Expenditures on health for Aboriginal and Torres Strait Islander peoples 2004–05

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Expenditures on health for Aboriginal and Torres Strait Islander peoples 2004–05

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Preface

In searching for ways to facilitate improvements to the generally poorer health and lower life expectancy of Aboriginal and Torres Strait Islander peoples in Australia, it is important to understand how much is being spent, by whom and on what services.

This report, the fourth in a series and based on the latest available data from 2004–05, shows that Indigenous Australians continue to receive most of their health services through mainstream programs. Government-funded hospital services consume the bulk of the funds.

Differences in patterns of illness, age profile, approach to health, and geographic remoteness require a well considered combination of health services to meet the need that exists. The regular reporting of expenditure allows policy-makers and program deliverers to assess how far the need is being met. The unmet need is not estimated in this report, but could be the subject of further study.

Overall the report indicates that per person spending on health services for Aboriginal and Torres Strait Islander peoples was 17% higher than for the non-Indigenous population in 2004–05. This differential has fluctuated a little over the previous nine years, but without any apparent trend. It may be that programs introduced after the reference date for this report, such as Healthy for Life and the child health check, may impact on the expenditure figures in the next report in this series.

This report was commissioned by the Australian Government's Office of Aboriginal and Torres Strait Islander Health within the Department of Health and Ageing. It has been prepared in cooperation with all health jurisdictions. The task of principal author, complementing the work of Institute staff, has been undertaken by Professor John Deeble, AO, who has played a distinguished high level policy advising role in Australia for over forty years.

I hope you find the messages in this report compelling, and, as always, I welcome your feedback.

Penny Allbon

Director

Australian Institute of Health and Welfare

Acknowledgments and authorship

The collection and analysis of data and the writing of this publication was done by Professor John Deeble (consultant), John Shelton Agar (AIHW) and John Goss (AIHW). The writing was primarily by John Deeble, with contributions by John Shelton Agar and John Goss. The collection and analysis of data was primarily by John Shelton Agar. In addition the authors of this report would like to acknowledge the following people from AIHW who contributed to the analysis of data and production tasks; Nick Mann, Jessica Zhang, Rebecca Bennetts, Brett Rogers, Maneerat Pinyopusarerk, Gail Brien and Ilona Brockway.

Thanks are extended to the members of the Technical Advisory Group (TAG) to this project, and to those TAG members who contributed data and information about Aboriginal and Torres Strait Islander health expenditure in their jurisdiction. Members of the TAG are listed below.

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Abbreviations and symbols

ABS	Australian Bureau of Statistics
ACCHO	Aboriginal Community Controlled Health Organisations
ACT	Australian Capital Territory
AIHW	Australian Institute of Health and Welfare
AHCA	Australian Health Care Agreement
ASGC	Australian Standard Geographic Classification
BEACH	Bettering the Evaluation and Care of Health
DRG	Diagnosis Related Groups
DVA	Department of Veterans' Affairs
GP	General Practitioner
MBS	Medical Benefits Schedule
NACCHO	National Aboriginal Community Controlled Health Organisation
NATSIHS	National Aboriginal and Torres Strait Islander Health Survey
NMDS	National Minimum Data Set
NSW	New South Wales
NT	Northern Territory
OATSIH	Office for Aboriginal and Torres Strait Islander Health
OECD	Organisation for Economic Cooperation and Development
PBS	Pharmaceutical Benefits Scheme
RPBS	Repatriation Pharmaceutical Benefits Scheme
Qld	Queensland
SA	South Australia
SIMC	Statistical Information Management Committee
SPP	Specific Purpose Payment
Tas	Tasmania
Vic	Victoria
VII	Voluntary Indigenous Identifier
WA	Western Australia
n.a.	not available
. .	not applicable
n.e.c.	not elsewhere classified
n.p.	not published
—	nil or rounded down to zero

Executive summary

Expenditure on health services for Aboriginal and Torres Strait Islander peoples is of high public interest given the considerably poorer health status of Indigenous Australians compared with non-Indigenous people and their greater need for health care.

Overall and per person health expenditures

This report shows that between 1995–96 and 2004–05 there has been little change in the per person health expenditure ratio for Indigenous compared to non-Indigenous Australians (Table 2.16).

In 2004–05, $1.17 per person was spent on Aboriginal and Torres Strait Islander health for every $1.00 spent on the health of non-Indigenous Australians. Average total health expenditure per Aboriginal and Torres Strait Islander was $4,718 compared with $4,019 per person estimated for non Indigenous Australians (Table 2.2).

Total health expenditures for Aboriginal and Torres Strait Islander peoples were estimated at $2,304 million in 2004–05 (Table 2.3), or 2.8% of national expenditures on health services, the same proportion as for 2001–02.

Public versus private services

Aboriginal and Torres Strait Islander people are high users of public hospital and community health services, and comparatively low users of medical, pharmaceutical, dental and other health services which are mostly privately provided.

Sixty-seven per cent of total health spending for Aboriginal and Torres Strait Islander peoples was through public hospital services and government community health services—almost 46% for public hospitals and 22% for community health services, including those provided by the Aboriginal Community Controlled Health Organisations. In contrast for non-Indigenous Australians around 30% of health spending is public hospital services and government community health services (Table 2.3).

Aboriginal and Torres Strait Islander peoples were comparatively low users of medical services and pharmaceuticals (Table 2.4). For the mainstream Australian Government schemes of Medicare and the Pharmaceutical Benefits Scheme (PBS) Medicare benefits paid per Indigenous person were estimated to be 45% of the non Indigenous average, and PBS expenditure was estimated at 51% of the non-Indigenous average (Tables 2.18 and A1.2). Expenditure on dental and other health practitioners was 40% of the non-Indigenous average (Table 2.4).

Funding sources

Health services for Aboriginal and Torres Strait Islander peoples are overwhelmingly funded by governments, with the state and territory governments and the Australian Government providing almost equal amounts. In 2004–05 the states and territories provided 48% and the Australian Government 45% of total funding, while the remaining 8% came from private sources, including out-of-pocket payments (Table 2.7). For non-Indigenous people the funding was 20% from the state and territory governments, 48% from the Australian Government, and the remaining 31% from private sources (Table 2.7).

Total per person government funded expenditures were much higher for Aboriginal and Torres Strait Islander peoples than for others—$4,356 per Indigenous person compared with $2,763 per non-Indigenous person, or 58% higher (Table 2.8). Interestingly, this level of expenditure is about the same as estimates of what is spent by governments on other Australians with similar low income levels (Table 2.19 and Figure 2.5).

Growth in expenditure

In the 6 years to 2004–05, expenditures by governments for Aboriginal and Torres Strait Islander peoples rose by 23% (taking inflation into account) (Table 2.17). The state and territory governments contributed 56% ($447 million) of the growth in expenditure while the Australian Government contributed 44% ($352 million).

Public hospitals were the largest single source of increase—$302 million. The largest proportional growth was in Australian Government grants to the Aboriginal Community Controlled Health Organisations, which grew by 83% over the six years.

Data comparability over time

Care should be taken in reviewing changes over time as the methodology for some of the estimates has changed. Accurate and consistent Indigenous identification is still a major barrier to precise estimates of Aboriginal and Torres Strait Islander use of health care. Recent work has improved estimates of the level of Indigenous underestimation in the hospital data, but further work is needed to refine estimates across the health system.

1 Introduction

The first report on *Expenditures on health services for Aboriginal and Torres Strait Islander people* was published in 1998 for the expenditure year 1995–96 (Deeble et al. 1998). Subsequent reports have been published at three-yearly intervals—in 2001 for the year 1998–99 (AIHW 2001), and in 2005 for the year 2001–02 (AIHW 2005a). This current report covers the year 2004–05. Over that time, some of the methodology has been refined and the range of information available has steadily increased.

All the reports have shown that per person health-care spending for and by Aboriginal and Torres Strait Islander peoples has been somewhat higher than for the non-Indigenous population, though not what would be expected given their lower health status. Remoteness is one of the main factors contributing to higher service delivery cost. Differences in the way health services are used have also been highlighted. Aboriginal and Torres Strait Islander people rely much more on public hospital services than other Australians do, and they are much less likely to use private doctors, private hospitals and the range of independent providers that other citizens use. They are therefore much more dependent on government funding. On average, Aboriginal and Torres Strait Islander people are much poorer than non-Indigenous Australians, and their health expenditure patterns are similar to those of others with similar levels of income.

This publication presents the results for 2004–05 in much the same way as did the 1998–99 and 2001–02 reports; data for this report are contained in either the results section or the Appendix tables. The results section concentrates more on changes over time and on interpreting the results in the light of both the methods used and the sources of information available.

More detailed data on state and territory expenditures are on the web at <www.aihw.gov.au/expenditure/indigenous >.

1.1 Population

Table 1.1 shows the estimated Aboriginal and Torres Strait Islander population at 31 December 2004, by state and territory and by the Australian Standard Geographic Classification (ASGC) Remoteness areas. The Aboriginal and Torres Strait Islander population was 6.5% larger than that estimated three years earlier, a lower increase than in the two preceding three-yearly periods when the willingness of people to identify themselves as Indigenous in the Census was apparently increasing.

The general characteristics of the Aboriginal and Torres Strait Islander population are well known. New South Wales and Queensland had the largest numbers. The Northern Territory had by far the highest proportion of its population identified as Aboriginal and Torres Strait Islander. Within that distribution, the regional spread of Aboriginal and Torres Strait Islander peoples and non-Indigenous people was very different. Over one-quarter of Aboriginal and Torres Strait Islander peoples lived in remote and very remote areas, compared with 2% of non-Indigenous people and the proportion living in major cities was less than half the national average (Table 1.1). They were also very much younger. In 2004-05, 37% of Aboriginal and Torres Strait Islander peoples were aged less than 15 years,

64% were under 30 and 3% were aged 65 years and over, compared with 20%, 40% and 13% respectively in the whole Australian population (Figure 1.1). Aboriginal and Torres Strait Islander fertility rates at a total fertility rate of 2.1 were a little higher than for non-Indigenous women (ABS 2007a). Death rates for both males and females were higher at every age (ABS 2007b).

Table 1.1: Aboriginal and Torres Strait Islander population by ASGC remoteness area and state and territory, 31 December 2004

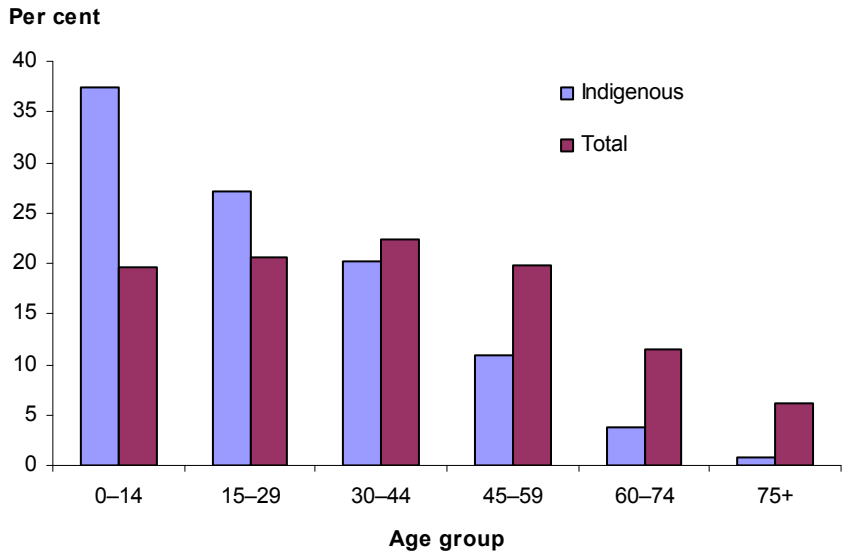
	ASGC remoteness area						Proportion of total state population (%)
	Major cities[a][b]	Inner regional[a]	Outer regional[b]	Remote	Very remote	Total	
NSW	59,634	45,365	28,044	7,113	2,522	142,679	2.1
Vic	14,783	10,441	4,640	142	—	30,006	0.6
Qld	33,544	24,964	44,718	12,488	19,670	135,384	3.4
WA	22,357	5,818	10,222	12,650	19,259	70,305	3.5
SA	12,640	2,393	6,203	1,892	4,191	27,319	1.8
Tas	—	9,332	8,213	453	212	18,210	3.8
ACT	4,244	8	—	—	—	4,252	1.3
NT	—	—	11,274	10,996	37,670	59,941	29.7
Australia[c]	**146,915**	**98,644**	**113,245**	**45,743**	**83,788**	**488,335**	**2.4**
Indigenous (%)	30.1	20.2	23.2	9.4	17.2	100.0	
Non-Indigenous (%)	67.1	21.1	9.9	1.4	0.5	100.0	

(a) Hobart is classified as Inner Regional under the ASGC.

(b) Darwin is classified as Outer Regional under the ASGC.

(c) Includes populations of Christmas and Cocos (Keeling) Islands and Jervis Bay.

Sources: AIHW derived from ABS 2007c, ABS 2004 "low series' projected Indigenous population, and ABS local area population estimates.



Source: ABS 2004.

Figure 1.1: Age composition of the estimated Indigenous population and the population of Australia, 2004–05

1.2 Health status

Every discussion of Aboriginal and Torres Strait Islander health highlights the very large difference in the various indicators of health status for Aboriginal and Torres Strait Islander peoples and non-Indigenous people. On the ultimate measure—life expectancy at birth—Aboriginal and Torres Strait Islander peoples expectation of 59 years for males and 65 years for females in 1996–01 period trailed its non-Indigenous counterpart by about 17 years, or nearly 20% (ABS and AIHW 2005). In Queensland, Western Australia, South Australia and the Northern Territory, three-quarters of all male deaths and 65% of all female deaths were at an age below 65 years, compared with proportions of 26% and 16% for non-Indigenous men and women respectively (ABS and AIHW 2005). Although Aboriginal and Torres Strait Islander infant mortality rates have almost halved in absolute terms since 1991, in the period 1999–03 the Indigenous infant mortality rate was three times the infant mortality for the non-Indigenous population (ABS and AIHW 2005).

Indicators of illness show similar differences. The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (ABS 2006) showed that chronic diseases of the circulatory system (heart disease and hypertension) were reported from 35 years of age onwards in the Aboriginal and Torres Strait Islander population, about 11 years earlier than in non-Indigenous people. After adjusting for age differences, asthma was reported at 1.6 times the rate for other Australians. However, the largest difference was in diabetes, which Aboriginal and Torres Strait Islanders were three times more likely to report.

The health service data paint a similar picture. The hospitalisation rate for Aboriginal and Torres Strait Islander peoples were higher than for other Australians (ABS and AIHW 2005). Hospitalisation for dialysis for Indigenous males and females were nine and 17 times higher respectively than for non-Indigenous people (ABS and AIHW 2005). Likewise Indigenous males and females were three times as frequently hospitalised for endocrine, nutritional and metabolic diseases (AIHW and ABS 2005). These statistics are harder to interpret because they reflect the availability of hospital and non-hospital services as well as the prevalence of illness. A much higher proportion of Aboriginal and Torres Strait Islander peoples live in remote areas where hospitals are often the only source of any specialised medical care. Apart from diabetes, the survey of General Practitioner (GP) work conducted by the AIHW's General Practice Statistics and Classification Unit at the University of Sydney—the 'Bettering the Evaluation and Care of Health (BEACH) survey—has shown little difference between the conditions for which Aboriginal and Torres Strait Islander peoples sought GP care and those for which the non-Indigenous population attended. There are no data on medical conditions or reasons for visit in either the Medicare database or the records of the Aboriginal Community Controlled Health Organisations (ACCHOs).

1.3 Income

Capacity to pay affects both the level and the pattern of health-care spending and is the basis for much financing policy. Family income is the measure most commonly used. The first report for 1995–96 adjusted the household incomes reported in the 1991 Census by a standard method of correcting for family size, to give Equivalent Family Incomes which took account of the 'needs' of families of different size and composition. On that measure, the average income of Aboriginal and Torres Strait Islander families was 62% of the mean for non-Indigenous families, a relationship which put them in the lowest 20–30% of the income distribution. As the first report pointed out, these are the people with whom expenditures for Aboriginal and Torres Strait Islander peoples should logically be compared.

Since then, the Australian Bureau of Statistics (ABS) has published official estimates of 'equivalised' family incomes for Aboriginal and Torres Strait Islander and non-Indigenous people from both the 1996 and 2001 Censuses (Table 1.2). Almost nothing has changed. On average, the equivalised family income for Aboriginal and Torres Strait Islander peoples was 64% of the non-Indigenous level in 1996, but 62% again in 2001. The mean weekly equivalised income of Aboriginal and Torres Strait Islander families was $364. For other families it was $585 per week. The national distribution of income was measured in 'quintiles'—five income ranges which each contained 20% of all households. Seventy-two per cent of Aboriginal and Torres Strait Islander households were in the two lowest income quintiles, compared with 39% for other Australians. The average Aboriginal and Torres Strait Islander household was close to the bottom of the second-lowest quintile for non-Indigenous households (Table 1.2).

Table 1.2: Mean weekly equivalised gross household income, by remoteness areas, Indigenous status and the percentage of households in each quintile, Australia, 2001

	ASGC Remoteness areas					
	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
Indigenous						
Mean ($)	435	360	352	356	267	364
Income quintile (%)						
Lowest	35.2	43.5	44.9	46.1	63.2	45.0
Second	24.9	28.8	28.4	27.3	28.0	27.2
Third	17.0	14.5	14.6	12.9	5.4	13.5
Fourth	13.5	8.7	8.3	8.5	2.3	8.9
Highest	9.5	4.4	3.9	5.2	1.1	5.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Non-Indigenous						
Mean ($)	622	506	502	579	622	585
Income quintile (%)						
Lowest	17.2	23.4	25.1	21.6	18.0	19.3
Second	17.9	24.2	23.7	18.9	17.4	19.8
Third	19.7	21.4	20.6	19.1	19.1	20.1
Fourth	21.5	18.3	17.6	19.8	21.0	20.4
Highest	23.7	12.8	13.0	20.7	24.5	20.3
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: ABS 2003.

1.4 Data on health service use and spending

Almost all the data presented here are estimates and there are limitations to most of them. The first qualification is in the basic definition of a health service. We have followed the Australian (and international) conventions of national accounting in covering those services that are directed mainly towards improving health and/or reducing the effects of illness or injury. That is a relatively narrow definition which excludes a number of supportive 'welfare' services and the impact of living conditions on health—housing, sanitation, nutrition, poverty, and so on. Many people argue, correctly, that these exclusions have more significance for Aboriginal and Torres Strait Islander people than for the Australian population generally, and the 2001–02 report included some experimental estimates of health-related welfare expenditures for Aboriginal and Torres Strait Islander peoples. However, because the range of programs was limited and not well defined, we have not included those estimates in this publication.

The second issue involves the allocation of expenditures. There are very few services which are directed towards Aboriginal and Torres Strait Islander peoples specifically and even fewer that are used exclusively by Aboriginal and Torres Strait Islander patients. The Australian Government has Indigenous-specific programs in immunisation and screening,

but its largest direct allocation to Aboriginal and Torres Strait Islander health was through grants to the ACCHOs. However, an estimated 8% of that was related to welfare services, not health care as defined here, and about 12% of the remainder was attributed to non-Indigenous users. All the states and territory health agencies have Aboriginal and Torres Strait Islander Health sections or units but the funding they directly control is limited. In total, approximately one-fifth of the estimated health expenditures for Aboriginal and Torres Strait Islander peoples came from programs that were specifically designed for them.

The remainder was through mainstream programs whose costs had to be allocated according to whatever indicators of use or expenditure were available. The three largest categories were hospitals, medical services and medications. Together they accounted for 66% of all Australian health expenditures in 2004–05 and 59% of the spending that was allocated to Aboriginal and Torres Strait Islander peoples (Table 2.3). The methods used are discussed in Appendix 3. The major problem was under-identification of Aboriginal and Torres Strait Islander users. Hospital records provide for self-identification on admission or attendance at an emergency/outpatient department, but the question has not always been asked or answered and varying levels of under-identification have always been assumed. Under-identification has been largest in the states and regions where the proportion of Aboriginal and Torres Strait Islander peoples is lowest, and less significant where the proportion is higher. Medicare and the Pharmaceutical Benefits Scheme (PBS) have no routine recording of Indigenous status. However, since 2002, Aboriginal and Torres Strait Islander peoples have been able to voluntarily identify themselves under Medicare and about 20% of them had done so by 2004–05. That has provided some useful, though limited, information on both medical service and pharmaceutical use. A project to identify hospital patients in the wards, as compared with what the admission records say, has improved the information about the level of Aboriginal and Torres Strait Islander under-identification within public hospitals (Appendix 4). Indicators for the community health and public health sectors have been less precise but they have also been refined over time.

1.5 Content of this publication

Chapter 2 presents the results for 2004–05, analysed according the types of service provided, the parties responsible for spending and the sources of finance. Recurrent expenditures for Indigenous people are compared with those for non-Indigenous people as derived from the Australian Institute of Health and Welfare (AIHW) Expenditure Report No. 30, *Health expenditure Australia, 2005–06* (AIHW 2007a). Spending on primary health services and secondary/tertiary services are separated and regional differences are examined. The results for 2004–05 are then compared with those from the three earlier reports and the significance of any changes discussed. Finally, some recommendations are made in relation to methodology and data improvement.

Chapter 2 contains all the information needed to assess the results. However it does not report on all the data available or all the methods used. These are contained in the Appendixes. Appendix 1 tabulates Australian Government expenditures in more detail. Appendix 2 contains similar information for the states and territories. Appendix 3 outlines the bases for estimating the major items of hospital spending, spending on medical services and expenditure on prescribed medicines, including an analysis of data from the Medicare and PBS records of the 100,000 Aboriginal and Torres Strait Islander peoples who had voluntarily identified themselves by 2004–05.

2 Results

Australian health services are delivered and financed in a variety of ways. All governments are involved—there are public and private providers, public and private funding streams, and a number of ways in which payment is made. There are three main ways in which spending for the whole population or any component group of people can be examined:

- according to administrative responsibility and the programs under which services were delivered
- according to the type of services provided
- according to the final source of funds.

The results below follow these divisions, with increasing levels of detail. Spending on Aboriginal and Torres Strait Islander peoples and non-Indigenous people is separated and recurrent expenditures per person are presented and compared. The results need to be interpreted in the light of judgments about how the 'need' for those services varies across the two groups of people. Those judgments are beyond this report. However, establishing some expenditure data is a necessary first step.

2.1 Expenditures by responsibility for management

Table 2.1 shows recurrent expenditures through programs that were managed by the Australian Government, by the state and territory governments, and expenditures for services that were provided privately through the non-government sector and not managed by government. Management does not necessarily imply direct service provision. The Australian Government delivers very few services directly, although its funding policies affect a wide variety of them. However, funding gives varying degrees of control. The Medicare and PBS programs are considered to be under Australian Government management, and user co-payments of Medicare and the PBS are included in the costs of these programs because they are part of each program's design. But the Australian Government's contribution to the cost of state and territory programs, particularly public hospitals, is not included in programs managed by the Australian Government because it does not directly manage the hospitals or other services. Similarly with regard to the Australian Government subsidy of private health insurance. The distinction relates to operational responsibility. The private component contains those services that were not managed by governments.

In total, $2,304 million was spent on health services for Aboriginal and Torres Strait Islander peoples in 2004-05 (Table 2.1). Ninety-three per cent of spending was through programs managed by governments, and 67% of it was managed by state and local governments. Aboriginal and Torres Strait Islander peoples made proportionally lower use of purely private services. That was an entirely different pattern from the one for non-Indigenous Australians, for whom the three sources of supply were almost equally important.

Table 2.1: Total expenditures on health services by program, 2004–05

	Indigenous		Non-Indigenous	
Management	**Amount ($ million)**	**Proportion (%)**	**Amount ($ million)**	**Proportion (%)**
Through state and local government programs	1,537.1	66.7	26,844.1	33.9
Through Australian Government programs[(a)]	604.7	26.2	28,163.4	35.5
Through Government programs	*2,141.8*	*93.0*	*55,007.4*	*69.4*
Through non-government arrangements	162.2	7.0	24,253.0	30.6
Total	**2,304.0**	**100.0**	**79,260.4**	**100.0**

(a) Patient co-payments under Medicare and PBS ($19.2 million Aboriginal and Torres Strait Islander peoples, $2,766.4 million non-Indigenous) are included here, but note they are shown elsewhere in this report as expenditure incurred by the non-government sector.

Source: AIHW health expenditure database.

Estimated expenditures per person for Aboriginal and Torres Strait Islander peoples were about 17% higher than those for other Australians. Table 2.2 shows average expenditures per person under the three kinds of management and the ratio of Indigenous to non-Indigenous spending. The overall difference arose entirely from programs managed by the states and territories, under which the ratio was 2.31 to 1.

Table 2.2: Expenditures per person on health services, by program, 2004-05 ($)

Management	**Indigenous**	**Non-Indigenous**	**Ratio**
Through state and local government programs	3,148	1,361	2.31
Through Australian Government programs[(a)]	1,238	1,428	0.87
Through Government programs	*4,386*	*2,789*	*1.57*
Through non-government arrangements	332	1,230	0.27
Total	**4,718**	**4,019**	**1.17**

(a) Patient co-payments under Medicare and PBS ($39 per Aboriginal and Torres Strait Islander person, $140 per non-Indigenous person) are included here, but note they are shown elsewhere in this report as expenditure incurred by the non-government sector.

Source: AIHW health expenditure database.

Australian Government programs spent a little less per person on Aboriginal and Torres Strait Islanders than on other Australians. That was because Aboriginal and Torres Strait Islander peoples relied on public hospitals and community health services much more than on the non-institutional services of private medical and pharmaceutical providers with which the Australian Government is more involved. As will be shown, the financing outcomes were somewhat different, with a much higher Australian Government share. The finding is nonetheless significant. In 2004–05, two-thirds of all the resources used in Aboriginal and Torres Strait Islander health care were administered by the states and territories.

2.2 Expenditures by services

Table 2.3 shows, in some detail, estimated expenditures by broad types of service for Aboriginal and Torres Strait Islander peoples and non-Indigenous people. Table 2.4 calculates expenditures per person and the ratio of Indigenous to non-Indigenous

expenditures for each service. Spending for and by Aboriginal and Torres Strait Islander peoples was 2.8% of all recurrent health expenditures in 2004-05, a slightly higher proportion than their 2.4% share of the Australian population.

The major feature is the reliance of Aboriginal and Torres Strait Islander peoples on public hospitals. Although Aboriginal and Torres Strait Islander peoples apparently used private hospitals very little and their private insurance coverage was very low, hospital expenditures per Aboriginal and Torres Strait Islander person were 60% higher than for other Australians (Table 2.4). Conversely, expenditures on medical services, dental and other health practitioners and medications were less than half those for non-Indigenous people. Expenditures on high-level residential care (aged care) were 27% of the non-Indigenous average, and 29% for aids and appliances. However, spending on community health services was over six and a half times that for other Australians and expenditures for both patient transport and public health were well above the national average. Figure 2.1 summarises spending per person for the major types of services.

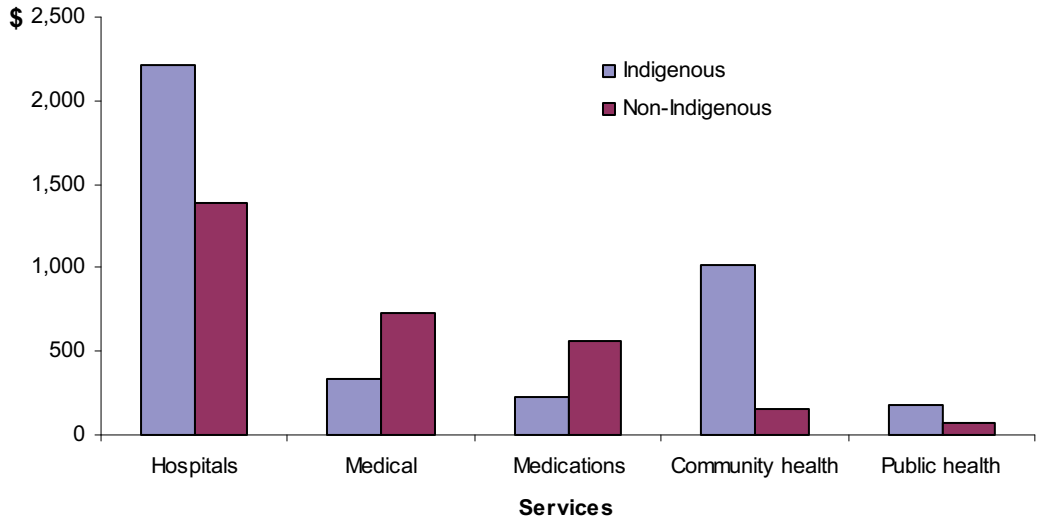
None of the outcomes above was surprising. Relative to other Australians, Aboriginal and Torres Strait Islander households are poor and poorer people tend to rely disproportionately on public hospitals for reasons of access, cost and culture as well as health. In many of the areas where Aboriginal and Torres Strait Islander peoples live, hospital admission is the only practical way of delivering anything but the simplest services, and hospital emergency rooms are the most accessible source of affordable medical treatment, including GP-type care. Aboriginal and Torres Strait Islander peoples were admitted to public hospitals at nearly two and a half times the rate for non-Indigenous Australians (AIHW 2006). Note that this is higher than the Indigenous/non-Indigenous expenditure ratio of 1.99 to 1 for public hospital admitted patient services reported in Table 2.4. This difference reflects the fact that the average cost per Aboriginal and Torres Strait Islander patient separation was markedly lower than that for non-Indigenous patients (Table 2.15). A high proportion were admitted for relatively low-cost services such as dialysis, and several studies have shown that Aboriginal and Torres Strait Islander patients get fewer high-cost procedures (Coory MD & Walsh WF 2005; Cunningham J 2002).

Table 2.3: Expenditures on health services for Indigenous and non-Indigenous people, by service, 2004-05

	Expenditure ($ million)			
Service	**Indigenous**	**Non-Indigenous**	**Total**	**Indigenous share (%)**
Hospitals	1,080.7	27,337.6	28,418.3	3.8
Public hospital services[(a)]	1,048.6	21,042.7	22,091.3	4.7
Admitted patient services	799.4	16,226.8	17,026.2	4.7
Non-admitted patient services	249.2	4,815.8	5,065.1	4.9
Private hospitals	32.1	6,295.0	6,327.0	0.5
High-level residential care	41.7	6,283.4	6,325.1	0.7
Patient transport	103.5	1,369.9	1,473.4	7.0
Medical services	164.6	14,483.5	14,648.1	1.1
Community health services	497.8	3,052.7	3,550.5	14.0
Dental and other health practitioners	78.0	7,811.8	7,889.8	1.0
Medications	109.4	11,056.4	11,165.8	1.0
Aids and appliances	18.6	2,591.4	2,610.1	0.7
Public health	88.9	1,350.3	1,439.2	6.2
Research	46.0	1,669.0	1,715.0	2.7
Health administration n.e.c.	74.6	2,254.5	2,329.1	3.2
Total	**2,304.0**	**79,260.4**	**81,564.4**	**2.8**

(a) Public hospital services excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

Source: AIHW health expenditure database.



Source: Table 2.4.

Figure 2.1: Expenditures per person on selected health services for Indigenous and non-Indigenous people, by service type, 2004–05 ($)

Some of the other spending differences are also to be expected, such as the higher transport costs for Aboriginal and Torres Strait Islander peoples (a significant proportion of which were for the Royal Flying Doctor Service in remote areas), and their much lower use of high-level residential care services. Although Aboriginal and Torres Strait Islander peoples have a much higher age-specific utilisation of residential aged care at each age group, overall utilisation is lower because of the younger age-structure of the Aboriginal and Torres Strait Islander population (AIHW 2007b).

Table 2.4: Expenditures per person on health services for Indigenous and non-Indigenous people, 2004-05

	Indigenous		Non-Indigenous		
Service	**Amount ($)**	**Proportion (%)**	**Amount ($)**	**Proportion (%)**	**Ratio**
Hospitals	2,213	46.9	1,386	34.5	1.60
Public hospital services[(a)]	2,147	45.5	1,067	26.5	2.01
Admitted patient services	1,637	34.7	823	20.5	1.99
Non-admitted patient services	510	10.8	244	6.1	2.09
Private hospitals	66	1.4	319	7.9	0.21
High-level residential care	85	1.8	319	7.9	0.27
Patient transport	212	4.5	69	1.7	3.05
Medical services	337	7.1	734	18.3	0.46
Community health services	1,019	21.6	155	3.9	6.59
Dental and other health practitioners	160	3.4	396	9.9	0.40
Medications	224	4.7	561	13.9	0.40
Aids and appliances	38	0.8	131	3.3	0.29
Public health	182	3.9	68	1.7	2.66
Research	94	2.0	85	2.1	1.11
Health administration n.e.c.	153	3.2	114	2.8	1.34
Total	**4,718**	**100.0**	**4,019**	**100.0**	**1.17**

(a) Public hospital services excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

Source: AIHW health expenditure database.

However, the reportedly low use of medical services, other health practitioners, medications and aids/appliances needs some further interpretation. First, the figures are not entirely consistent. All the service classifications are based on the national health accounts and that is an important check on consistency. However, those accounts do not treat all providers in the same way. Public hospital expenditures are reported in bulk, with an estimated split between the admitted patient and non-admitted patient services. They cover all the services that public hospitals provide, whatever their nature or professional input, and all supplies including medications and appliances, although medical services for private patients are not included. But the statistics for private hospitals differ. They include the accommodation, nursing and other services that the hospitals themselves deliver. Medical services, other health professional services and prescribed drugs are paid for separately and their costs are included in the non-institutional figures for each category. In 2004–05, $3.1 billion or 21% of all the 'medical' expenditure in Table 2.3 were incurred for private patients within the private and public hospitals (Table C2 in AIHW 2007a) and an estimated 3% of all prescribed drug costs were private hospital based. Nearly all of them were for non-Indigenous patients.

Shifting these medical and pharmaceutical expenditures back to the hospitals sector would both lower the Indigenous/non-Indigenous expenditure ratio for hospitals and raise the Aboriginal and Torres Strait Islander peoples share of medical services significantly, though not by very much for drugs. However, that would still not indicate exactly what services the Aboriginal and Torres Strait Islander peoples received, because government community

health programs complicate interpretation in the same way as the public hospitals do. In 2004–05, almost 22% of all expenditures for Aboriginal and Torres Strait Islander people, and 41% of their out-of-hospital spending, was for community health. Almost all of the Australian Government's community health expenditure was through grants to the ACCHOs, but on the state and territory side there were a variety of maternal and child health programs, drug and alcohol programs, community mental health programs and other services with differing professional inputs.

All this means is that although the estimates of overall health expenditures for Aboriginal and Torres Strait Islander peoples and non-Indigenous people have a clear and unambiguous meaning, the results for individual categories of spending may not. Because the expenditures depend on where and by whom the services are delivered as well as their technical nature, some of the differences in recorded expenditures may have reflected no more than the different ways in which public and private expenditures are reported and the different combination of public and private providers that the two groups used.

2.3 Expenditures on primary and secondary/tertiary health services

Primary health services can be defined as those provided to whole populations (public health and community health services) plus those rendered in, or flowing from, a patient-initiated contact (GP consultations, hospital emergency attendances, GP-ordered investigations and prescriptions, over-the-counter medicines and so on). Secondary/tertiary services can be defined within the system by referral or hospital admission. This section presents an analysis of expenditure using those definitions, covered in the next paragraph similar to the analysis in the previous reports (AIHW 2005b). It provides an additional review of the differing patterns of use of health services by Indigenous and non-Indigenous Australians.

Tables 2.5 and 2.6 show estimated expenditures on the two categories of service, in total, and per person respectively. Because the available indicators of Aboriginal and Torres Strait Islander use differed between services, the figures are estimates. Also, some overhead costs in administration, research and other minor items could not be allocated to one category of service or the other.

Aboriginal and Torres Strait Islander peoples have a higher expenditure per person ratio (1.27, Table 2.6) for primary health services expenditure than for secondary/tertiary health services (1.08). Despite the greater reliance on hospitals of Aboriginal and Torres Strait Islander peoples, spending on primary care services was actually a slightly higher proportion of the total for them than for other Australians—50% compared with 46% (Table 2.5). That was mainly because much more was spent on community health services for Aboriginal and Torres Strait Islander peoples, which in our classification includes all of the non-doctor health services provided by the ACCHOs. For non-Indigenous people, community health services are a relatively minor item. Transport costs were much higher for Aboriginal and Torres Strait Islander peoples than non-Indigenous people at both the primary and secondary (hospital-related) levels (Table 2.6).

As recorded, nearly all of the secondary and tertiary care for Aboriginal and Torres Strait Islander peoples was provided in hospitals (Table 2.5). Per person, spending on non-hospital

secondary services was 36% of that for the non-Indigenous population. However, those figures were influenced by the same reporting differences as were outlined above. If the nearly $3.1 billion of medical expenses for private patients and about $300 million in drug expenditures that were incurred in private hospitals had been recorded there, some of the pattern would have looked quite different.

Table 2.5: Expenditures on primary and secondary/tertiary health services, by services, 2004–05

	Primary			Secondary/tertiary		
	Expenditure ($ million)			Expenditure ($ million)		
Service	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Indigenous share (%)
Hospitals	124.6	2,407.9	4.9	956.1	24,929.7	3.7
Admitted patients	n.a.	n.a.	n.a.	831.5	22,521.8	3.6
Non-admitted patients	124.6	2,407.9	4.9	124.6	2,407.9	4.9
High-level residential care	n.a.	n.a.	n.a.	41.7	6,283.4	0.7
Patient transport	51.8	274.0	15.9	51.8	1,095.9	4.5
Medical services	139.3	9,627.8	1.4	25.3	4,855.7	0.5
Community health services	497.8	3,052.7	14.0	n.a.	n.a.	n.a.
Dental services	56.4	5,041.1	1.1	n.a.	n.a.	n.a.
Other health practitioners	10.8	1,385.4	0.8	10.8	1,385.4	0.8
Medications	99.2	9,171.2	1.1	10.2	1,885.2	0.5
Aids and appliances	16.9	2,149.6	0.8	1.7	441.9	0.4
Public health	88.9	1,350.3	6.2	n.a.	n.a.	n.a.
Total[(a)]	**1,085.7**	**34,459.9**	**3.1**	**1,097.7**	**40,877.0**	**2.6**

(a) Excludes expenditure on health administration n.e.c. and research.

Source: AIHW health expenditure database.

Table 2.6: Expenditure per person on primary and secondary/tertiary health services for Indigenous and non-Indigenous people, 2004–05

	Primary			Secondary/tertiary		
	Expenditure per person ($)			Expenditure per person ($)		
Service	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio
Hospitals	255	122	2.09	1,958	1,264	1.55
Admitted patients	n.a.	n.a.	n.a.	1,703	1,142	1.49
Non-admitted patients	255	122	2.09	255	122	2.09
High-level residential care	n.a.	n.a.	n.a.	85	319	0.27
Patient transport	106	14	7.63	106	56	1.91
Medical services	285	488	0.58	52	246	0.21
Community health services	1,019	155	6.59	n.a.	n.a.	n.a.
Dental services	116	256	0.45	n.a.	n.a.	n.a.
Other health practitioners	22	70	0.31	22	70	0.31
Medications	203	465	0.44	21	96	0.22
Aids and appliances	35	109	0.32	4	22	0.16
Public health	182	68	2.66	n.a.	n.a.	n.a.
Total[(a)]	**2,223**	**1,747**	**1.27**	**2,248**	**2,073**	**1.08**

(a) Excludes expenditure on health administration n.e.c. and research.

Source: AIHW health expenditure database.

2.4 Source of funds

The main reason that responsibility for funding differs from that for management is that much of the Australian Government's financing is indirect and does not involve management responsibilities. Much of the financing is to the states and territories through the Australian Health Care Agreements or to the private health insurance funds through the Private Health Insurance Rebate. Table 2.7 shows the funding of all recurrent health expenditures in 2004–05, by final sources of funds, for Aboriginal and Torres Strait Islander peoples and non-Indigenous people. Table 2.8 provides the same information expressed as estimated expenditures per person and the ratios of Indigenous to non-Indigenous amounts.

Governments provided 92% of all the funding for Aboriginal and Torres Strait Islander health spending and 69% of health funding for non-Indigenous people. In aggregate, the two levels of government contributed almost equally. The states and territories contributed $1,095 million or 48%; $1,032 million or 45% came from the Australian Government (Table 2.7). Per person, that was 9% more than the Australian Government spent on non-Indigenous people but for the states and territories, which have very little involvement with privately-provided services, 2.73 times as much as expenditure on non-Indigenous people. For all government funding, expenditures for Aboriginal and Torres Strait Islander peoples were 58% higher than for other Australians, at $4,356 per person and $2,763 per person respectively (Table 2.8).

The other main feature was the balance between those services that were intended for Aboriginal and Torres Strait Islander peoples use, even if some non-Indigenous people also used them, and those that were mainstream services which Aboriginal and Torres Strait Islander peoples used. Of the $602 million in direct Australian Government funding (Table 2.7), about $260 million was through Indigenous-specific programs, mostly through grants to the ACCHOs. The state and territory figures could not be identified with certainty but they were unlikely to have been larger. In total, probably about $450 million, or one-fifth of all expenditures, were for programs designed specifically for Aboriginal and Torres Strait Islander peoples.

Table 2.7: Total funding for health services to Indigenous and non-Indigenous people, 2004–05

	Funding ($ million)		
Source	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**
State and territory governments	1,095.1	16,223.0	6.3
Australian Government	1,032.0	38,261.2	2.6
Direct Australian Government	601.7	26,288.7	2.2
Indirect through state and territory government	418.5	8,421.1	4.7
Indirect through non-government[(a)]	11.8	3,551.3	0.3
All governments	*2,127.1*	*54,484.1*	*3.8*
Non-government	176.9	24,776.3	0.7
Total	**2,304.0**	**79,260.4**	**2.8**

(a) Mostly private health insurance rebates ($2,827 million) but also includes Special Purpose Payments covering highly specialised drugs in private hospitals and other payments.

Source: AIHW health expenditure database.

Table 2.8: Funding per person for health services to Indigenous and non-Indigenous people, 2004–05

	Funding per person ($)		
Source	**Indigenous**	**Non-Indigenous**	**Ratio**
State and territory governments	2,243	823	2.73
Australian Government	2,113	1,940	1.09
Direct Australian Government	1,232	1,333	0.92
Indirect through state and territory government	857	427	2.01
Indirect through non-government[(a)]	24	180	0.13
All governments	*4,356*	*2,763*	*1.58*
Non-government	362	1,256	0.29
Total	**4,718**	**4,019**	**1.17**

(a) Mostly private health insurance rebates ($2,827 million) but also includes SPPs covering highly specialised drugs in private hospitals and other payments.

Source: AIHW health expenditure database.

Four-fifths of expenditure came from allocating the cost of mainstream services, about sixty per cent of it from hospitals. Table 2.9 shows the funding flows in more detail. Australian Government expenditures are further examined in Appendix 1 and more state and territory expenditure data are included in Appendix 2. Methods of estimation and sources of data are described in Appendix 3.

Table 2.9: Funding of health services for Indigenous and non-Indigenous people, by service and source of funds, Australia, 2004–05 ($ million)

	Australian Government		State and territory governments		Non-government		Total	
Service	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**	**Indigenous**	**Non-Indigenous**
Hospitals	431.7	11,628.1	618.6	10,496.6	30.4	5,212.9	1,080.7	27,337.6
Public hospital services[(a)]	424.4	9,310.9	608.6	10,281.3	15.6	1,450.5	1,048.6	21,042.7
Admitted patient services	322.3	7,138.0	463.8	7,838.5	13.3	1,250.4	799.4	16,226.8
Non-admitted patient services	102.1	2,172.9	144.8	2,442.8	2.3	200.1	249.2	4,815.8
Private hospitals	7.3	2,317.2	10.0	215.4	14.8	3,762.4	32.1	6,295.0
High-level residential care	30.0	4,362.3	—	—	11.7	1,921.1	41.7	6,283.4
Patient transport	14.4	148.6	87.5	1,148.2	1.6	73.1	103.5	1,369.9
Medical services	140.5	11,448.1	—	—	24.1	3,035.4	164.6	14,483.5
Community health services	219.9	166.2	277.5	2,867.0	0.5	19.5	497.8	3,052.7
Dental and other health practitioners	7.6	1,056.9	27.8	505.7	42.7	6,249.1	78.0	7,811.8
Medications	72.3	5,978.8	—	—	37.1	5,077.6	109.4	11,056.4
Public health	40.7	825.8	48.2	524.4	—	—	88.9	1,350.3
Research	27.8	1,105.1	6.0	201.7	12.2	362.2	46.0	1,669.0
Health administration n.e.c. and Aids and appliances	47.1	1,541.2	29.5	479.4	16.6	2,825.4	93.3	4,845.9
Total	**1,032.0**	**38,261.2**	**1,095.1**	**16,223.0**	**176.9**	**24,776.3**	**2,304.0**	**79,260.4**

(a) Public hospital services excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

Source: AIHW health expenditure database.

2.5 Government expenditures

Expenditures by the Australian Government

In 2004–05, expenditure by the Australian Government for Aboriginal and Torres Strait Islander peoples was almost $586 million, representing 2.3% of total health expenditure (Table 2.10).

The major Aboriginal and Torres Strait Islander expenditures were for:

- community health services—$216.5 million (37.0% of total Australian Government Aboriginal and Torres Strait Islander expenditure)
- medical services—$139.5 million (23.8%)
- medications—$72.2 million (12.3%)
- research—$27.8 million (4.8%)
- public health—$21.0 million (3.6%).

Expenditures on community health services for Aboriginal and Torres Strait Islander peoples was largely via primary care services provided by the ACCHOs ($208.2 million). Most of this expenditure was administered by the Office of Aboriginal and Torres Strait Islander Health (OATSIH).

Per person, direct spending by the Australian Government was slightly less for Aboriginal and Torres Strait Islander peoples than for non-Indigenous people (93%) although their share of Australian Government funding was somewhat higher (Table 2.8). In the Australian Government's two largest programs—Medicare and the PBS—expenditure per Aboriginal and Torres Strait Islander persons were estimated to be 46% and 48% respectively of those for other people. Table 2.10 shows the aggregate data and the levels of expenditure per person.

Table 2.10: Direct expenditures by the Australian Government on health services for Indigenous and non-Indigenous people, 2004–05

	Total expenditure ($ million)			Expenditure per person ($)		
Service	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Hospitals	12.8	426.3	2.9	26	22	1.22
High-level residential care	30.0	4,362.3	0.7	61	221	0.28
Patient transport	14.2	104.7	12.0	29	5	5.48
Medical services	139.5	11,172.5	1.2	286	567	0.50
Through Medicare	107.8	9,518.5	1.1	221	483	0.46
Other	31.7	1,653.9	1.9	65	84	0.77
Medications	72.2	5,955.1	1.2	148	302	0.49
Benefit paid pharmaceuticals[(a)]	70.3	5,859.8	1.2	144	297	0.48
Other	1.9	95.2	2.0	4	5	0.82
Community health	216.5	132.7	62.0	443	7	65.87
Through ACCHOs	208.2	27.4	88.4	426	1	307.12
Other	8.3	105.4	7.3	17	5	3.20
Dental and other health practitioners	5.7	549.7	1.0	12	28	0.42
Aids and appliances	3.8	251.8	1.5	8	13	0.61
Public health	21.0	450.2	4.4	43	23	1.88
Research	27.8	1,105.1	2.5	57	56	1.02
Health administration n.e.c.	41.8	886.5	4.5	86	45	1.91
Total	**585.5**	**25,397.0**	**2.3**	**1,199**	**1,288**	**0.93**

(a) Includes Repatriation Pharmaceutical Benefits Scheme (RPBS).

Source: AIHW health expenditure database.

Expenditures by state and territory governments

State and territory governments provided $28.4 billion for health services in 2004–05. Table 2.11 shows their distribution by services and the estimated shares of Aboriginal and Torres Strait Islander peoples and non-Indigenous people. Table 2.12 shows the amounts spent on Aboriginal and Torres Strait Islander peoples by each state and territory, average expenditures per person and the ratio of Indigenous to non-Indigenous expenditures per person. Figure 2.2 presents the results graphically.

The figures which follow are AIHW estimates, based on data provided by the state and territory authorities. There were some quite large differences in the reported expenditure per Aboriginal and Torres Strait Islander person, and rather less marked ones for other Australians. For example, at $5,461 per person, the Northern Territory's spending on Aboriginal and Torres Strait Islander peoples was six times the amount spent in Tasmania (Table 2.12). That was partly because all health spending was higher in the Northern Territory. Its Indigenous/non-Indigenous ratio was still four times that in Tasmania. There were identification problems. The estimated Aboriginal and Torres Strait Islander

populations were ABS projections from the numbers reported in the 2001 census. However, the expenditure estimates related to those people who could be identified by the health services in 2004–05. An adjustment for Aboriginal and Torres Strait Islander under-identification was made, to public hospital admitted patient data for all jurisdictions except Tasmania (Table A3.3). As in the previous report (AIHW 2005a) the Tasmanian Department of Health and Human Services advised that no under identification adjustment be applied to the Tasmanian hospital data. There are some cross border issues, for example in the Australian Capital Territory where hospital patients from adjoining areas of NSW are treated. In this case, the Australian Capital Territory per person figures have not been calculated as the Australian Capital Territory population is not the appropriate denominator.

Table 2.11: Expenditures by state and territory governments[a], total and per person, 2004–05

	Total expenditure ($ million)			Expenditure per person ($)		
Service	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Public hospital services[b]	1,035.9	20,635.7	4.8	2,121	1,046	2.03
Admitted patient services[c]	786.7	15,819.9	4.7	1,611	802	2.01
Non-admitted patient services	249.2	4,815.8	4.9	510	244	2.09
Patient transport	89.1	1,221.3	6.8	183	62	2.95
Community health	280.9	2,900.2	8.8	575	147	3.91
Public health	67.9	900.1	7.0	139	46	3.05
Dental	27.8	505.7	5.2	57	26	2.22
Research	6.0	201.7	2.9	12	10	1.20
Health administration n.e.c.	29.5	479.4	5.8	60	24	2.49
Total	**1,537.1**	**26,844.1**	**5.4**	**3,148**	**1,361**	**2.31**

(a) See Appendix 3 for an explanation of expenditures that are included in this table.

(b) Public hospital services excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

(c) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander under-identification, except for Tasmania see Table A3.3 Appendix 3.

Source: AIHW health expenditure database.

Despite these complications, there was a clear pattern in the figures. In total, average health expenditures per Aboriginal and Torres Strait Islander person paralleled those for all health expenditures in the relevant state or territory, which is not surprising given the methods of allocation used. However, the larger the proportion of Aboriginal and Torres Strait Islander peoples in a jurisdiction living in remote and very remote areas, the higher the ratio of Indigenous to non-Indigenous health expenditures per person. For example in New South Wales 6.8% of Indigenous peoples reside in remote and very remote areas and the per person ratio is 1.80. In contrast in the Northern Territory 81.2% of Indigenous peoples reside in remote and very remote areas and the per person expenditure ratio is much higher than New South Wales at 3.35 (Tables 1.1, 2.12 and Figure 2.3).

Figure 2.3 shows the relationship across selected jurisdictions—it was consistent and related directly to the different patterns of service use. In the remote and very remote areas, Indigenous people had hospital separation rates per 1,000 of 2.1 and 1.5 times respectively compared to those of Indigenous people who reside in major cities (Table 2.14), and the

distribution of ACCHO money also favoured those living in remote and very remote regions (Table 2.13).

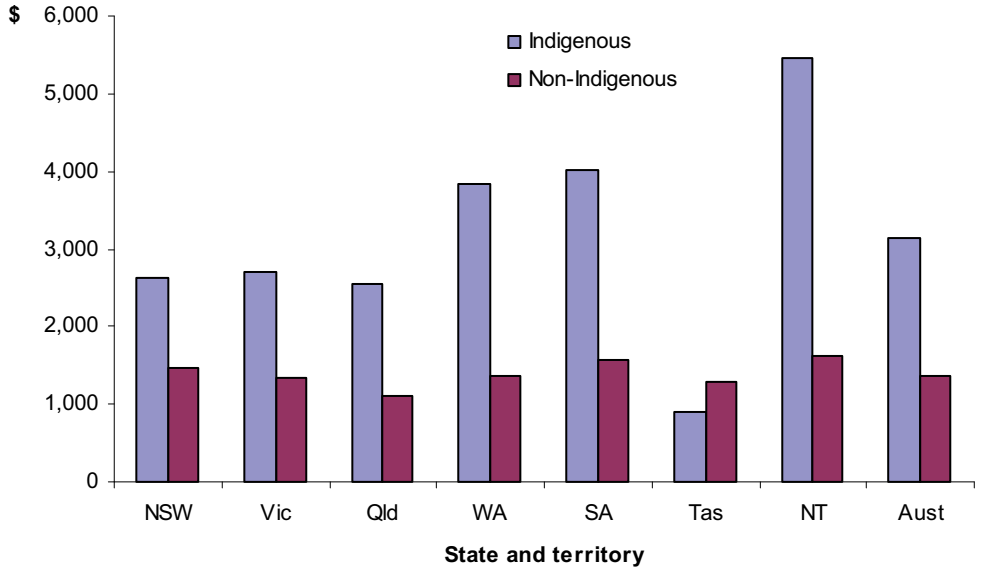
Table 2.12: State and territory expenditures on health services for Indigenous people, total and as averages per person for Indigenous and non-Indigenous people, 2004–05

	Total expenditure ($ million)			Expenditure per person ($)		
State and territory	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
New South Wales	373.6	9,616.1	3.7	2,618	1,456	1.80
Victoria	81.1	6,584.5	1.2	2,701	1,327	2.04
Queensland	344.7	4,199.5	7.6	2,546	1,108	2.30
Western Australia	270.3	2,633.9	9.3	3,844	1,369	2.81
South Australia	109.6	2,365.3	4.4	4,011	1,567	2.56
Tasmania[(a)]	16.2	598.2	2.6	891	1,285	0.69
Australian Capital Territory[(b)]	14.4	617.1	2.3	n.a.	n.a.	n.a.
Northern Territory	327.3	229.5	58.8	5,461	1,629	3.35
Total	**1,537.1**	**26,844.1**	**5.4**	**3,148**	**1,361**	**2.31**

(a) The Tasmanian Department of Health and Human Services Aboriginal Health and Wellbeing Steering Committee advised that no under-identification adjustment be used when calculating admitted patient public hospital expenditure.

(b) ACT per person figures are not calculated, as the expenditure numbers for the ACT include substantial expenditures for NSW residents. Thus the ACT population is not the appropriate denominator. The cross-border services also occur in other jurisdictions. However, this larger size of population does not substantially affect the estimate of expenditure per person.

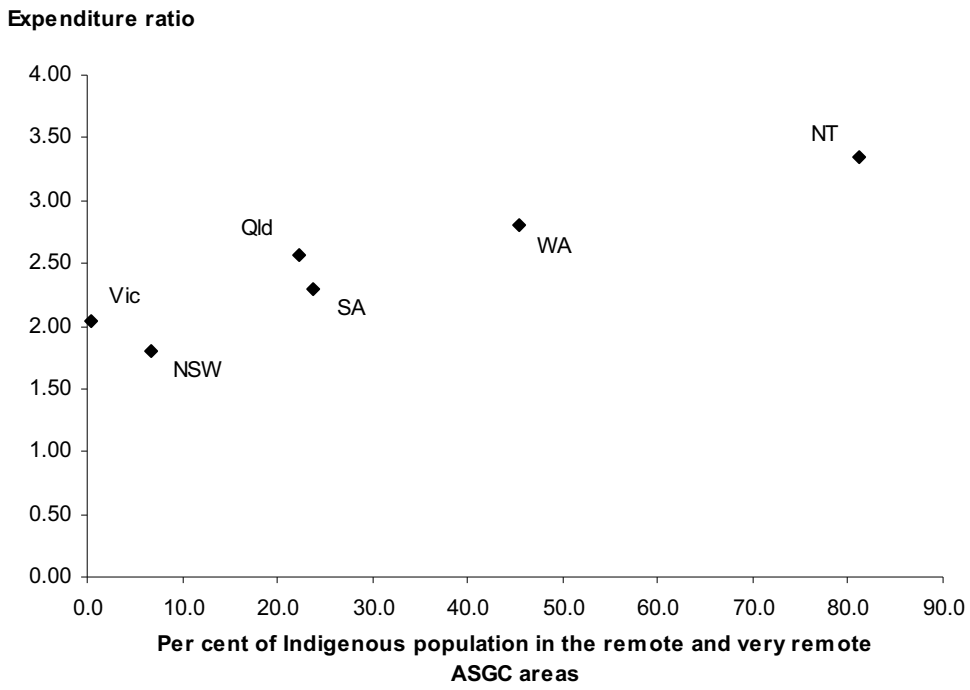
Source: AIHW health expenditure database.



(a) ACT per person figures are not calculated, as the expenditure numbers for the ACT include substantial expenditures for NSW residents. Thus the ACT population is not the appropriate denominator.

Source: Table 2.12.

Figure 2.2: Expenditures per person by state and territory[(a)] on health services for Indigenous and non-Indigenous people, 2004–05



Source: AIHW health expenditure database.

Figure 2.3: Ratio of Indigenous to non-Indigenous per person expenditures by selected state and territory governments, and the proportion of Indigenous people living in remote and very remote areas

2.6 Expenditures by region

Table 2.12 and Figure 2.3 show expenditures on health services for Aboriginal and Torres Strait Islander peoples, by jurisdiction and according to the proportion of Aboriginal and Torres Strait Islander peoples who lived in remote and very remote areas. The higher the remote proportion, the higher was the ratio of Indigenous to non-Indigenous health expenditures per person.

Table 2.13 extends that analysis to spending on the five categories of service for which it was possible to allocate expenditures by ASGC remoteness areas. Together they accounted for 54% of all spending on Aboriginal and Torres Strait Islander peoples in 2004–05. In almost all categories, expenditure per person generally rose as the distance from the major cities increased, though inner regional expenditures were not always higher than major city expenditures. In medical services, a shortage of GPs in remote and very remote areas attributed to lower medical expenditure per person.

Tables 2.14 and 2.15 show hospital separations per 1,000 population by remoteness region for Aboriginal and Torres Strait Islander peoples and non-Indigenous people, the average cost per separation for the two groups and the ratios of Indigenous to non-Indigenous use. Costs per separation were calculated from data in the AIHW Hospital Morbidity Cost Model. Cost estimates take into account differences in casemix and comorbidities, hospital operating costs

across the regions and Aboriginal and Torres Strait Islander under-identification in administrative data. Except for very remote areas, separation rates for Aboriginal and Torres Strait Islander peoples rose with remoteness, whereas those for the non-Indigenous population fell. Apart from the major cities, the average cost per Diagnostic Related Group (DRG) separation for Indigenous people was lower than for non-Indigenous people (Table 2.15). The lower costs per separation for those patients not from the major cities regions is likely to be due to Aboriginal and Torres Strait Islander patients being more likely to be admitted for low cost services such as dialysis and less likely to have the most expensive procedures. The expenditure estimates in Table 2.13, and elsewhere, were the product of these utilisation of services and cost figures. The higher costs per separation for those residing in the major cities may reflect a lower relative proportion of dialysis services.

Table 2.13: Expenditures per person on health services for Aboriginal and Torres Strait people, by ASGC Remoteness Area of patient residence, 2004-05 ($)

Service	Major city[(a)(b)]	Inner regional[(a)]	Outer regional[(b)]	Remote and Very remote	Total
Hospitals[(c)]	1,390	1,215	1,743	2,394	1,703
OATSIH grants to ACCHOs	252	301	464	683	425
Medical services	227	227	268	168	221
PBS pharmaceuticals[(d)]	112	129	121	186	137
High-level residential care	48	31	79	84	61
Total	**2,029**	**1,903**	**2,674**	**3,516**	**2,547**

(a) Hobart is classified as Inner Regional under the ASGC.

(b) Darwin is classified as Outer Regional under the ASGC.

(c) By ASGC remoteness area of patient residence.

(d) PBS drugs include $19.4 million of Section 100 Remote Area Health Services expenditure. Almost all of this expenditure occurs in remote and very remote areas.

Source: AIHW health expenditure database.

Table 2.14: Hospital separations[(a)] per 1,000 population, Indigenous and non-Indigenous people, by ASGC remoteness area of patient residence, 2004–05

ASGC remoteness area	Indigenous	Non-Indigenous	Ratio
Major city[(b)(c)]	397	347	1.14
Inner regional[(b)]	371	340	1.09
Outer regional[(c)]	684	336	2.04
Remote	820	257	3.20
Very remote	606	263	2.30
Total	**534**	**343**	**1.56**

(a) Not DRG-weighted.

(b) Hobart is classified as Inner Regional under the ASGC.

(c) Darwin is classified as Outer Regional under the ASGC.

Source: AIHW National Hospital Morbidity Database.

Table 2.15: Average cost per hospital separation[a], Indigenous and non-Indigenous people, by ASGC remoteness area of patient residence, 2004–05

ASGC remoteness area	Indigenous ($)	Non-Indigenous ($)	Ratio
Major city[b][c]	3,503	3,252	1.08
Inner regional[b]	3,276	3,416	0.96
Outer regional[c]	2,548	3,598	0.71
Remote	3,110	4,113	0.76
Very remote	3,809	4,276	0.89
Total	**3,190**	**3,332**	**0.96**

(a) Not DRG-weighted.

(b) Hobart is classified as Inner Regional under the ASGC.

(c) Darwin is classified as Outer Regional under the ASGC.

Source: AIHW health expenditure database.

2.7 Changes over time

The main features of expenditure for Aboriginal and Torres Strait Islander health care have now been known for some time and this report suggests that very little has changed. Table 2.16 compares this report's results with those from the three earlier studies from 1995–96 to 2001–02 for a number of expenditure statistics. Figure 2.4 compares the shares of government and private funding over the 9 years from 1995–96 to 2004–05.

Table 2.16: Estimated expenditures on health services for Indigenous people, 1995–96 to 2004–05, selected statistics

Statistics	1995–96	1998–99	2001–02	2004–05
% Indigenous population	2.0	2.2	2.4	2.4
% Health expenditure Indigenous	2.2	2.6	2.8	2.8
Indigenous/non-Indigenous expenditure ratio—total	1.08	1.22	1.18	1.17
Indigenous/non-Indigenous expenditure ratio—all governments	1.52	1.56	1.68	1.64
Indigenous/non-Indigenous expenditure ratio—Australian Government	n.a.	0.84	0.86	0.93
Indigenous/non-Indigenous expenditure ratio—states and territory governments	2.23	2.40	2.41	2.31

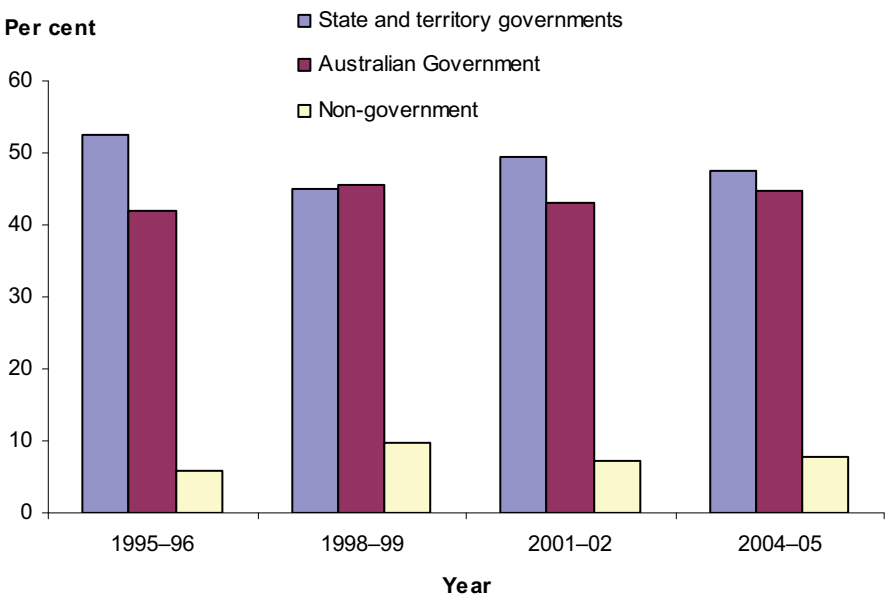
Source: AIHW health expenditure database.

There has been very little variation in the figures. The estimated Aboriginal and Torres Strait Islander population has increased over this time and the Indigenous share of national health expenditures has moved with it. The first report certainly omitted some Aboriginal and Torres Strait Islander peoples expenditures, mainly on private sector services. It estimated that about 95% of Aboriginal and Torres Strait Islander peoples expenditures was covered, which would have placed the correct proportion at 2.3% of all health spending at least, and the Indigenous/non-Indigenous expenditure ratio at 1.11 to 1 or more. The key indicators were all somewhat higher in the 1998–99 study, but that report pointed out that, because of methodological differences, some of the estimated changes from 1995–96 could not be fully verified and, in retrospect, some of the figures may have been a little high. However, it was

not by very much. The last two exercises have given almost identical results and the overall variations have been well within the likely ranges of error in both expenditure reporting and the indicators of Aboriginal and Torres Strait Islander health service use.

Consistency does not, of course, ensure that the results are right. It could be argued that, since almost all the figures are estimates, methodology is the key and as long as that remains the same, stability is almost guaranteed. However, the data for all health services show very little change in delivery patterns over much longer periods than this and the Aboriginal and Torres Strait Islander peoples reliance on mainstream services is such that any major deviation from that would be unlikely. Significant changes in comparative spending over periods as short as three years are more likely to be due to errors in the data or methodology. Financing arrangements can change more rapidly and there were some differences in the ratio of Indigenous to non-Indigenous expenditures per person. In the states and territories it fell a little whereas for the Australian Government it rose significantly. However, the data in Figure 2.4 show that the shares of the three main funding sources have varied very little.

The most plausible conclusion is therefore that over the nine years to 2004–05, spending on health services for Aboriginal and Torres Strait Islander people was between about 17% and 22% higher than for other Australians on an expenditure per person basis, with no apparent trend.



Source: AIHW health expenditure database.

Figure 2.4: Funding of Indigenous health services expenditure 1995–96 to 2004–05, current prices

That does not mean that there was no change. Aboriginal and Torres Strait Islander peoples have shared in the overall growth in Australian health expenditures. Tables 2.17 and 2.18 show, for the six years to 2004–05, the growth of constant-price expenditure per person by the Australian Government and state and territory governments respectively. The deflator

applied in Table 2.17 was the total health price index which more suitably reflects the relative opportunity cost of health expenditure, while specific deflators relevant to each category were applied in Table 2.18 illustrating the change in volume of services in the series (Table A3.16). Data for 1995–96 have not been included because the estimates for that year were known to have been a little low.

As can be seen from Table 2.17, Australian Government and state and territory government expenditures rose in almost every category. About 44% of the growth in total government per person expenditure came from the Australian Government, the remaining 56% from expenditure managed by the states and territories. Between 1998–99 and 2004–05, Australian Government expenditure per Aboriginal and Torres Strait Islander person rose by $352 (42%), and those by the state and territory governments by $447 (17%).

The largest single component of Australian Government growth was in grants to the ACCHOs with an increase of 83% ($193 million in 2004–05 constant price terms). The next largest increases were in Medicare and PBS benefits (53%), although the PBS changes were partly due to better data from the records of Aboriginal and Torres Strait Islanders who had voluntarily identified themselves through Medicare.

Within the state and territory programs, hospitals accounted for 67% of their Aboriginal and Torres Strait Islander expenditure growth and 38% of all the increased spending on Aboriginal and Torres Strait Islander health care. Reported expenditures on community health and public health services did not change much. Expenditure on a variety of minor programs did increase and, as in the Australian Government, administration cost more. However, reporting differences make the interpretation of these figures difficult. In total, constant-price spending by the state and territory governments rose by $447 per person, or 17%. At the same time, their spending on non-Indigenous Australians rose by 21% on average. The share of Aboriginal and Torres Strait Islander peoples that was estimated therefore fell.

Table 2.17: Health expenditures per Indigenous person, in constant (2004-05) prices[a], by level of government, 1998–99 to 2004–05 ($)

	Year			Increase between 1998–99 and 2004–05	
	1998–99	2001–02	2004–05	($)	(% change)
Australian Government					
ACCHO grants	233	404	426	193	83
Medicare and PBS	237	262	364	127	53
Other	376	325	409	32	9
Total	*847*	*991*	*1,199*	*352*	*42*
State and territory governments					
Public hospital services/public hospitals[b]	1,820	2,018	2,121	302	17
Community/public health[c]	687	766	714	27	4
Other[c]	193	284	312	119	61
Total	*2,700*	*3,068*	*3,148*	*447*	*17*
Total all governments	**3,547**	**4,059**	**4,347**	**800**	**23**

(a) Expenditure expressed in constant prices (Total health price index deflators applied, see Appendix 3, Table A3.16 for details).

(b) 1998–89 and 2001–02 are public hospital expenditures. 2004–05 are public hospital services expenditures. Public hospital services excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital. See Box 1 on p. 46 for further information on the difference.

(c) Community health/public health includes state dental expenditure in 1995–96. Other includes dental expenditure in 2001–02 and 2004–05.

Source: AIHW health expenditure database.

Changes in expenditure on selected major programs

Table 2.18 displays the estimates of average expenditure per person by the Australian Government on Medicare and PBS its two largest mainstream programs. These programs increased in real terms by 46% from an estimated $249 in 1998–99 (at 2004–05 prices) per person to $364 in 2004–05 (Table 2.18).

Expenditure through OATSIH's major Aboriginal and Torres Strait Islander specific funding programs (ACCHOs) increased in real terms by an estimated 33%, from $320 per person (at 2004–05 prices) to $426 in 2004–05.

Table 2.18: Average expenditure per person, by the Australian Government on selected services, constant (2004–05) prices[a], 1995–96, 1998–99, 2001–02 and 2004–05

	1995–96[b]			Not comparable with later reports	1998–99			2001–02			2004–05		
Service	Indigenous	Non-Indigenous	Ratio		Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio	Indigenous	Non-Indigenous	Ratio
MBS[c]	131	486	0.27		198	483	0.41	191	489	0.39	224	494	0.45
PBS[d][e]	26	135	0.19		51	152	0.33	75	226	0.33	140	273	0.51
MBS and PBS[c][d]	*156*	*621*	*0.25*		*249*	*634*	*0.39*	*266*	*715*	*0.37*	*364*	*767*	*0.47*
OATSIH-funded ACCHOs	325	2	172.35		320	1	566.43	412	1	340.17	426	1	307.12

(a) Expenditure expressed in constant prices (see Appendix 3, Table A3.16 for details).

(b) Not comparable with later years. It is thought that the 1995–96 estimates are an under-estimate of these categories.

(c) Includes MBS benefits paid for specified dental services, optometry services and allied heath.

(d) Does not include RPBS benefits for Veterans.

(e) 1995–95 PBS data based on the revised current price estimate of $9.3 million for PBS benefits for Aboriginal and Torres Strait Islander peoples in 1995–96 (AIHW 2001:42); down from the published $9.8 million (Deeble et al 1998: 21).

Sources: Deeble et al. 1998, AIHW 2001, AIHW 2005a and AIHW health expenditure database.

2.8 Expenditures and incomes

The introduction to this report referred to the 1995–96 analysis of the comparative economic position of Aboriginal and Torres Strait Islander peoples and non-Indigenous Australians, adjusted for the 'needs' of households of different size and composition. Based on 1991 Census data, the average Aboriginal and Torres Strait household was in the lowest 20–30% of the Australian household income distribution. The first report used data from the 1989–90 National Health Survey and the 1994 National Aboriginal and Torres Strait Islander survey to estimate government expenditures on health services for all households and compare these with estimated expenditures for Aboriginal and Torres Strait Islander peoples. It concluded that the latter were very similar to expenditures for other people in the same income categories.

This process is not replicated for this report due to budget constraint. However some broad comparisons can be made. Table 1.2 shows some ABS statistics from the 2001 census on the income distribution of both Aboriginal and Torres Strait Islander peoples and non-Indigenous households, by quintiles for the whole country. Very little had changed since 1991. The average income of Aboriginal households was still 62% of that for other households, and over 70% of all Aboriginal and Torres Strait Islander households were in the lowest two quintiles of household income nationally.

In July 2007, the ABS published an analysis of 2003–04 government expenditures per household over a range of households whose private incomes were 'equivalised' to take account of size, composition and estimated need. Health services and health-care benefits was one of the expenditure categories identified. The results were presented for the five income ranges into which a uniform 20% of individuals (rather than households) fell. Average household size was reported, so that expenditures per person could be calculated.

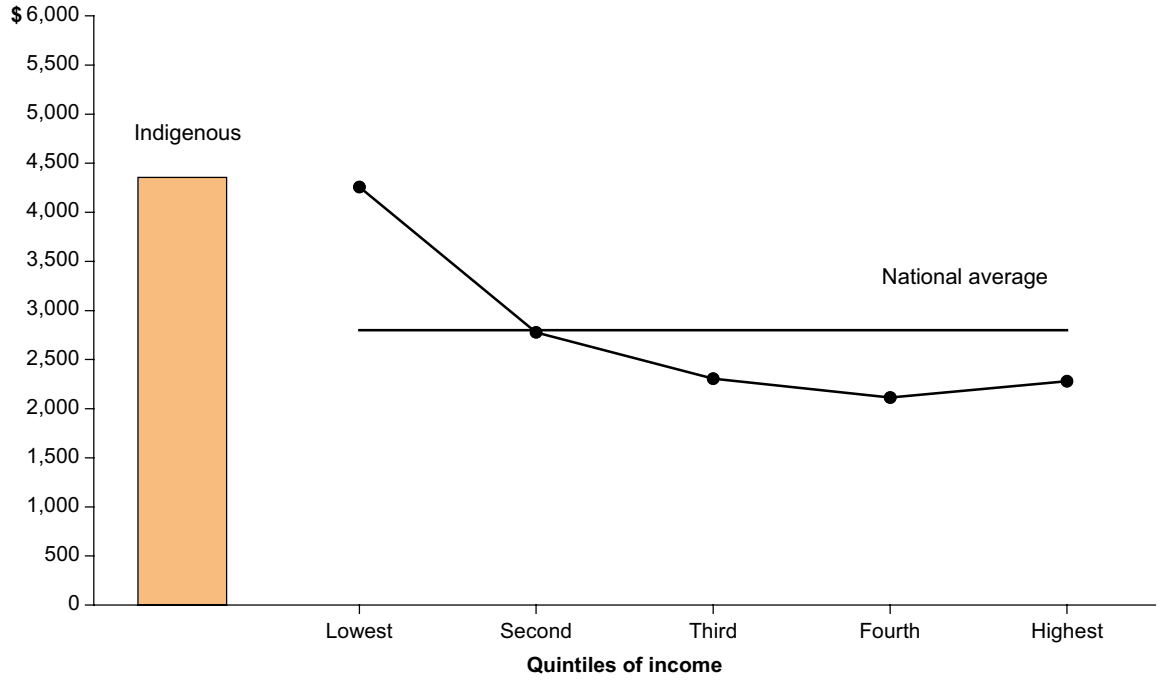
Table 2.19 uses the relativities in the ABS analysis for 2003–04 (lines 3 and 4) to estimate government expenditures in 2004–05 across the quintiles of equivalised household income (line 5). Calculations are in Appendix 3. The methods were not exactly the same. The earlier report used self-reported data from several household surveys to estimate the service use of Aboriginal and Torres Strait Islander peoples and non-Indigenous people, which was then costed and the government contribution calculated. The 2003–04 approach allocated known government funding to households according to their composition by size, age and sex at the national average rates of use for each type of service. Both methods had potential errors, the 1995–96 method because it combined data from surveys in different years with unknown levels of error, the later ABS study because the service use of people at different income levels was never measured directly—service use was inferred from the characteristics of household members.

However, the final results were very similar. Figure 2.5 presents them in the same way as the 1995–96 report. That publication estimated government expenditures per person for Aboriginal and Torres Strait Islander peoples at slightly less than those of other Australians in the lowest income group. At $4,356 (Table 2.8), the 2004–05 approach showed them as about the same. However, this analysis does not take into account the much poorer health status of Aboriginal and Torres Strait Islander peoples. Across all income quintiles, including the lowest income quintiles, Indigenous people were more likely to report their health status as fair or poor than non-Indigenous people (ABS and AIHW 2005).

Table 2.19: Estimated government expenditures per person for health services in 1994, 2003–04 and 2004-05, by quintiles of household income

Year, dollars per year ($)	Income quintile					National average, all households
	Lowest	Second	Third	Fourth	Highest	
1993–94	2,079	1,971	1,062	870	792	1,301
Ratio (income quintile/all households)	1.60	1.51	0.82	0.67	0.61	
2003–04	3,557	2,320	1,927	1,767	1,904	2,340
Ratio (income quintile/all households)	1.52	0.99	0.82	0.76	0.81	
2004–05 estimated	4,258	2,777	2,307	2,115	2,279	2,801
Ratio (income quintile/all households)	1.52	0.99	0.82	0.76	0.81	

Sources: Appendix 3, Tables 3.14 and 3.15.



Source: Table 2.19 and Table 2.8.

Figure 2.5: Estimated government health expenditures per person, Indigenous people and all households, by quintile of equivalent family income, 2004–05

2.9 Future work

One problem with estimating Aboriginal and Torres Strait Islander use of health care is under-identification of Indigenous people. Since individual care absorbs over 95% of all Australian health expenditures, it is the greatest practical problem. Within personal services, hospital services, medical services and medications take 70% of all spending so that identifying their users has more influence on the estimates than anything else.

As mentioned earlier, varying levels of under-identification have always been assumed. Hospital records provide for identification at either admission or attendance at an emergency or outpatient department, but the question has not always been asked or answered and there have been doubts about whether these are the correct settings in which to seek information about Aboriginal and Torres Strait Islander peoples status. In 1998 the AIHW and the ABS conducted a pilot project in 11 hospitals which compared the answers when the question was asked in the wards of hospitals, with what was recorded on the admission records. It found that Aboriginal and Torres Strait Islander identification rose by about 13% (ATSIHWIU 1999). In 2007 the AIHW and the states and territories conducted similar studies (funded through the Australian Health Ministers Advisory Council (AHMAC) via the Statistical Information Management Committee (SIMC) and OATSIH in the public hospitals of all the states and territories and the results have been incorporated in the estimates for this report. Details of this study are in Appendix 4.

Aboriginal and Torres Strait Islander peoples status has never been routinely included in the public records of medical or pharmaceutical service use. The 1995–96 project conducted some sample surveys of doctors and pharmacies in areas with a higher than average proportion of Aboriginal and Torres Strait Islander peoples and for prescribed drugs at least; the results formed the basis of the estimates for both the 1998–99 and 2001–02 reports. However, since 1998, the AIHW's General Practice Statistics and Classification Unit at the University of Sydney has conducted surveys of about 100,000 patient contacts with GPs per year at which the question of Indigenous status is asked (the BEACH surveys). Adjusted for non-response and under-identification estimates, they were the basis for estimating expenditures on medical services and prescription drugs in 1998–99 and 2001–02 and they are still the basic data source for this report.

Another source of information has been available since 2002, when Aboriginal and Torres Strait Islander peoples were first able to voluntarily identify themselves under Medicare. In 2004–05 just under 100,000 Aboriginal and Torres Strait Islander people had identified and their Medicare and PBS records were analysed. Because almost all of the medical services provided through the ACCHOs are billed to Medicare as Section 19(2) services, the patients of ACCHOs could also be identified and all the services they used could be analysed, including those from other doctors on referral. In principle, details of services they obtained from outside the ACCHO system were also available and the same range of information was available for PBS medicines. However, the data from these two sources were hard to interpret. The information for voluntarily-identified people related only to a population sub-group (20% of all Aboriginal and Torres Strait Islander people) but that self-selected sample was much younger than the average age (Table A3.8) and also not fully representative by region. The ACCHO related data related to patients, not a population, and included an unknown number of non-Indigenous people who used the ACCHOs for at least some of their medical care. The community-controlled organisations report on the number of service episodes for non-Indigenous people, but that may not be the same as the proportion who attend for doctor services alone.

For all these reasons, the Medicare data were not used to estimate Aboriginal and Torres Strait Islander use of GP services, which was the statistic from which both total medical and prescribed drug expenditures were estimated. However, the Medicare and PBS records give much more information about referral patterns, prices charged and benefits paid than could be derived from BEACH data, and all that information was incorporated (see Appendix 3). By September 2007, 177,116 people had voluntarily identified, and although the method of

enrolment suggests that this was still a younger-than-average sample, the reliability of the information should improve as the numbers increase. It should also be possible to isolate the non-Indigenous component of the ACCHOs' medical work more accurately, possibly by sample surveys for a limited time, and through data currently collected through the Healthy for Life Program.

A second issue is a more conceptual one, concerning those public health and infrastructure services (such as research and administration) that cannot be related to individuals and for which there are few indicators of take-up by, or benefit to, Aboriginal and Torres Strait Islander peoples. Although the bases for estimation were refined for this report, those categories still showed comparatively high ratios of Indigenous expenditures to non-Indigenous expenditures. When Indigenous-specific and population-wide programs are run together, it is hard to determine how much they are substitutes for each other and how much they are additive. Some overlap may therefore still exist. That is not a major issue quantitatively; it is simply a matter of reporting.

Appendix 1: Australian Government expenditure and funding tables

This Appendix contains tables of Australian Government expenditures and funding in more detail than in the tables of the Chapter 2. Table A1.1 shows total expenditures and expenditures per person for Aboriginal and Torres Strait Islander peoples and non-Indigenous people, at the sub-component level for major programs. Table A1.2 shows the composition of payments through Medicare and the PBS, in total and as expenditures per person for the two groups.

Table A1.3 contains data on expenditures on core public health functions, according to the divisions agreed upon for reporting under the National Public Health Expenditure Project. Table A1.4 relates to funding by the Australian Government at the same level of detail as for expenditures in Table A1.1.

Table A1.1: Expenditures by the Australian Government on health services for Indigenous and non-Indigenous people, by service, 2004–05

	Total expenditure ($ million)			Expenditure per person ($)		
Service	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Indigenous**	**Non-Indigenous**	**Ratio**
Hospitals	12.8	426.3	2.9	26	22	1.22
Public hospital services	12.7	406.9	3.0	26	21	1.26
Private hospitals	0.1	19.4	0.5	—	1	0.20
High-level residential care	30.0	4,362.3	0.7	61	221	0.28
Patient transport	14.2	104.7	12.0	29	5	5.48
Medical services	139.5	11,172.5	1.2	286	567	0.50
Medicare	107.8	9,518.5	1.1	221	483	0.46
DVA	28.0	960.4	2.8	57	49	1.18
Other programs	3.7	693.5	0.5	8	35	0.22
Medications	72.2	5,955.1	1.2	148	302	0.49
Benefit-paid pharmaceuticals[(a)]	70.3	5,859.8	1.2	144	297	0.48
Other	1.9	95.2	2.0	4	5	0.82
Community health services	216.5	132.7	62.0	443	7	65.87
OATSIH funded ACCHOs	208.2	27.4	88.4	426	1	307.12
Other community health	8.3	105.4	7.3	17	5	3.20
Dental[(b)]	0.3	81.9	0.4	1	4	0.15
Other health practitioners	5.4	467.9	1.1	11	24	0.47
Through Medicare	1.6	226.0	0.7	3	11	0.29
Other	3.8	241.9	1.5	8	12	0.63
Aids and appliances	3.8	251.8	1.5	8	13	0.61
Public health	21.0	450.2	4.4	43	23	1.88
Research	27.8	1,105.1	2.5	57	56	1.02
Health administration n.e.c.	41.8	886.5	4.5	86	45	1.91
Total	**585.5**	**25,397.0**	**2.3**	**1,199**	**1,288**	**0.93**

(a) Includes RPBS.

(b) Dental includes Medicare dental and Department of Veterans Affairs (DVA) dental expenditure.

Source: AIHW health expenditure database.

Table A1.2: Expenditures through Medicare and the Pharmaceutical Benefits Scheme, Indigenous and non-Indigenous people, 2004–05

	Total expenditure ($ million)			Expenditure per person ($)		
Service	**Indigenous**	**Non-Indigenous**	**Indigenous share (%)**	**Indigenous**	**Non-Indigenous**	**Ratio**
Medicare benefits						
GP	54.2	3,097.6	1.7	111	157	0.71
Referred services						
Specialist consultations	6.6	1,205.3	0.5	13	61	0.22
Pathology	18.3	1,473.9	1.2	38	75	0.50
Imaging	11.9	1,471.1	0.8	24	75	0.33
Operations and other	16.7	2,270.7	0.7	34	115	0.30
Total referred	*53.6*	*6,420.9*	*0.8*	*110*	*326*	*0.34*
Total medical benefits	*107.8*	*9,518.5*	*1.1*	*221*	*483*	*0.46*
Other Medicare benefits						
Allied health	0.1	11.8	0.6	—	1	0.22
Optometry	1.6	214.1	0.7	3	11	0.30
Dental	0.1	9.7	1.0	—	—	0.41
Total MBS benefits	*109.5*	*9,742.3*	*1.1*	*224*	*494*	*0.45*
Pharmaceutical benefits						
Mainstream PBS[(a)]	47.6	5,257.7	0.9	97	267	0.37
Section 100[(b)]	19.4	2.6	88.1	40	—	300.19
Other PBS special supply	1.3	125.9	1.0	3	6	0.41
Total PBS benefits	*68.2*	*5,386.2*	*1.3*	*140*	*273*	*0.51*
Total MBS and PBS benefits	**177.7**	**15,128.5**	**1.2**	**364**	**767**	**0.47**

(a) Excludes RPBS.

(b) Excludes highly specialised drugs dispensed from public and private hospitals.

Source: AIHW health expenditure database.

Table A1.3: Expenditure by the Australian Government on core public health activities for Indigenous and non-Indigenous people, 2004–05 ($ million)

Health activity	Indigenous	Non-Indigenous	Indigenous share (%)
Communicable disease control	9.6	29.0	24.9
Selected health promotion	1.0	39.4	2.4
Organised immunisation	6.4	129.8	4.7
Environmental health	0.4	16.6	2.4
Food standards and hygiene	0.3	13.8	1.9
Breast cancer screening	—	1.9	0.4
Cervical screening	0.7	76.4	0.9
Prevention of hazardous and harmful drug use	0.7	67.3	1.0
Public health research	1.9	75.6	2.4
Health administration	—	0.3	2.4
Total core public health	**21.0**	**450.2**	**4.4**

Source: AIHW health expenditure database.

Table A1.4: Funding by the Australian Government on health services for Indigenous and non-Indigenous Australians, by service, Australia, 2004–05 ($ million)

Service	Indigenous	Non-Indigenous	Indigenous share (%)
Hospitals	431.7	11,628.1	3.6
Admitted patients	329.6	9,455.2	3.4
Non-admitted patients	102.1	2,172.9	4.5
High-level residential care	30.0	4,362.3	0.7
Patient transport	14.4	148.6	8.8
Medical services	140.5	11,448.1	1.2
Through Medicare	107.8	9,518.5	1.1
Other	32.7	1,929.6	1.7
Community health	219.9	166.2	57.0
Dental	1.5	421.7	0.4
Other health practitioners	6.0	635.2	0.9
Through Medicare	1.6	226.0	0.7
Other	4.4	409.3	1.1
Medications	72.3	5,978.8	1.2
Benefit-paid	70.3	5,859.8	1.2
Other	2.0	119.0	1.7
Aids and appliances	4.3	371.3	1.1
Public health	40.7	825.8	4.7
Research	27.8	1,105.1	2.5
Health administration n.e.c.	42.9	1,169.9	3.5
Total	**1,032.0**	**38,261.2**	**2.6**

Source: AIHW health expenditure database.

Appendix 2: State and territory government expenditures

The tables in this Appendix supplement those for the state and territory governments in Chapter 2. Table A2.1 shows expenditures in 2004–05 in total for both Aboriginal and Torres Strait Islander peoples and non-Indigenous people, at the sub-component level for major programs and for public health, in the similar detail to what was provided for the Australian Government expenditures in Appendix 1. Table A2.2 shows funding by the state and territory governments at the broad program level, in total and as averages per person.

Detailed state and territory expenditure tables, and methods used to calculate state and territory expenditure, are available on the AIHW website at <http://www.aihw.gov.au/expenditure/indigenous.cfm >.

Table A2.1: State and territory government health expenditure, by service, for Indigenous Australians and non Indigenous people, 2004–05 ($ million)

Service	Indigenous	Non-Indigenous	Indigenous share (%)
Public hospital services[(a)]	1,035.9	20,635.7	4.8
Admitted patient services[(b)]	786.7	15,819.9	4.7
Non-admitted patient services	249.2	4,815.8	4.9
Patient transport	89.1	1,221.3	6.8
Total institutional	*1,125.0*	*21,857.0*	*4.9*
Community health	280.9	2,900.2	8.8
Alcohol and drug treatment	39.3	184.6	17.6
Community mental health	48.0	1,129.0	4.1
Other community health	193.6	1,586.5	10.9
Public health	67.9	900.1	7.0
Communicable disease control	21.1	172.1	10.9
Selected health promotion	8.3	182.9	4.3
Organised immunisation	11.8	190.2	5.9
Environmental health	5.8	60.6	8.7
Food standards and hygiene	0.9	17.8	5.0
Breast cancer screening	1.9	114.6	1.7
Cervical screening	3.5	23.0	13.1
Prevention of hazardous and harmful drug use	13.3	112.8	10.5
Public health research	1.3	26.0	4.9
Dental	27.8	505.7	5.2
Research	6.0	201.7	2.9
Health administration, n.e.c.	29.5	479.4	5.8
Total non-institutional	*412.1*	*4,987.1*	*7.6*
Total recurrent expenditure	**1,537.1**	**26,844.1**	**5.4**

(a) Public hospital services excludes any dental services, community health services, patient transport services, public health and health research undertaken by the hospital.

(b) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander under-identification, except for Tasmania see Table A3.3 Appendix 3.

Source: AIHW health expenditure database.

Table A2.2: State and territory funding of health services for Indigenous and non-Indigenous people, by service type, current prices, 2004–05

	Total funding ($ million)			Funding per person ($)		
Service	Indigenous	Non-Indigenous	Indigenous share	Indigenous	Non-Indigenous	Ratio
Hospitals	618.6	10,496.6	5.6	1,267	532	2.38
Admitted patients[(a)]	473.7	8,053.8	5.6	970	408	2.38
Public hospitals	463.8	7,838.5	5.6	950	397	2.39
Private hospitals	10.0	215.4	4.4	20	11	1.87
Non-admitted patients	144.8	2,442.8	5.6	297	124	2.39
Patient transport	87.5	1,148.2	7.1	179	58	3.08
Community health services	277.5	2,867.0	8.8	568	145	3.91
Dental	27.8	505.7	5.2	57	26	2.22
Public health	48.2	524.4	8.4	99	27	3.72
Research	6.0	201.7	2.9	12	10	1.20
Health administration n.e.c.	29.5	479.4	5.8	60	24	2.49
Total	**1,095.1**	**16,223.0**	**6.3**	**2,243**	**823**	**2.73**

(a) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander under-identification, except for Tasmania see Table A3.3 Appendix 3.

Source: AIHW health expenditure database.

Table A2.3 shows estimated expenditures per person by each state or territory for both Aboriginal and Torres Strait Islander peoples and non-Indigenous people. As was pointed out in Chapter 2, differences in accounting methods and reporting systems make the comparison of these figures difficult. Some states and territories allocate administrative expenses over all their programs and so report no expenditure on administration as such. Others do not, which makes all the figures less than completely comparable. Reporting practices vary with the different organisation structures and that can affect the figures. Several states reported significant levels of unallocated expenditures and there may be others in which those items appeared under 'health administration n.e.c.'. The totals are believed to be reliable but the components should be interpreted with care.

Table A2.3: Estimated state and territory[a] expenditure per person for Indigenous and non-Indigenous people, by program, 2004–05 ($)

Service	NSW	Vic	Qld	WA	SA	Tas	NT	Australia
Hospitals								
Admitted patient services[b]								
Indigenous	1,223	1,315	1,384	2,124	2,168	423	2,696	1,611
Non-Indigenous	879	870	640	728	768	708	754	802
Non-admitted patients								
Indigenous	571	397	427	744	634	98	404	510
Non-Indigenous	321	205	156	214	308	154	264	244
Public hospital services								
Indigenous	1,794	1,712	1,811	2,868	2,802	521	3,101	2,121
Non-Indigenous	1,200	1,075	796	941	1,076	863	1,018	1,046
Patient transport								
Indigenous	88	61	213	274	165	39	354	183
Non-Indigenous	58	61	80	51	55	61	97	62
Community health								
Indigenous	556	621	386	553	698	191	1,108	575
Non-Indigenous	127	110	141	228	213	168	225	147
Public health								
Indigenous	73	233	69	53	97	55	558	139
Non-Indigenous	41	44	41	52	53	54	151	46

(continued)

Table A2.3 (continued): Estimated state and territory[(a)] expenditure per person for Indigenous and non-Indigenous people, by program, 2004–05 ($)

Service	NSW	Vic	Qld	WA	SA	Tas	NT	Australia
Dental								
Indigenous	98	32	37	27	77	6	61	57
Non-Indigenous	20	21	32	27	33	58	40	26
Research								
Indigenous	9	43	6	9	21	2	21	12
Non-Indigenous	10	15	7	9	8	3	7	10
Health administration n.e.c.								
Indigenous	—	—	23	61	152	76	259	60
Non-Indigenous	—	—	10	61	130	78	91	24
Total								
Indigenous	**2,618**	**2,701**	**2,546**	**3,844**	**4,011**	**891**	**5,461**	**3,148**
Non-Indigenous	**1,456**	**1,327**	**1,108**	**1,369**	**1,567**	**1,285**	**1,629**	**1,361**

(a) ACT per person figures are not calculated, as the expenditure numbers for the ACT include substantial expenditures for NSW residents. Thus the ACT population is not the appropriate denominator.

(b) Admitted patient expenditure adjusted for Aboriginal and Torres Strait Islander peoples under-identification, except for Tasmania, see Table A3.3 Appendix 3.

Source: AIHW health expenditure database.

Appendix 3: Methodology

A3.1 Scope

Definition of health expenditure

The definition of health expenditure used here is the same as in the AIHW Health Expenditure Australia series, which is based on the Organisation for Economic Cooperation and Development's (OECD) System of Health Accounts (OECD 2000). Health expenditure includes all expenditures on goods and services that have the main objective of improving or maintaining health, or of reducing the effects of disease and injury. It does not include those expenditures that as a secondary purpose, have an impact on health but whose main purpose is something other than health (such as water supply, sanitation or road safety) or expenditure on what can be referred to as the 'social determinants of health' (such as housing, education or poverty alleviation, etc.).

Capital expenditure on health service infrastructure such as hospitals and clinics is not distributed between Indigenous and non-Indigenous persons. The expenditure figures in this report exclude capital and government capital consumption and this is generally referred to as 'recurrent expenditure'. There are also some minor exclusions related to data availability—internal expenditure by the defence forces, some services in correctional institutions and some school health spending, in particular—but the amounts involved are likely to be relatively small.

Classification

The classification of expenditures and services follows the AIHW health expenditure database. The definitions used in the AIHW *Health expenditure Australia* reports are in Table A3.1.

Table A3.1: Major areas of health expenditure

Term	Definition
Public hospitals	Hospitals operated by, or on behalf of, state and territory governments that provide a range of hospital services that may include services to patients with psychiatric disorder and are recognised under the Australian Health Care Agreements.
Public hospital services	Services provided to a patient who is treated by a public hospital (as defined above), but excludes, where possible, dental services, community health services, patient transport services, public health and health research undertaken by the hospital. Can include services provided off the hospital site such as hospital in the home dialysis or other services.
Private hospitals	Privately owned and operated institutions that provide a range of general hospital services. The term includes private free standing day hospital facilities.
High-level residential care in residential aged care facilities	Care provided to residents, in residential care facilities, who have been classified as having a need for and are receiving a very high level of care (i.e. patients classified in RCS categories 1–4).
Patient transport	Public or registered non-profit organisations which provide patient transport (or ambulance) services associated with out-patient or residential episodes to and from health care facilities.
	Excludes patient transport expenses that are included in the operating costs of public hospitals.
Medical services	Services of a type listed in the Medical Benefits Schedule that are provided by registered medical practitioners.
	Most medical services in Australia are provided on a fee for service basis and attract benefits from the Australian Government under Medicare.
	Expenditure on medical services includes services provided to private patients in hospitals as well as some expenditure that is not based on fee-for-service (i.e. alternative funding arrangements).It also includes expenditures funded by injury compensation insurers.
	Excluded are expenditures on medical services provided to public patients in public hospitals and medical services provided at out-patient clinics in public hospitals
Other health practitioners	Services provided by registered health practitioners (other than doctors and dentists). These include chiropractors, optometrists, physiotherapists, speech therapists, audiologists, dietitians, podiatrists, homeopaths, naturopaths, practitioners of Chinese medicine and other forms of traditional medicine, etc.
Benefit-paid pharmaceuticals	Most medical services in Australia are provided on a fee for service basis and attract benefits from the Australian Government under Medicare.
Other medications	Pharmaceuticals for which no PBS or RPBS benefit was paid and over the counter medications.
	Includes:
	• Pharmaceuticals listed in the PBS or RPBS, the total costs of which are equal to, or less, than, the statutory patient contribution for the class of patient concerned
	• Pharmaceuticals dispensed through private prescriptions that do not fulfil the criteria for payment of benefit under the PBS or RPBS
	• Over-the-counter medicines including pharmacy-only medicines, aspirin, cough and cold medicines, vitamins and minerals, herbal and other complementary medicines, and a range of medical non-durables, such as bandages, bandaids and condoms.
Aids and appliances	Durable medical goods dispensed to out-patients, that are designed for use more than once, such as optical products, hearing aids, wheelchairs and orthopaedic appliances and prosthetics that are not implanted surgically.
	Excludes prostheses fitted as part of admitted patient care in a hospital.

(continued)

Table A3.1(continued): Major areas of health expenditure

Term	Definition
Community health	Non-residential health services offered by public or registered non-profit establishments to patients/clients, in an integrated and coordinated manner in a community setting, or the coordination of health services elsewhere in the community. Includes: • community mental health • alcohol and other drug treatment • other community health services—such as domiciliary nursing services, well baby clinics and family planning services.
Public health	Services provided and/or funded by governments that are aimed at protecting and promoting the health of the whole population or specified population sub-groups and/or preventing illness, injury and disability, in the whole population or specified population sub-groups. The nine reporting categories are those defined by the National Public Health Expenditure Project: communicable disease control selected health promotion organised immunisation environmental health food standards and hygiene breast cancer screening cervical screening prevention of hazardous and harmful drug use public health research
Dental services	Services provided by registered dental practitioners. Includes maxiofacial surgery items listed in the Medical Benefits Schedule. Dental services provided by the state and territory governments.
Health administration	Activities related to the formulation and administration of government and non government policy in health and in the setting and enforcement of standards for medical and paramedical personnel and for hospitals, clinics, etc. Includes the regulation and licensing of providers of health services.
Health research	Research undertaken at tertiary institutions, in private non profit organisations and in government facilities that has a health objective.

Source: AIHW 2007a.

Public hospital and public hospital services expenditure

Text box 1 below outlines the difference between public hospital and public hospital services expenditure in this report and other reports in AIHW's *Health expenditure Series*.

Box 1: Public hospital and public hospital services expenditure

For the three years to June 2007 the AIHW has been collecting expenditure data from the states and territories in a different format and data from the year 2003–04 onwards are now reported differently. Expenditure for the following services provided by public hospitals is now, where it is possible to identify this expenditure, reported separately under their respective categories:

- *community health services*
- *public health services*
- *dental services (non-admitted)*
- *patient transport services*
- *health research*

The balance of public hospital expenditure, remaining after the above components have been removed and re-allocated to their own expenditure categories, is referred to as ***'public hospital services'*** *expenditure.*

Not all expenditure on community and public health services, dental and patient transport services and health research provided in public hospitals can be identified separately. For example, some expenditure relating to dental programs provided in public hospitals can be identified and re-allocated to the expenditure category 'state dental services' expenditure. But some dental services provided by hospitals cannot be identified and costed so these expenditures remain as part of 'public hospital services'. Similarly, many of the community health services that are provided by public hospitals can be identified and re-allocated to the 'community health services' expenditure category. But some are not able to be identified so remain as part of 'public hospital services'.

Prior to 2003–04, the AIHW Public Hospitals Establishments (PHE) collection data were used to derive public hospital expenditure estimates for each state and territory. The PHE data comprises expenditure on goods and services provided in hospitals, including expenditure on the components of community and public health services, dental and patient transport services and health research that are provided in public hospitals. This expenditure is referred to as ***'public hospital'*** *expenditure.*

Impact of this change on comparability of health expenditure data

Comparisons over time of expenditure on public hospitals, public hospital services, community and public health services and dental and patient transport services can be made for the following time periods:

1. up to and including 2002–03, and

2. from 2003–04 onwards.

Health expenditure for these areas cannot be compared across 2002–03 and 2003–04, nor can they be used to compare expenditure relating to a specific year, such as 2005–06, to expenditure, or growth in expenditure, for the decade 1995–96 to 2005–06.

This change in the way data are collected does not affect the comparability over time of expenditure data on private hospitals, medical services, other health practitioners, medications and aids and appliances.

As part of the new expenditure reporting process there was not only the change to supplying information on 'public hospital services,' there was also a change in some states and territories in the allocation of central costs. So increasingly, head office and other central costs have been allocated to the functional areas rather than to the 'administration' category. This leads to quite significant increases in expenditures allocated to areas such as 'public hospital services' and 'community health services'.

Primary and secondary/tertiary care

Primary care can be defined as those services that are provided to whole populations (public health and community health services) and those that arise from, or are the outcome of, a health service contact initiated by a patient, mainly GP services and the investigations and prescribed drugs which GPs order. Secondary/tertiary services can be defined as those generated within the health-care system by referral. They include specialist consultations, specialist procedures and the diagnostic investigations and prescribed drugs that specialists order, plus all in-patient treatment in hospitals. For Aboriginal and Torres Strait Islander peoples, primary care therefore includes:

- allocated expenditures on public health activities and community health services including all expenditure on health services provided through the ACCHOs
- expenditure on general practitioner services for which benefits were paid under Medicare to Aboriginal and Torres Strait Islander peoples, and the diagnostic services ordered by them
- pharmaceuticals prescribed by GPs for which PBS benefits were paid
- pharmaceuticals provided through Section 100 arrangements in remote areas
- a proportion of aids and appliances, split along the same lines as expenditure on pharmaceuticals
- a proportion of the estimated costs of non-admitted patients in acute care hospitals and transport for Aboriginal and Torres Strait Islander patients.

The remainder was classified as secondary/tertiary. The same broad division was applied to services for non-Indigenous people. However, the available data were not always precise, particularly for the outpatient services of public hospitals. In principle, all emergency department attendances are primary, but not all hospitals record that component of expenditure consistently, and the allocation of 50:50 primary and secondary/tertiary was an approximation. The same problems arose in prescribed drugs (for which the overall proportion of PBS prescribing was used) and in aids and appliance spending. Expenditures on 'Administration' and 'Other health services ', including research, could not be allocated to either group.

A3.2 Sources of data and methods of estimation

The basic sources of information were the figures for Australian health expenditures in the AIHW report *Health expenditure Australia, 2005–06* (AIHW 2007a). The task was to allocate those expenditures between Aboriginal and Torres Strait Islander peoples and non-Indigenous people and, within that, between the three main sources of funding—the

Australian Government, the state and territory governments and non-government sources, including patient payments. As was pointed out in Chapter 2, approximately one-fifth of all the estimated expenditures for Aboriginal and Torres Strait Islander peoples were through programs that were specifically designed for them. The remainder was through mainstream services in which the identification of Aboriginal and Torres Strait Islander peoples varied considerably and for which the allocation had to be based on whatever indicators of service use or benefit were available.

As the data in Chapter 2 also showed, hospital expenditures were $1,081 million or 47% of all the estimated expenditures for Aboriginal and Torres Strait Islander peoples in 2004–05. That was 67% of all spending by the state and territory governments. Expenditure on admitted patients in hospitals were estimated using the AIHW's Hospital Morbidity Costing Model, while estimates of non-admitted patient expenditure were derived using state and territory data and AIHW's health expenditure database.

Allocating hospital costs

Admitted patients

In principle, hospital records identify all Aboriginal and Torres Strait Islander admitted patients. A question is included in the forms to be completed on admission. However, as pointed out in Chapter 2, that question has not always been asked or answered and there has always been an unknown amount of under-identification. It has been greatest in the states and territories where the proportion of Aboriginal and Torres Strait Islander peoples in the population is lowest and a lesser problem where that proportion was higher.

An ABS and AIHW study of 11 hospitals in five states in 1998 found that identification improved by 13% when the question was asked in the hospital wards before discharge, rather than when it was recorded in the hospital admission records (ATSIHWIU 1999). The AIHW and the states and territories conducted similar studies (funded through AHMAC via SIMC and OATSIH) conducted a repetition of the 1998 project in 2007, surveying 66 hospitals in all states and territories. The Australian Capital Territory conducted a linkage study, and the Northern Territory will complete the survey in late 2007, adding further hospitals to those surveyed. The results for all states and the Australian Capital Territory have been incorporated in the tables and elsewhere in the report.

Table A3.2 shows the reported Aboriginal and Torres Strait Islander and non-Indigenous separations in public and private hospitals in 2004–05, by states and territories. Almost 94% of all the identified Aboriginal and Torres Strait Islander patients were in public hospitals, compared with 61% of other patients. Aboriginal and Torres Strait Islander peoples identification in private hospitals is considered much poorer than in public hospitals (AIHW 2005c).

Table A3.3 shows the levels of under-identification estimated from the 2007 hospital audit. As in the previous report (AIHW 2005a) the Tasmanian Department of Health and Human Services advised that no under identification adjustment be applied to the Tasmanian hospital data. As mentioned above Aboriginal and Torres Strait Islander identification in private hospitals is considered poor. For the analysis in this series of reports the adjustment factor for private hospitals (54%) was derived from analysis of linked hospital morbidity data from New South Wales (AIHW 2001). Table A3.4 contains the number of public hospital

separations in 2004–05 adjusted for estimated under-identification. Costs were estimated from the AIHW Hospital Morbidity Costing Model which applies Diagnosis Related Group (DRG) weights and length of stay adjustment to both Aboriginal and Torres Strait Islander and non-Indigenous cases at the individual hospital level. It therefore takes into account differences not only in casemix but also in the cost of providing treatment in different types of hospital in different regions. As in the 1998–99 and 2001–02 reports, a loading of 5% was added to the Aboriginal and Torres Strait Islander patient costs to take into account known differences in comorbidity for similar DRGs in Aboriginal and Torres Strait Islander patients.

Table A3.2: Reported Indigenous and non-Indigenous separations by hospital sector, states and territories, 2004–05

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number of separations, public hospitals[(a)]				
Indigenous	41,941	9,563	56,159	38,576	14,278	1,872	1,301	50,338	214,028
Non-Indigenous	1,283,131	1,213,866	664,355	344,684	342,210	78,718	61,919	25,475	4,014,358
Not reported	19,174	—	13,247	—	9,108	6,014	418	78	48,039
Total	**1,344,246**	**1,223,429**	**733,761**	**383,260**	**365,596**	**86,604**	**63,638**	**75,891**	**4,276,425**
					Per cent of separations, public hospitals[(a)]				
Indigenous	3.1	0.8	7.7	10.1	3.9	2.2	2.0	66.3	5.0
Non-Indigenous	95.5	99.2	90.5	89.9	93.6	90.9	97.3	33.6	93.9
Not reported	1.4	—	1.8	—	2.5	6.9	0.7	0.1	1.1
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
					Number of separations, private hospitals[(b)]				
Indigenous	1,075	228	3,743	9,007	250	n.p.	n.p.	n.p.	14,684
Non-Indigenous	742,565	704,039	513,010	299,708	208,623	n.p.	n.p.	n.p.	2,526,003
Not reported	3,558	—	160,093	—	2,956	n.p.	n.p.	n.p.	201,738
Total	**747,198**	**704,267**	**676,846**	**308,715**	**211,829**	**n.p.**	**n.p.**	**n.p.**	**2,742,425**
					Per cent of separations, private hospitals[(b)]				
Indigenous	0.1	—	0.6	2.9	0.1	n.p.	n.p.	n.p.	0.5
Non-Indigenous	99.4	100.0	75.8	97.1	98.5	n.p.	n.p.	n.p.	92.1
Not reported	0.5	—	23.7	—	1.4	n.p.	n.p.	n.p.	7.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.p.**	**n.p.**	**n.p.**	**100.0**

(continued)

Table A3.2 (continued): Reported Indigenous and non-Indigenous separations by hospital sector, states and territories, 2004–05

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
					Number of separations, all hospitals[(a)(b)]				
Indigenous	43,016	9,791	59,902	47,583	14,528	n.p.	n.p.	n.p.	228,712
Non-Indigenous	2,025,696	1,917,905	1,177,365	644,392	550,833	n.p.	n.p.	n.p.	6,540,361
Not reported	22,732	—	173,340	—	12,064	n.p.	n.p.	n.p.	249,777
Total	**2,091,444**	**1,927,696**	**1,410,607**	**691,975**	**577,425**	**n.p.**	**n.p.**	**n.p.**	**7,018,850**
					Per cent of separations, all hospitals[(a)(b)]				
Indigenous	2.1	0.5	4.2	6.9	2.5	n.p.	n.p.	n.p.	3.3
Non-Indigenous	96.9	99.5	83.5	93.1	95.4	n.p.	n.p.	n.p.	93.2
Not reported	1.1	—	12.3	—	2.1	n.p.	n.p.	n.p.	3.6
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**n.p.**	**n.p.**	**n.p.**	**100.0**

(a) Indigenous identification is not complete and varying by state and territory.

(b) Indigenous identification considered to be very poor in private hospitals.

n.p. Not published.

Source: AIHW National Hospital Morbidity Database.

Table A3.3: Estimated under-identification adjustments for admitted patient data, public hospitals, 2004–05

State/territory	1998–99	2001–02	2004–05[a]
New South Wales	1.30	1.30	1.13
Victoria	1.25	1.25	1.20
Queensland	1.20	1.20	1.12
Western Australia	1.06	1.06	1.03
South Australia	1.10	1.00	1.21
Tasmania	n.a.[b]	n.a.[c]	n.a.[c]
Australian Capital Territory	1.44	1.30	1.70
Northern Territory	1.00	1.00	1.00

(a) Estimated from the 2007 hospital audit.

(b) A 1997 survey of outpatient services was used in place of admitted patient data.

(c) The Tasmanian Department of Health and Human Services Aboriginal Health and Wellbeing Steering Committee advised that no under-identification adjustment be used.

Source: AIHW health expenditure database.

Table A3.4: Estimated Indigenous and non-Indigenous separations in public hospitals, adjusted for under-identification of Aboriginal and Torres Strait Islander people, states and territories, 2004–05

Indigenous status	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Estimated under-identification (%)	1.13	1.20	1.12	1.03	1.21	n.a.[(a)]	1.70	1.00	n.a.
Adjusted number of separations									
Indigenous	47,990	11,449	63,137	39,753	17,376	2,164	2,214	50,388	236,637
Non-Indigenous	1,296,256	1,211,980	670,624	343,507	348,220	84,440	61,424	25,503	4,039,788
Total	1,344,246	1,223,429	733,761	383,260	365,596	86,604	63,638	75,891	4,276,425
Per cent of separations									
Indigenous	3.6	0.9	8.6	10.4	4.8	2.5	3.5	66.4	5.5
Non-Indigenous	96.4	99.1	91.4	89.6	95.2	97.5	96.5	33.6	94.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Admitted patient expenditure ($ million)									
Indigenous	174.4	39.4	187.4	149.3	59.2	7.7	7.5	161.6	786.7
Non-Indigenous	5,808.3	4,315.8	2,425.2	1,399.9	1,158.7	329.8	275.9	106.2	15,819.9
Total	5,982.8	4,355.2	2,612.6	1,549.3	1,217.9	337.5	283.4	267.8	16,606.6

(a) The Tasmanian Department of Health and Human Services Aboriginal Health and Wellbeing Steering Committee advised that no under-identification adjustment be used.

Sources: AIHW health expenditure database, AIHW National Hospital Morbidity Database.

Non-admitted patients

Non-admitted patient expenditure was derived from both state and territory estimates and the AIHW's health expenditure database. For most state and territories two areas of non-admitted patient expenditure were able to be estimated, emergency departments and other non-admitted patient expenditure. Estimates of the Aboriginal and Torres Strait Islander proportion of total non-admitted patient expenditure were derived from data provided by the state and territory authorities in the light of all of the information available to them. These proportions were applied to total estimates of non-admitted patient expenditure for each jurisdiction from AIHW's health expenditure database. Further work to improve the estimates in this area would be desirable.

Community health services

Chapter 2 showed that, in 2004–05, $498 million was spent on the bundle of services described as 'Community health' for Aboriginal and Torres Strait Islander peoples. That was 22% of all the health expenditures for them. It was relatively easy to measure those that came through Australian Government programs. Almost all of them were funded by grants to the ACCHOs. Those grants did not cover the medical services provided in the ACCHOs, almost all of which were billed to Medicare, and they do not represent all of the expenditures by ACCHOs many of which receive additional money from the state and territory governments and some non-government sources. Those contributions are reported as state and territory expenditures.

The Australian Government paid $257 million in total to the ACCHOs in 2004–05; $235 million of that total was for health services, of that an estimated $208 million was expenditure on Aboriginal and Torres Strait Islander peoples (Table 2.10). First, as an earlier study pointed out, many ACCHOs are community centres as well, with an important social role (Keys Young 1997). Based on job classifications and the qualifications of staff, it is estimated that slightly more than 8% of total ACCHO expenditures were for 'welfare services' rather than health. Second, the activity reports of the organisations showed that about 12% of all client contacts were for non-Indigenous people. That expenditure was also deducted from the Aboriginal and Torres Strait Islander estimates. On the other hand, about $8.3 million was spent on community health services through other Australian Government programs.

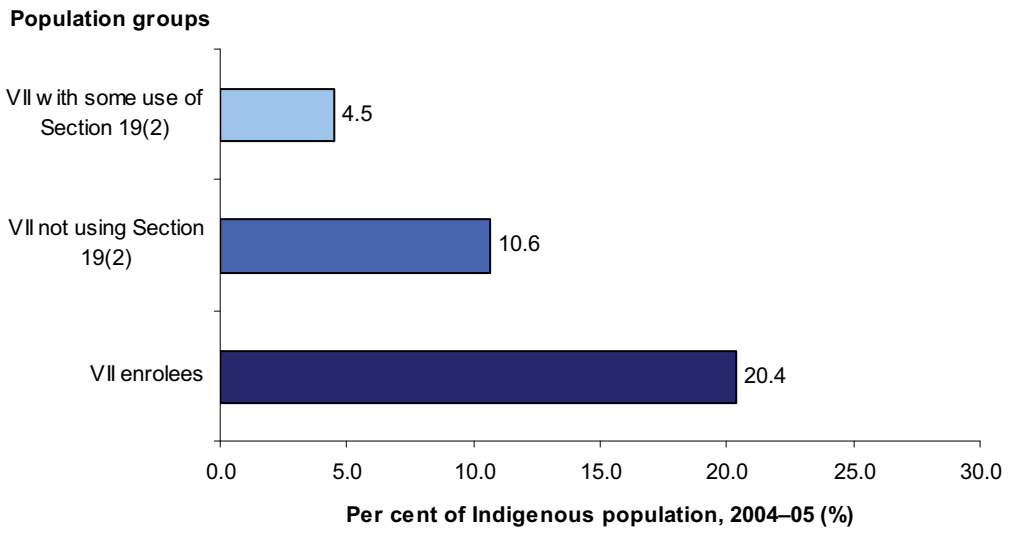
It was more difficult to estimate the Aboriginal and Torres Strait Islander peoples share of state and territory-funded community health services. Except for some Indigenous-specific programs, most community health services lacked patient-level detail in their records. The estimates presented here were based on information from the jurisdictions and the best indicators of Aboriginal and Torres Strait Islander use. Where there were no such indicators, the Aboriginal and Torres Strait Islander share was based on the proportion of the populations that the programs were intended to serve. Although there is a clear conceptual difference between community health services and public health (the first relate to treatment, the second to prevention), there was inevitably some overlap. Accounting and reporting systems varied and the components were not entirely comparable across the states and territories.

Medicare and the Pharmaceutical Benefits Scheme

Until 2002, there was no provision for the identification of Aboriginal and Torres Strait Islander peoples in the records of either Medicare or the PBS. The first report conducted some special surveys in 1997 and PBS expenditure estimates have used these results ever since. Since 1998, the AIHW's General Practice Statistics and Classification Unit at the University of Sydney has conducted a survey of about 100,000 patient contacts with 1,000 randomly selected GPs per year within which contacts with Aboriginal and Torres Strait Islander patients were identified. The survey, known as the BEACH survey, provide data on the GP services that were given, on referrals to specialists and diagnostic services and on whether a prescription was written. But they do not say whether those referrals were taken up, what services were generated, what the cost of services was or whether the prescriptions were actually dispensed. The 1998–99 and 2001–02 reports inferred these statistics from the averages for Medicare as a whole.

Since 2002, additional and better information has become available for those Aboriginal and Torres Strait Islanders who voluntarily identify themselves to Medicare as Indigenous. About 99,600 Aboriginal and Torres Strait Islander peoples had elected to voluntarily identify on Medicare cards by 2004–05, more than 20% of the estimated Aboriginal and Torres Strait Islander population (Figure 3.1). 25,600 of these 99,600 did not use GP services in 2004–05. Of the remaining 74,000, 51,900 attended only mainstream doctors and 22,100 attended a doctor in an ACCHO at least once. (An attendance by an ACCHO doctor is identified in the MBS as a Section 19(2) service). All the medical services which they received, including referred services, could be identified and costed, and, through the linking of Medicare numbers to PBS prescriptions, their pharmaceutical history could be added.

The relationship between the Aboriginal and Torres Strait Islander population and those Aboriginal and Torres Strait Islanders who voluntary identified themselves is described below and illustrated in Figure A3.1. For this report two main MBS treatment groups were used in analysis. One was the 'VII not using Section 19(2)' group. These were Aboriginal and Torres Strait Islander individuals who were Voluntary Indigenous Identifier (VII) enrolees, and had received a MBS benefit item and had not used a Section 19(2) item (10.6% of the Indigenous population, Figure 3.1). The second group, the 'VII and Section 19(2)' group, were Aboriginal and Torres Strait Islanders who were VII enrolees and had received a Section 19(2) MBS benefit item (4.5% of the Indigenous population, Figure 3.1). Section 19(2) of the Health Insurance Act allows doctors working in the ACCHOs to also bill Medicare and it was possible to extract the same information for all their patients as well. However as some non-Indigenous people also received MBS benefits under this arrangement it was impossible to determine the proportion of Aboriginal and Torres Strait Islander peoples who received Section 19(2) benefits but were not VII enrolees. Hence, data on Section 19(2) only benefits was not able to be used for this analysis.



Sources: AIHW Health expenditure database, DoHA unpublished and ABS 2007c.

Figure A3.1: Indigenous population and related VII population groups, 2004–05

Tables A3.5 to A3.6 show the data for patients reporting the VII who attended a GP. Because the data related to a known population, they could be used in estimating Medicare and PBS benefits for Aboriginal and Torres Strait Islander peoples generally.

Table A3.5: MBS services for VII patients[a], 2004–05 ('000)

Service	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
GP	82.5	35.9	146.8	53.9	26.4	12.4	2.0	27.3	387.3
Specialist	8.0	3.9	8.2	2.2	1.6	1.6	0.2	2.1	27.9
Obstetric	2.3	1.4	2.9	1.7	0.8	0.5	—	0.8	10.5
Pathology	48.6	19.8	76.2	37.4	11.3	6.5	1.2	37.9	238.9
Imaging	9.0	3.6	12.3	5.3	2.1	1.3	0.2	3.2	37.0
Operations	2.0	0.8	3.9	0.9	0.5	0.4	—	0.6	9.1
Other[b]	7.7	3.5	17.6	5.5	2.0	1.5	0.1	5.1	43.0
Total	**160.1**	**68.8**	**268.0**	**106.9**	**44.8**	**24.3**	**3.8**	**77.0**	**753.7**

(a) Includes all VII patients whether they used Section 19(2) services or not.

(b) Includes optometry.

Source: DoHA unpublished data.

Table A3.6: MBS benefits for VII patients[a], 2004–05 ($'000)

Service	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
GP	2,921.1	1,267.5	5,122.3	1,846.1	941.8	412.8	66.4	1,246.0	13,824.0
Specialist	492.3	235.7	496.5	129.6	102.4	94.1	16.5	136.3	1,703.2
Obstetric	99.2	74.6	120.1	59.8	33.0	23.2	2.8	32.7	445.4
Pathology	944.3	387.2	1,497.1	801.7	229.2	123.0	24.0	734.9	4,741.3
Imaging	789.3	345.5	956.0	421.4	166.8	119.8	16.9	275.3	3,091.2
Operations	190.5	90.3	389.5	82.5	45.6	51.3	4.9	67.1	921.5
Other[b]	778.3	335.3	1,344.4	484.1	211.3	147.8	12.0	278.8	3,592.0
Total	**6,214.9**	**2,736.2**	**9,925.9**	**3,825.3**	**1,729.9**	**971.9**	**143.5**	**2,771.0**	**28,318.6**

(a) Includes all VII patients whether they used Section 19(2) services or not.

(b) Includes optometry.

Source: DoHA unpublished data.

Table A3.7: Summary of MBS use and benefits for VII patients not using Section 19(2), by state and territory, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
VII not using Section 19(2) GP patients	10,177	3,897	22,906	6,035	2,974	2,194	243	3,505	51,931
Average services per GP patient									
GP services	5.4	6.1	4.8	4.9	5.9	5.6	4.3	3.0	5.0
Total services	10.4	12.0	8.6	9.8	9.9	10.9	8.6	10.5	9.7
Benefits ($)									
Per patient	404.7	477.8	323.4	351.2	382.1	437.6	324.4	354.4	364.4

Source: DoHA unpublished data.

Table A3.8: Distribution of VII enrolees and the Indigenous population, by age group (%), 2004–05

	VII		Indigenous population
Age group	Enrolees	Enrolees who received MBS benefits and who did not use Section 19(2)	
0–4	20.2	21.9	12.4
5–14	16.0	14.1	25.0
15–29	32.9	33.5	27.1
30–54	25.6	25.8	28.4
55 and over	5.3	4.8	7.1
Total	**100.0**	**100.0**	**100.0**

Source: DoHA unpublished data.

Table A3.9: MBS service use of those who voluntarily identified as Indigenous but did not use Section 19(2) services, by age group, 2004–05

	Services	Patients	
Age group	('000)	('000)	Services per patient
0–4	73.5	11.4	6.5
5–14	32.6	7.3	4.4
15–29	176.4	17.4	10.1
30–54	171.1	13.4	12.8
55 and over	48.4	2.5	19.4
Total	**501.9**	**51.9**	**9.7**

Source: DoHA unpublished data.

There were limits however, to using the VII data. Tables A3.7, A3.8 and A3.9 show the problem. This sample would have been of more than sufficient size if it was fully representative. Unfortunately, it was not. The geographic spread was not entirely even, but more importantly, the VII group was significantly younger than the average possibly because of the way in which they were enrolled. Relative to the Aboriginal and Torres Strait Islander population, very few older people were included. Health service use increases markedly with age and, although it was possible to standardise for the age differential alone, there may have been other factors at work, as well as the geographic ones. By September 2007, 177,116 people had enrolled and that larger sample, which will be available for subsequent editions of this series, is likely to be much more representative.

As the VII sample used for this report is not entirely representative, it could not be used to estimate the volume of total GP services used by Aboriginal and Torres Strait Islander peoples. Therefore, the overall volume of GP services to Aboriginal and Torres Strait Islander peoples was estimated from the BEACH data. It was the basic figure in the calculations. However, all the other information, such as specialist MBS usage and PBS usage and expenditure, was derived from combining BEACH data with the VII sample, which covered about 300 times the number of Aboriginal and Torres Strait Islander GP services in BEACH surveys. The initial process was the same as in the 2001–02 report, namely:

- to minimise sampling error, the BEACH results for three years (2003–04, 2004–05 and 2005–06) were averaged

- non-responses to the Indigenous status question (about 12% in each year) were distributed according the Indigenous/non-Indigenous proportion of contacts with a response
- under-identification of 10% was assumed.

The resulting proportion of Aboriginal and Torres Strait Islander services was then applied to the total number of GP services under Medicare. Finally, the estimated number of GP services was multiplied by the average Medicare benefit paid per service to give an estimate of all GP benefits. Average fees charged were also recorded. The number of referred services was estimated from the referral rates per GP service in the VII sample (Table A3.7) and both benefits paid and fees charged were calculated from the same sources. Tables A3.10 and A3.11 show the results.

Table A3.10: Estimate of GP service use and benefits from BEACH survey data

	Indigenous % GP encounters						
Year	Reported[(a)]	+ non-response	+ under identified	All Medicare GP services	Estimated Indigenous GP services	Benefits per service	Estimated Indigenous benefits
	(%)	(%)	(%)	(million)	(million)	($)	($ million)
2003–04	1.618	1.795	1.974	97.47	. .	. .	. .
2004–05	1.347	1.507	1.658	100.87	. .	. .	. .
2005–06	0.867	0.971	1.068	104.31	. .	. .	. .
Average	1.277	1.424	1.567	100.88	1.58	34.31	54.22

(a) From published BEACH data, AIHW: Britt el al. 2004, AHIW: Britt el al. 2005, and AIHW: Britt et al. 2007.

Source: AIHW health expenditure database.

Table A3.11: Estimate of Aboriginal and Torres Strait Islander referred MBS service use and benefits from VII and BEACH data[(a)]

Service	VII referrals per GP consultation (number)[(b)]	Estimated Indigenous total (million)	Benefits per service ($)	Estimated Indigenous benefits ($ million)
Specialist	0.068	0.108	61.16	6.58
Pathology	0.584	0.923	19.85	18.32
Imaging	0.091	0.143	83.45	11.95
Operations and other	0.076	0.120	256.02	16.73
Total	**0.819**	**1.294**	**41.40**	**53.59**

(a) Excludes optometry and allied health.

(b) Derived from data in Table A3.5 which includes service use for all VII patients, whether they used Section 19(2) or not.

Source: AIHW health expenditure database and unpublished Medicare data.

PBS medications

Expenditure on prescribed medicines were estimated in the same way as Medicare benefits, although in rather less detail and with a different method for Aboriginal and Torres Strait Islander peoples in remote and very remote areas where PBS drugs are provided to the

ACCHOs in bulk without the need for individual prescriptions. About 143,000 people were covered by this Section 100 scheme. Table A3.12 uses the mainstream prescribing rates per GP service for people who identified under VII, and the number derived from the 1,580,400 GP services estimated for all Aboriginal and Torres Strait Islander peoples, to estimate the amount of benefits paid. Section 100 benefits are then added to give a total figure for the PBS. Costs per item were much lower for Section 100 drugs than for the mainstream system, largely because no fees or mark-ups were paid to chemists for dispensing. Out-of-pocket payments are not shown in the PBS records. They were estimated from the type of benefit paid. Over 80% of all Aboriginal and Torres Strait Islander prescriptions were supplied at the 'concessional' rate.

Table A3.12: Estimate of PBS items and benefits for Indigenous patients, using VII and BEACH data, 2004–05

	GP services ('000)	Script items ('000)	Benefits ($ million)	Scripts per GP service (number)	Benefits per script ($)
Mainstream					
VII PBS group[(a)]	408.9	471.4	12.8	1.15	27.25
Estimated mainstream total[(b)]	1,580.4	1,746.6	47.6	1.15	27.25
Section 100[(c)]	. .	1,152.0	20.6	. .	17.92
Total	**. .**	**2,898.6**	**68.2**	**. .**	**23.54**

(a) Whether they used section 19(2) services or not.

(b) Includes all patients who identify as Indigenous.

(c) Includes other PBS special supply as well as Section 100.

Source: AIHW health expenditure database.

Other services

Australian Government programs

Chapter 2 estimated that about $260 million of Australian Government health expenditures for Aboriginal and Torres Strait Islander peoples was through Indigenous-specific programs, $208 million through ACCHOs, $19 million was in Section 100 benefits for medicines in remote areas and about $35 million was for programs in public health and MBS benefits to ACCHO doctors, which mainly benefited Aboriginal and Torres Strait Islander peoples. A further $155 million went through the mainstream Medicare and PBS schemes. The remainder represented the estimated Aboriginal and Torres Strait Islander peoples share of a variety of Australian Government programs, allocated by the Department of Health and Ageing according to whatever indicators of use available or percentage of the target population group that were Aboriginal and Torres Strait Islander peoples. The detailed composition of one of the larger programs, public health, is shown in Table A1.3.

State and territory programs

About 86% of all state and territory expenditures for Aboriginal and Torres Strait Islander peoples were for hospitals and community health services. Table A2.1 shows the composition of the remainder, including a more detailed breakdown of public health

spending. The remaining other major item was patient transport, particularly in South Australia, Western Australia and the Northern Territory where the Royal Flying Doctor Service was a large component. Indigenous-specific services were not shown separately.

A3.3 Funding

Most services were funded by the governments that incurred the expenditures. However, there were two significant exceptions.

Indirect funding by the Australian Government

Table 2.7 in Chapter 2 showed that in 2004–05 the Australian Government provided $430 million for health services to Aboriginal and Torres Strait Islander peoples beyond that which it expended directly, and nearly $12 billion extra for non-Indigenous health care. Most of that indirect funding was through two main programs, the Commonwealth–State sharing of public hospital costs under the Australian Health Care Agreements (AHCAs) and the Private Health Insurance Rebate. For Aboriginal and Torres Strait Islander peoples, almost all the Australian Government's indirect spending was through the AHCAs and their reliance on public hospital treatment meant that, on average, more subsidy money went to them than to other Australians. But the opposite was true of the Private Health Insurance Rebate. It paid out $2,827 million in 2004–05 but Aboriginal and Torres Strait Islanders private insurance coverage was so low that their gain was estimated at almost $10 million, less than half of 1%.

Non-government funding

Table A3.13 shows estimated non-government expenditures for services to Aboriginal and Torres Strait Islander peoples and non-Indigenous people, including out-of-pocket payments by users.

Table A3.13: Estimated non-government expenditure on health services for Indigenous and non-Indigenous people, total and per person, 2004–05

	Total expenditure ($ million)			Expenditure per person ($)		
Service	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Hospitals	32.0	6,275.5	0.5	65	318	0.21
High-level residential care	11.7	1,921.1	0.6	24	97	0.25
Patient transport	0.2	43.9	0.4	—	2	0.15
Medical services	25.1	3,311.1	0.8	51	168	0.31
Medicare	7.7	1,617.3	0.5	16	82	0.19
Other	17.4	1,693.8	1.0	36	86	0.41
Medications	37.2	5,101.4	0.7	76	259	0.29
Benefit-paid pharmaceuticals	11.4	1,139.1	1.0	23	58	0.40
Other	25.8	3,962.3	0.6	53	201	0.26
Community health services	0.5	19.7	2.2	1	1	0.93
Dental	28.4	4,453.5	0.6	58	226	0.26
Other health practitioners	16.2	2,302.9	0.7	33	117	0.28
Aids and appliances	14.8	2,339.6	0.6	30	119	0.26
Research	12.2	362.2	3.3	25	18	1.36
Health administration n.e.c.	3.3	888.6	0.4	7	45	0.15
Total	**181.4**	**27,019.4**	**0.7**	**371**	**1,370**	**0.27**

Source: AIHW health expenditure database.

A3.4 Estimation of average government expenditures per person, by household income

Table A3.14 shows the ABS data on government health expenditures per household across the quintiles of equivalised household income. Table A3.15 shows the derivation of annual expenditures per person in 2003–04 and the estimation of expenditures per person in 2004–05, applying the 2003–04 income quintile to All households ratio to the national average government expenditure of $2,801 per person derived from Table 2.9.

Table A3.14: Government expenditures on health services, per household and by quintile of equivalent household income, Australia, 2003–04

Income quintile	Lowest	Second	Third	Fourth	Highest	All households
Average expenditures per household						
Dollars per week	136.82	133.85	107.49	91.75	87.88	112.51
Average number of persons per household						
Persons	2.0	3.0	2.9	2.7	2.4	2.5

Source: ABS 2007d.

Table A3.15: Government expenditures on health services, per household and per person, by quintile of equivalent household income, Australia, 2003–04 and 2004–05

Income quintile	Lowest	Second	Third	Fourth	Highest	All households
Average expenditures per household, 2003–04						
Dollars per year	7,115	6,960	5,589	4,771	4,570	5,851
Average expenditures per person, 2003–04						
Dollars per year	3,557	2,320	1,927	1,767	1,904	2,340
Ratio (income quintile to All households)	1.52	0.99	0.82	0.76	0.81	1.00
Estimated average expenditures per person, 2004–05						
Dollars per year	4,258	2,777	2,307	2,115	2,279	2,801

Sources: ABS 2007d and AIHW health expenditure database.

A3.5 Deflation and constant price expenditure aggregates

Expenditure aggregates in this report are expressed in current price terms, constant price terms or both. The transformation of a current price aggregate into its constant price counterpart is called 'deflation' and the price indexes used in this transformation are called 'deflators'. The analytical benefit of a constant price estimate (of, say, expenditure on health goods, health services or capital) lies in the fact that the effects of price change have been removed to provide a measure of the volume of the goods, services or capital.

A variety of general price indexes or price indexes specific to health might be used to deflate current price aggregates into constant price terms. These include chain price indexes, IPDs and fixed-weight indexes such as the consumer price index (CPI) or its components. For this report, deflation has been undertaken using chain price indexes and IPDs only.

The chain price indexes used in this report are annually re-weighted Laspeyres (base period weighted) chain price indexes. The indexes are calculated at a detailed level, and they provide a close approximation to measures of pure price change. In this report, the chain price indexes have been used for deflation of institutional services and facilities that are provided by or purchased through the public sector and, capital expenditure and capital consumption.

Some other constant price aggregates in this report have been derived using IPDs, when a directly constructed chain index is not available. An IPD is an index obtained by dividing a current price value by its corresponding chain volume estimate. Thus, IPDs are implicit rather than directly computed measures of price; they are not measures of pure price change as they are affected by compositional changes. 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.

Neither the CPI nor its health services subgroup is appropriate for measuring movements in overall prices of health goods and services, or for deflating macro expenditure aggregates. This is because the CPI measures movements in the prices faced by households only. The overall CPI and its components do not, for example, include government subsidies, benefit payments and non-marketed services provided by governments.

Table A3.16 shows the indexes used to derive constant price expenditures for this report. One index has been sourced from the ABS (Professional health workers wage rate), while the IPDs for Medicare medical services fees charged, PBS pharmaceuticals, and the total health price index, have been derived by the AIHW.

Table A3.16: Area of health expenditure, type of deflator applied and price index, (reference year 2004–05 = 100)

Area of health expenditure	Deflator/index	1995–96	1998–99	2001–02	2004–05
Total health expenditure	Total health price index[(a)]	76.64	81.66	89.61	100.00
Medical services	Medicare medical services fees charged[(a)]	69.41	73.67	83.60	100.00
Community health services	Professional health workers wage rates	75.05	79.53	88.02	100.00
Pharmaceuticals	PBS pharmaceuticals[(a)]	98.29	99.29	99.68	100.00

(a) Implicit price Deflator, constructed by AIHW.

Source: AIHW 2007.

Appendix 4: Hospital audit and under-identification

The AIHW has recently completed an assessment of the level of Indigenous under-identification in all states and territories by comparing hospital records with results from patient interviews. The methodology used was similar to that of an earlier study by the AIHW and ABS (ATSIHWIU 1999).

The audit of Indigenous identification level in hospital admission records was undertaken by interviewing a sample of admitted patients in public hospitals about their Indigenous status during a specified period of time, and then comparing it with the Indigenous status information recorded on the hospital's admission records. The audit has been used to derive the admitted patient expenditure in public hospitals and are summarised in Table A3.3.

More detailed results, analysis and documentation and results from this study will be published in the future by AIHW.

A4.1 Sample size and hospital selection

This audit of Indigenous identification level in hospital admissions records was undertaken by interviewing a sample of admitted patients in public hospitals about their Indigenous status during a specified period of time, and then comparing it with the Indigenous status information recorded on the hospitals' admission records.

More detailed results, analysis and documentation and results form this study will be published in the future by AIHW.

Sample size calculation for jurisdictions

The following formula was used to calculate sample size for each remoteness area categories (major cities, inner regional, outer regional, or remote/very remote) across Australia:

$$Z \geq (1-s)/(s \cdot y^2 \cdot p)$$, where

- s is the proportion of Indigenous patients correctly identified as an Indigenous
- p is the proportion of total patients who are Indigenous
- y is the required relative standard error in estimating s.

The four remoteness area sample sizes were summed to give a total sample for the 5 states included at the beginning of the study (NSW, WA, SA, Qld and Tas). The sample size for each participating state was then calculated by allocating each state a proportion of the total sample size, based on the proportion of its Indigenous population out of total Indigenous population of these five states.

Victoria and the NT joined this project at a later stage. Their combined sample size was decided under the principle that the combined sample size is proportional to sample size of the other five jurisdictions, based on their Indigenous population numbers. A larger sample size was then allotted to Victoria to ensure more accurate estimation.

Sample size calculation for remoteness areas and selection of hospitals

The hospitals were selected by a '3-Yes' system. First, two intermediate sample sizes (S_i, S_p) for a certain remoteness area were allocated based on the proportion of Indigenous population in this area (out of Indigenous population in this jurisdiction), and the proportion of total population in this area (out of total population in this jurisdiction), respectively. Hospitals were judged by three criteria:

a. Was the hospital's 2004-05 monthly admissions number larger than S_i?

b. Was the hospital's 2004-05 monthly admissions number larger than S_p?

c. Did the hospital have on average more than 50 Indigenous patients per month in 2004-05?

Hospitals with more Yes's had higher priorities to be surveyed. For each remoteness area, the assigned sample size is the average of S_i and S_p.

A4.2 Assumptions

Within hospital assumptions

a. The hospital survey always gives the correct information of a patient's Indigenous status. A violation of this assumption could bring non-systematic sampling errors, but not systematic bias. As a result the estimates could have larger confidence intervals, although the estimates themselves still remain to be unbiased.

b. There has been no change in admission behaviour during the survey period.

If the change of admission behaviours happens in a couple of individual hospitals, it will also bring non-systematic sampling errors but not systematic bias.

If there has been systematic change of admission behaviours across the sampled hospitals, bias could be introduced into the survey estimates. However, we have no reasons to believe such a systematic change of admission behaviours exists in the survey period.

Outside hospital assumptions

The sampling strategy gives priorities to hospitals with large Indigenous separation numbers. This could possibly bring a bias in the estimate of the adjustment factor, if and only if there is a systematic association between the Indigenous proportion (or number) of hospital separations and the within-hospital adjustment factor. A plot of the within-hospital adjustment factor against the proportion (or number) of Indigenous separations showed no trends other than a practically horizontal line, after several outliers were removed. Therefore, the possible association did not exist.

A4.3 Confidence bounds

Even after we used unbiased estimating method, the estimates can still be largely different from the true underlying numbers, because of the small sample sizes resulting from the limit

of the survey budgets. Generally, smaller sample sizes will introduce broader confidence intervals into the estimates.

A4.4 Estimating methods

Within hospital Completeness (C) and Correction Factor (CF)

Within-hospital C and CF were first estimated for each surveyed hospital with Indigenous patients identified in the interview, using the following formulas:

C= $A/(A+B)$ and CF= $(A+B)/(A+D)$, where

- A is the number of patients identified as Indigenous in both interview and hospital records
- B is the number of patients identified as Indigenous interview but Non-Indigenous in hospital records
- D is the number of patients identified as Non-Indigenous interview but Indigenous in hospital records

Estimates for remoteness areas and states

Two levels of weighting were then used to reach the estimates of C and CF for each remoteness area and each state.

- For estimates at the remoteness area level
  - W_i, the weight for hospital i in the estimation of remoteness area CF, is the proportion of HMD Indigenous separations in hospital i, out of the sum of HMD Indigenous separations from surveyed hospitals in that remoteness area. Here HMD Indigenous separations means the Indigenous separations numbers in February–April 2005 as recorded in the AIHW Hospital Morbidity Database.
  - AW_i, the weight for hospital i in the estimation of remoteness area C, is the proportion of adjusted Indigenous separations in hospital i, out of the sum of adjusted Indigenous separations from surveyed hospitals in that remoteness area, where

    *Adjusted Indigenous separations= HMD Indigenous separations*within hospital CF.*

The CF for each remoteness area is calculated as a weighted average of within hospital CFs, using W_i's as the weights. The completeness for each remoteness area is calculated as a weighted average of within hospital completeness, using AW_i's as the weights.

- For estimates at the state level
  - W_r, the weight for remoteness area r in the estimation of state level CF, is the proportion of HMD Indigenous separations in remoteness area r, out of all HMD Indigenous separations in the state.
  - AW_r, the weight for remoteness area r in the estimation of state level Completeness, is the proportion of adjusted Indigenous separations in remoteness area r, out of the sum of adjusted Indigenous separations of all remoteness areas, where

*Adjusted Indigenous separations= HMD Indigenous separations*remoteness area CF*

The CF for the state is calculated as a weighted average of remoteness area CFs, using W_r's as the weights. The completeness for the state is calculated as a weighted average of remoteness area completeness, using AW_r's as the weights.

Adjustments to survey results from Victoria

The survey results from one hospital in Victoria showed extremely different identification level to the results from a similar survey in the same hospital in 1998. While the current survey suggested a within-hospital completeness of 33.3%, the past survey, which had a much larger Indigenous patient sample in this hospital, showed a 100% within-hospital completeness. Based on the sample sizes of the present and past surveys in this hospital, we consider the results of the previous survey to be more reliable. An adjustment has therefore been done to data from this survey to incorporate information from the 1998 survey into the estimation.

In this method, the total number of Indigenous patients identified in one hospital, $A+B$, remained the same as the current survey result. The values of A and B for this hospital were adjusted, so that the resulting within-hospital completeness was equal to the average of the within-hospital completeness found in the current survey and the one from the past survey. The adjusted A and B were then used in the estimation process mentioned above to arrive at the estimates for the relevant remoteness area and Victoria.

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Detailed state and territory tables are available at: <www.aihw.gov.au/expenditure/indigenous>.

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