in Australia 2008–09*

Public health activity category	Definition
Communicable disease control	This category includes all activities associated with the development and implementation of programs to prevent the spread of communicable diseases. Expenditure on *Communicable disease control* is recorded using three subcategories: • HIV/AIDS, hepatitis C and sexually transmitted infections • needle and syringe programs • other communicable disease control. The public health component of the HIV/AIDS, hepatitis C and sexually transmitted infections strategies includes all activities associated with the development and implementation of prevention and education programs to prevent the spread of HIV/AIDS, hepatitis C and sexually transmitted infections.
Selected health promotion	This category includes activities that are delivered on a population-wide basis that foster healthy lifestyle and a healthy social environment, and health promotion activities that address health risk factors such as sun exposure, poor nutrition and physical inactivity. The underlying criterion for the inclusion of health promotion programs within this category is that they are population health programs promoting health and wellbeing. The following health promotion programs delineate the boundaries for *Selected health promotion*: • healthy settings (such as municipal health planning) • encouraging healthy weight through nutrition and physical activity • personal hygiene • mental health awareness • sun exposure and protection • injury prevention (including suicide prevention and prevention of female genital mutilation) • organised population health screening of heart disease risk factors.

(continued)

Table A1 (continued): Definition of core public health activities used to compile *Public health expenditure in Australia 2008–09*

Organised immunisation	This category includes immunisation clinics, school immunisation programs, immunisation education, public awareness, immunisation databases and information systems. Expenditure on *Organised immunisation* is reported for each of the following three subcategories: • organised childhood immunisation as defined under the Australian Government's National Immunisation Program (see <www.immunise.healh.gov.au/internet/immunise/publishing.nsf/Content/nips2>) • organised pneumococcal and influenza immunisation • all other organised immunisation programs (excluding ad hoc or opportunistic immunisation).
Environmental health	This category relates to health protection education (for example safe chemical storage and water pollutants), expert advice on specific issues, development of standards, risk management and public health aspects of environmental health protection. The costs of monitoring and regulating are to be included where costs are borne by a regulatory agency and principally have a public health focus (for example, radiation safety, and pharmaceutical regulation and safety).
Food standards and hygiene	This category includes all activities relating to the development, review and implementation of food standards, regulations and legislation, as well as the testing of food by regulatory agencies.
Screening programs	This category includes related activities for three types of screening programs: • breast cancer screening through organised programs such as BreastScreen Australia • cervical screening through organised programs such as the state cervical screening programs • organised bowel cancer screening programs. For each subcategory, the costs associated with counselling, treatment or referral services for diagnosed patients is excluded.
Prevention of hazardous and harmful drug use	This category includes activities aimed at the general population to reduce and prevent the overuse or abuse of alcohol, tobacco, illicit and other drugs of dependence. Expenditure is reported for each of the following subcategories: • alcohol • tobacco • illicit and other drugs of dependence • mixed.
Public health research	The definition of research and development (R and D) is as follows (ABS 2008): 'R and D' is defined according to the OECD [Organisation for Economic Co-operation and Development] standard as comprising creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications. An 'R and D' activity is characterised by originality. It has investigation as a primary objective, the outcome of which is new knowledge, with or without a specific application, or new or improved materials, product, devices, processes or services. 'R and D' ends when work is no longer primarily investigative. Thus the basic criterion for distinguishing research and development from other public health activities is the presence of an appreciable element of novelty and resolution of scientific and/or technical uncertainty. Expenditure on general research and development work relating to the running of ongoing public health programs is included under the other relevant public health activities.

Jurisdictions' technical notes

Care must be exercised when comparing estimates of expenditure on public health across jurisdictions, because different jurisdictions often need to direct more effort and resources to particular activities to meet needs that are of primary concern to their populations. These are sometimes determined or influenced by factors outside their control, by 'non-public health' factors, such as:

- location and population demographics (that is, age–sex structure and geographic distribution)
- relative economies of scale in the delivery of particular activities
- the need to cater for some populations in other states and territories
- the roles assigned to other agencies, such as local government authorities, within jurisdictions.

Furthermore, while every effort has been taken to minimise differences in the methods used to estimate expenditure, there remain some methodological differences that render comparisons across jurisdictions a little problematic. These include:

- some differences arising from the different data collection processes across jurisdictions
- differences in the treatment of some overheads in the health expenditure estimates.

Role of local government authorities within each jurisdiction

As stated elsewhere in this report, funding for public health activities provided by local governments is outside the scope of this project. However, the type and number of public health services funded by local governments within each jurisdiction will affect the need for similar services to be funded by higher levels of government. Because of this, it is important to consider the role and scope of local government expenditure when comparing the expenditure results of states and territories.

While local government involvement in public health activities varies greatly between states and territories (Table A2), it is possible to recognise some functions that are common to the majority of local governments in Australia. These include waste and sanitation management, food safety, water quality control, prevention of *Legionella* disease and vector-borne disease control (NPHP 2002).

Table A2: Level of local government involvement[(a)] in provision of public health activities, by jurisdiction[(b)]

	NSW	Vic	Qld	WA	SA	Tas	NT
Communicable disease control	1	1	1	1	1	2	1
Selected health promotion	2	1	2	1	2	2	1
Organised immunisation	2	3	3	2	3	3	2
Environmental health	3	3	3	3	3	3	3
Food standards and hygiene	3	3	3	3	2	3	2
Screening programs	1	1	1	1	1	1	1
Prevention of hazardous and harmful drug use	2	3	2	1	1	1	1
Public health research	1	1	1	1	1	1	1
Other activities related to public health	3	3	3	3	3	3	3

(a) The level of local government involvement is denoted by a number where '1' represents little or no involvement, '2' represents minor involvement, and '3' represents major involvement.

(b) The Australian Capital Territory is a self-governing territory without local government. Traditional local government services are provided by the Australian Capital Territory Government.

Sources: NPHP 2002; Local Government and Shires Associations of NSW 2005; Municipal Association of Victoria 2007; Local Government Association of Queensland 2010; Western Australian Local Government Association 2007; Local Government Association of South Australia 2008; Local Government Association of Tasmania 2007; Local Government Association of the Northern Territory 2008.

Method for allocating direct expenditure by the Australian Government to states and territories

To estimate the overall levels of public health expenditure in each state and territory, it is necessary to allocate the Australian Government funding in supporting public health programs on a state and territory basis. The Australian Government funds expenditure on public health activities through:

- the provision of SPPs to states and territories
- its own direct expenditure in supporting public health programs.

The Australian Government's SPPs can readily be allocated on a state and territory basis. Because its direct expenditures are generally not available on this basis, other indicators need to be used to allocate these expenditures.

Except for the purchases of essential vaccines by the Australian Government on behalf of the state and territory governments, direct expenditure by the Australian Government has been apportioned across state and territories using population measures that directly relate to the recipients or the people that are direct beneficiaries of the expenditure. For example, direct expenditure on breast cancer screening has been split according to the relative share of specific target populations in each state and territory—in this case women aged 50–69 years. Alternatively, where the specific populations are not readily identifiable, then the total populations for each state and territory have been used (Table A3).

Table A3: Population groups used in apportioning direct expenditure by the Australian Government across state and territories

Public health activity categories	Population groups
Communicable disease control	
HIV/AIDS, hepatitis C and sexually transmitted diseases	Total state/territory population numbers
Needle and syringe programs	Total state/territory population numbers
Other communicable disease control	Total state/territory population numbers
Selected health promotion	Total state/territory population numbers
Organised immunisation	
Organised childhood immunisation	
General Practice Immunisation Incentive (GPII)	
Scheme	Children aged 0–9 years by state/territory
Other	Children and adolescents aged 0–19 years by state/territory
Organised pneumococcal and influenza immunisation	Adult population aged 65 years and over by state/territory
All other organised immunisation	Total state/territory population numbers
Environmental health	Total state/territory population numbers
Foods standards and hygiene	Total state/territory population numbers
Screening programs	
Breast cancer screening	Females aged 50–69 years by state/territory
Cervical screening	
Medicare benefit payments	Recipients by state of location
Other expenditure	Females aged 20–69 years by state/territory
Bowel cancer screening	Adult population aged 55–64 years by state/territory
Prevention of hazardous and harmful drug use	
Alcohol	Total state/territory population numbers
Tobacco	Total state/territory population numbers
Illicit and other drugs of dependence	Total state/territory population numbers
Mixed	Total state/territory population numbers
Public health research	Total state/territory population numbers

Note: These are the population groups used by the AIHW to apportion the expenditure. The actual target groups of the associated programs may vary.

Developments in public health expenditure data

There have been developments within Australia that are relevant to the collection of public health funding and expenditure data, and how such data is presented in future reports in this series. Data on the eight core public health categories to date has been collected and reported on as part of the National Public Health Expenditure Project, which jurisdictions agreed to participate in through the PHOFAs (DoHA 2006) The third and final set of PHOFAs covered the 5-year period from 2004–05 to 2008–09. From 2009–10, jurisdictions will still be required to provide public health funding and expenditure data through the Government Health Expenditure National Minimum Data Set specified under the National Healthcare Agreement and the National Health Information Agreement.

Deflators

The real value of money is diminished over time by rises in prices (inflation). To measure real changes in expenditure on public health activities, it is necessary to adjust the estimates of expenditure to remove the effects of inflation. In this report, this is achieved by expressing the estimates of expenditure for all periods in terms of the purchasing power of money in 2008–09. This is referred to throughout the report as 'expenditure in constant prices'. This has been achieved by deflating or inflating the current price expenditure estimates for all periods using chain price indexes derived by the ABS.

The chain price indexes are annually re-weighted Laspeyres chain price indexes, and are calculated at such a detailed level that the ABS considers them equivalent to measures of pure price change. For this publication, chain price indexes for government expenditure on hospital and nursing home services (Table A4) have been used to revalue the expenditure estimates in 2008–09 prices, and derive constant price estimates of public health expenditure.

Table A4: Government final consumption expenditure on hospital and nursing home services, chain price index referenced to 2008–09

State and local hospital and nursing home services	1999–2000	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008	2008–2009
NSW	74.02	75.78	77.73	80.18	83.98	86.04	90.92	94.92	97.66	100.00
Vic	77.13	79.46	81.98	83.91	86.05	88.28	91.57	94.48	96.90	100.00
Qld	73.72	75.94	77.96	79.69	82.77	85.47	88.84	92.97	96.25	100.00
WA	74.90	77.21	79.71	82.12	84.13	86.25	89.71	93.08	96.15	100.00
SA	73.82	76.03	78.54	81.04	83.54	85.56	89.51	92.88	96.25	100.00
Tas	75.15	77.28	79.42	81.46	83.79	86.50	90.49	94.37	97.09	100.00
ACT	74.52	76.16	77.80	80.21	82.72	86.10	89.96	93.24	96.53	100.00
NT	76.61	78.83	81.52	83.54	85.66	87.58	90.95	94.42	96.25	100.00
Australia	**74.81**	**76.94**	**79.17**	**81.30**	**84.21**	**86.43**	**90.41**	**94.09**	**96.90**	**100.00**

Note: These are annually re-weighted Laspeyres chain price indexes.

Source: Unpublished ABS data.

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