

## **Health system performance (Tier 3)**

## 3.01 Antenatal care

*Number, rate and percentage of Indigenous women who utilised antenatal care provided by skilled birth attendants for reasons related to pregnancy at least once during pregnancy among all women who gave birth whether resulting in a live or still birth, if the birthweight is at least 400 grams or the gestational age is 20 weeks or more*

### Data sources

Data for this measure come from the state/territory based Perinatal Collections ('Midwives Collections').

Each state and territory has a perinatal collection based on birth notification forms completed by midwives and other staff, using information obtained from mothers and other hospital records (the Midwives Collection). Jurisdictions record some aspects of most antenatal care, but the data collected vary by jurisdiction.

The Australian Capital Territory, Queensland and South Australia collect data on the number of antenatal care sessions attended during pregnancy and the type of healthcare professional consulted. New South Wales and the Northern Territory do not record the number of sessions of antenatal care attended or the type of professional consulted but do record the duration of pregnancy at first antenatal session. The Australian Capital Territory also records this information. Data on the use of antenatal care services are not available for Victoria, Western Australia or Tasmania.

### Analyses

#### Use of antenatal care services by state/territory

Data on the use of antenatal care for Indigenous mothers in New South Wales, Queensland, South Australia, the Australian Capital Territory and the Northern Territory for 2003 are presented below.

- In 2003, in New South Wales, Queensland, South Australia, the Australian Capital Territory and the Northern Territory, the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy was similar to non-Indigenous mothers (Table 3.01.1).
- The rate at which Indigenous mothers attended at least one antenatal care session ranged from 838 per 1,000 in the Australian Capital Territory to 982 per 1,000 in Queensland.
- In the three jurisdictions where data are collected on the duration of pregnancy at first antenatal visit (New South Wales, the Australian Capital Territory and the Northern Territory), Indigenous mothers were three to five times as likely as non-Indigenous mothers to be in their third trimester of pregnancy at their first antenatal session and less likely to be in their first trimester.

- In Queensland, South Australia and the Northern Territory, Indigenous mothers were less likely to have attended five or more antenatal sessions during pregnancy than non-Indigenous mothers.
- In the Australian Capital Territory, data were provided on the number of Indigenous and non-Indigenous mothers attending one–five and six or more antenatal sessions. Indigenous mothers were less likely to have attended six or more sessions than non-Indigenous mothers (525 per 1,000 compared to 723 per 1,000).

Table 3.01.1: Use of antenatal services by mothers, by Indigenous status, NSW, Qld, SA, ACT and NT, 2003<sup>(a)(b)(c)</sup>

		NSW			Qld <sup>(d)</sup>			SA			ACT <sup>(e)</sup>			NT <sup>(f)</sup>		
		No.	Rate per 1,000 <sup>(g)</sup>	Rate ratio <sup>(h)</sup>	No.	Rate per 1,000 <sup>(g)</sup>	Rate ratio <sup>(h)</sup>	No.	Rate per 1,000 <sup>(g)</sup>	Rate ratio <sup>(h)</sup>	No.	Rate per 1,000 <sup>(g)</sup>	Rate ratio <sup>(h)</sup>	No.	Rate per 1,000 <sup>(g)</sup>	Rate ratio <sup>(h)</sup>
<b>Total attended at least one antenatal session</b>																
	Indigenous	2,073	959.3	1.0	2,808	981.8	1.0	355	946.7	1.0	67	837.5	1.0	1,344	962.8	1.0
	Non-Indigenous	82,441	995.3		46,485	996.6		15,333	996.4		4,088	874.1		2,204	991.9	
<b>No. of sessions attended<sup>(e)</sup></b>																
1	Indigenous	n.a.	n.a.	n.a.	129	45.1	8.0*	14	39.4	13.0*	n.a.	n.a.	n.a.	71	50.9	5.9*
	Non-Indigenous	n.a.	n.a.		263	5.6		44	2.9		n.a.	n.a.		19	8.6	
2–4	Indigenous	n.a.	n.a.	n.a.	545	190.6	3.3*	77	216.9	11.4*	n.a.	n.a.	n.a.	329	235.7	3.7*
	Non-Indigenous	n.a.	n.a.		2,713	58.2		300	19.6		n.a.	n.a.		143	64.4	
5 or more	Indigenous	n.a.	n.a.	n.a.	2,134	746.0	0.8*	264	743.7	0.8*	n.a.	n.a.	n.a.	1,015	727.1	0.8*
	Non-Indigenous	n.a.	n.a.		43,509	933.0		14,989	977.6		n.a.	n.a.		2,061	927.5	

(continued)

**Table 3.01.1 (continued): Use of antenatal services by mothers, by Indigenous status, NSW, Qld, SA, ACT and NT, 2003<sup>(a)(b)(c)</sup>**

<b>Duration of pregnancy at first antenatal session<sup>(f)</sup></b>																
First trimester (<14 weeks)	Indigenous	1,129	522.4	0.8*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	15	187.5	0.5 *	455	325.9	0.6*
	Non-Indigenous	52,867	638.3		n.a.	n.a.		n.a.	n.a.		1,835	392.3		1,154	519.4	
Second trimester (14–28 weeks)	Indigenous	748	346.1	1.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	40	500.0	1.1	557	399.0	1.2*
	Non-Indigenous	26,893	324.7		n.a.	n.a.		n.a.	n.a.		2,083	445.4		758	341.1	
Third trimester (>28 weeks)	Indigenous	196	90.7	2.8*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19	237.5	4.5*	203	145.4	2.7*
	Non-Indigenous	2,681	32.4		n.a.	n.a.		n.a.	n.a.		249	53.2		121	54.5	

\*Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the p<.05 level.

- (a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.
- (b) Jurisdiction-level data are based on place where birth occurred, not place of usual residence. Cross-border issues need to be considered here, e.g. a high proportion of births in ACT hospitals are for NSW mothers.
- (c) Data not available from Victoria, Western Australia and Tasmania.
- (d) For Qld, 1 session is determined by: number of visits category '<2 visits' and care type 'no antenatal care'.
- (e) Data not collected in NSW or NT. Data on number of sessions attended for the ACT are available, however, could only be categorised into 1–5 sessions and 6 or more sessions. Indigenous and non-Indigenous rates for mothers attending 1–5 sessions are 312.5 and 150.7 per 1,000 (rate ratio 2.1). Indigenous and non-Indigenous rates for mothers attending 6 or more sessions are 525.0 and 723.3 per 1,000 (rate ratio 0.7).
- (f) In the NT, the sum of the three trimesters does not make up the total who attended at least one antenatal session due to invalid gestation age at first antenatal session in a small proportion of records.
- (g) Rate per 1,000 women who gave birth in the period, whether resulting in a live or still birth, if the birthweight is at least 400grams or the gestational age is 20 weeks or more.
- (h) Rate ratio: Indigenous rate divided by the non-Indigenous rate.
- (i) Data not collected in Qld or SA.

Source: State/territory Perinatal Collections.

## Time series analyses

Data on the antenatal care of Indigenous mothers are available for 1998–2004 for New South Wales and South Australia, 1998–2003 for Queensland and the Australian Capital Territory and 2000, 2001, 2003 and 2004 for the Northern Territory.

- In New South Wales over the period 1998–2004, there were non-significant increases in the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy. Over the same period, there were significant increases in the rate at which non-Indigenous mothers attended at least one antenatal care session during pregnancy (Table 3.01.2; Figure 3.01.1).
- In Queensland, over the period 1998–2003, there were no significant changes in the rates at which Indigenous mothers or non-Indigenous mothers attended at least one antenatal care session during pregnancy.
- In South Australia over the period 1998–2004, there were non-significant increases in the rate at which Indigenous mothers attended at least one antenatal care session during pregnancy. Over the same period, there were significant increases in the rate at which non-Indigenous mothers attended at least one antenatal care session.
- In the Australian Capital Territory over the period 1998–2003, there were apparent declines in the rate at which Indigenous and non-Indigenous mothers attended at least one antenatal care session during pregnancy, however, these declines were not statistically significant. Most of this decline is attributable to a high proportion of 'missing' responses recorded in 2003. It should also be noted that between 1998 and 2003 the Australian Capital Territory had between 10–15% of non-residents who gave birth in the Territory.
- In the Northern Territory, data were only provided for 2000, 2001, 2003 and 2004. This was because in 1998, 1999 and 2002 a system error occurred where a large number of women had birthing records created with no antenatal data attached.
- There were no significant changes in the rate ratio between Indigenous and non-Indigenous mothers who attended at least one antenatal care session in New South Wales, Queensland, South Australia or the Australian Capital Territory for the periods under study.

**Table 3.01.2: Mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2004<sup>(a)(b)</sup>**

	1998	1999	2000	2001	2002	2003	2004	Annual change <sup>(c)</sup>
<b>Number</b>								
<b>NSW</b>								
Indigenous	1,909	1,947	1,968	1,980	2,008	2,073	2,191	..
Non-Indigenous	81,536	83,103	83,543	81,560	81,683	82,441	81,490	..
<b>Qld</b>								
Indigenous	2,657	2,783	2,735	2,636	2,644	2,808	n.a.	..
Non-Indigenous	44,559	44,998	45,443	45,977	45,451	46,485	n.a.	..
<b>SA</b>								
Indigenous	289	325	307	296	331	355	385	..
Non-Indigenous	14,418	15,160	14,588	14,920	14,976	15,333	15,446	..
<b>ACT<sup>(d)</sup></b>								
Indigenous	56	56	53	51	69	67	n.a.	..
Non-Indigenous	4,490	4,442	4,549	4,305	4,453	4,088	n.a.	..
<b>NT<sup>(e)</sup></b>								
Indigenous	n.p.	n.p.	1,252	1,421	n.p.	1,344	1,269	..
Non-Indigenous	n.p.	n.p.	2,145	2,209	n.p.	2,204	2,095	..
<b>Rate per 1,000<sup>(f)</sup></b>								
<b>NSW</b>								
Indigenous	934.4	945.6	934.9	938.4	931.8	959.3	949.3	2.5
Non-Indigenous	984.9	990.5	990.9	991.9	991.5	995.3	994.4	1.4*
<b>Qld</b>								
Indigenous	972.9	976.8	976.4	978.8	971.7	981.8	n.a.	0.9
Non-Indigenous	996.6	995.7	994.1	995.0	996.9	996.6	n.a.	0.1
<b>SA</b>								
Indigenous	932.3	928.6	933.1	945.7	945.7	946.7	932.2	1.7
Non-Indigenous	997.4	997.4	996.8	997.1	997.2	996.4	996.6	0.1*
<b>ACT<sup>(d)</sup></b>								
Indigenous	933.3	949.2	1,000.0	980.8	958.3	837.5	n.a.	-13.5
Non-Indigenous	998.0	999.1	998.9	997.7	999.3	874.1	n.a.	-17.7
<b>NT<sup>(e)</sup></b>								
Indigenous	n.p.	n.p.	946.3	959.5	n.p.	962.8	952.7	n.p.
Non-Indigenous	n.p.	n.p.	968.0	988.4	n.p.	991.9	994.8	n.p.
<b>Rate ratio<sup>(g)</sup></b>								
NSW	0.9	1.0	0.9	0.9	0.9	1.0	1.0	0.0
Qld	1.0	1.0	1.0	1.0	1.0	1.0	n.a.	0.0
SA	0.9	0.9	0.9	0.9	0.9	1.0	0.9	0.0
ACT	0.9	1.0	1.0	1.0	1.0	1.0	0.9	0.0
NT <sup>(e)</sup>	n.p.	n.p.	1.0	1.0	n.p.	1.0	1.0	n.p.

(continued)

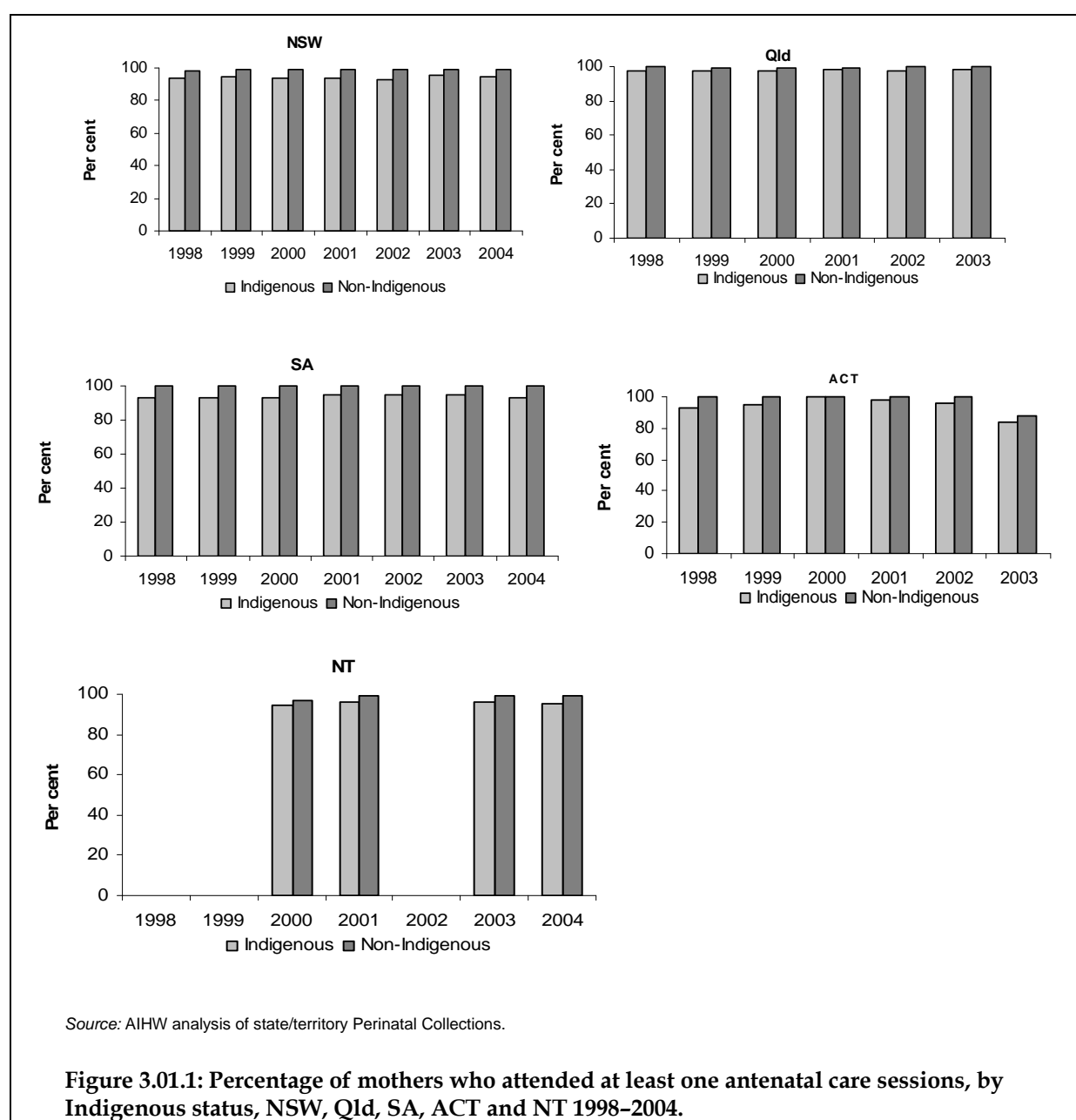
**Table 3.01.2 (continued): Mothers who attended at least one antenatal care session, by Indigenous status, NSW, Qld, SA, ACT and NT, 1998–2004<sup>(a)(b)</sup>**

\* Represents results with statistically significant increases or declines at the  $p < .05$  level over the period 1998–2004

n.p. Not published.

- (a) Indigenous and non-Indigenous data exclude births where the mother's Indigenous status is not stated.
- (b) Jurisdiction-level data are based on place where birth occurred, not place of usual residence. Data not available from Victoria, Western Australia and Tasmania.
- (c) Rate per 1,000 women who gave birth in the period, whether resulting in a live or still birth, if the birthweight is at least 400grams or the gestational age is 20 weeks or more.
- (d) Rate ratio Indigenous:non-Indigenous.
- (e) Average annual change in rates and rate ratios determined using linear regression analysis.
- (f) A high proportion of births in ACT hospitals are for non-ACT mothers (10–15%).
- (g) In the NT in 1998, 1999 and 2002 a system error occurred where a large number of women had birthing records created with no antenatal data attached.

Source: AIHW analysis of state/territory Perinatal Collections.



**Figure 3.01.1: Percentage of mothers who attended at least one antenatal care sessions, by Indigenous status, NSW, Qld, SA, ACT and NT 1998–2004.**



## **Data quality issues**

### **Antenatal care data**

*All jurisdictions record self-reported information on some aspects of antenatal health status. The inventory of antenatal medical conditions reported on varies from jurisdiction to jurisdiction and they are not comparable.*

*The current situation with regard to information on antenatal care visits is as follows:*

*Victoria, Tasmania and Western Australia do not collect such information in their Perinatal Collections at all.*

*The Australian Capital Territory, Queensland and South Australia collect data on the number of antenatal care visits during pregnancy and the type of healthcare professional consulted. However, the categories for this latter item are not comparable.*

*New South Wales and the Northern Territory do not record the number of sessions of antenatal care attended or the type of professional consulted, but do record the duration of pregnancy at first antenatal visit. The Australian Capital Territory also records this information.*

*The Northern Territory data suffer from under-recording in Aboriginal communities and have suffered from IT problems which make reporting difficult (personal communication).*

*Only the Australian Capital Territory reports on all the aspects of routine antenatal care which, ideally, should be assessed in this context.*

*All jurisdictions are working towards improving the quality of the Indigenous status data.*

## 3.02 Immunisation (child and adult)

*Vaccination coverage rates among Indigenous Australian children and adults*

### Data sources

Data for this measure come from the National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the Australian Childhood Immunisation Register (ACIR).

#### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians about health-related issues including health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

#### **The Australian Childhood Immunisation Register (ACIR)**

The Australian Childhood Immunisation Register (ACIR), managed by Medicare Australia, holds information on childhood immunisation coverage. All children under 7 years of age, enrolled in Medicare, are automatically included on the ACIR. Children who are not eligible to enrol in Medicare can be added to the ACIR when details of a vaccination are received from a doctor or immunisation provider.

Only data from New South Wales, Victoria, Western Australia, South Australia and the Northern Territory are used to calculate vaccination coverage rates of Indigenous children and have been presented in this measure. Data from the Australian Capital Territory, Queensland and Tasmania have not been included in this measure because Indigenous status data from these jurisdictions are not routinely reported or transferred to the ACIR.

It should be noted that coverage estimates for Aboriginal and Torres Strait Islander children include only those who identify as such and are registered on the ACIR. Children identified as Indigenous on the ACIR may not be representative of all Aboriginal and Torres Strait Islander children, and thus coverage estimates should be interpreted with caution.

Children for whom Indigenous status was 'not stated' are included with the 'non-Indigenous' under the 'other' category.

Vaccination coverage is a measure of the proportion of people in a target population who have received the recommended course of vaccinations at a particular age.

# Analyses

## Self-reported data

### Childhood immunisation

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey provides information on the immunisation status of Indigenous children aged 0–6 years in non-remote areas of Australia. Data from this survey and the 2001 National Health Survey which collected information on the immunisation status of Indigenous and non-Indigenous children are presented below.

- Of Indigenous children aged 0–6 years in non-remote areas who had immunisation records available, approximately 94% were fully immunised in 2001 and 93% were fully immunised in 2004–05. Around 4% of Indigenous children aged 0–6 years were partially immunised in 2001 and 7% were partially immunised in 2004–05 (Table 3.02.1).
- In 2004–05, 78% of Indigenous children aged 0–6 years in non-remote areas were fully immunised against diphtheria/tetanus, 74% against whooping cough, 82% against hepatitis B, 78% against polio, 72% against HIB and 84% against measles, mumps and rubella.
- The proportion of Indigenous children fully immunised in 2001 was similar to 2004–05 for all diseases with the exception of polio, for which coverage was higher in 2001 (88%), and HIB, for which coverage was lower in 2001 (67%).
- In 2001 in non-remote areas, the proportion of Indigenous and non-Indigenous children who were fully immunised was similar, however Indigenous children were around twice as likely to be partially immunised.
- The most common factors influencing the decision to immunise children aged 0–6 years for Indigenous people in non-remote areas in 2004–05 were for the child’s health (88%), it was believed to be the right thing to do (51%) and the child must be immunised to go to child care/school (29%) (Table 3.02.2). Similar proportions of Indigenous and non-Indigenous people in non-remote areas reported these factors as influencing their decision to immunise children in 2001.

**Table 3.02.1: Immunisation status of children aged 0–6 years, by Indigenous status, non-remote areas, 2001 and 2004–05**

Immunisation status	2001			2004–05
	Indigenous	Non-Indigenous	Ratio <sup>(a)</sup>	Indigenous
	%	%		%
<b>Self-reported status</b>				
<b>Immunisation records not available</b>				
Fully immunised	88	92	1.0	89
Partially immunised	6 <sup>(b)</sup>	3	2.1	7 <sup>(b)</sup>
Not immunised	3 <sup>(c)</sup>	5 <sup>(b)</sup>	0.7	2 <sup>(c)</sup>
Not known if immunised	2 <sup>(c)</sup>	1 <sup>(b)</sup>	2.7	2 <sup>(b)</sup>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
<b>Immunisation records available</b>				
Fully immunised	94	97	1.0	93
Partially immunised	4 <sup>(b)</sup>	2	1.9	7 <sup>(d)</sup>
Not immunised	n.p.	1 <sup>(b)</sup>	—	—
Not known if immunised	n.p.	— <sup>(b)</sup>	—	—
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
<b>Status for selected vaccinations<sup>(f)(g)</sup></b>				
<b>Diphtheria, tetanus</b>				
Fully immunised	79	85	0.9	78
Partially immunised	19	14	1.4	16
Not immunised	1 <sup>(c)</sup>	1 <sup>(b)</sup>	1.4	— <sup>(c)</sup>
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
<b>Whooping cough</b>				
Fully immunised	74	79	0.9	74
Partially immunised	24	19	1.3	23
Not immunised	1 <sup>(c)</sup>	1	1.3	1 <sup>(b)</sup>
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
<b>Hepatitis B<sup>(d)</sup></b>				
Fully immunised	78	78	1.0	82
Partially immunised	18 <sup>(b)</sup>	16	1.1	12
Not immunised	n.p.	3 <sup>(b)</sup>	n.p.	1 <sup>(c)</sup>
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
<b>Polio</b>				
Fully immunised	88	90	1.0	78
Partially immunised	9 <sup>(b)</sup>	8	1.2	18
Not immunised	2 <sup>(c)</sup>	1	1.3	2 <sup>(b)</sup>
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>

*(continued)*

**Table 3.02.1 (continued): Immunisation status of children aged 0–6 years, by Indigenous status, non-remote areas, 2001 and 2004–05**

Immunisation status	2001			2004–05
	Indigenous	Non-Indigenous	Ratio <sup>(a)</sup>	Indigenous
	%	%		%
<b>HIB</b>				
Fully immunised	67	82	0.8	72
Partially immunised	16	9	1.8	15
Not immunised	13 <sup>(b)</sup>	5	2.7	8
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
<b>Measles, mumps, rubella</b>				
Fully immunised	88	90	1.0	84
Partially immunised	5 <sup>(b)</sup>	7	0.7	10 <sup>(b)</sup>
Not immunised	6 <sup>(b)</sup>	2	2.4	4 <sup>(b)</sup>
<b>Total<sup>(e)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>

(a) Ratio—immunisation rate for Indigenous children divided by immunisation rate for non-Indigenous children.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Introduced in the recommended immunisation schedule from 1 May 2000 and therefore only applies to children born from that date.

(e) Includes immunisation status not known.

(f) Children who had immunisation records available.

(g) Status derived based on schedule started.

Source: ABS 2006 (2001 National Health Survey and 2004–05 NATSIHS).

**Table 3.02.2: Factors influencing decision to immunise children aged 0–6 years, by Indigenous status, 2001 and 2004–05**

Factors influencing decision to immunise	2001		Rate ratio <sup>(a)</sup>	2004–05
	Indigenous (non-remote)	Non-Indigenous		Indigenous (non-remote)
	%	%		%
For child's health	88	91	1.0	88
The right thing to do	45	49	0.9	51
Child must be immunised to go to child care/school	23	25	0.9	29
More awareness of immunisation schedule	6 <sup>(b)</sup>	8	0.7	11
Reminder notification	5 <sup>(b)</sup>	3	2.0	8
Local access to clinic or doctor	4 <sup>(b)</sup>	3	1.2	6 <sup>(b)</sup>
Promotion through TV/radio/other media/clinic	3 <sup>(b)</sup>	4	0.9	5 <sup>(b)</sup>
Payment	0 <sup>(c)</sup>	1	0.3	3 <sup>(b)</sup>
Other	3 <sup>(b)</sup>	3	0.9	3 <sup>(b)</sup>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>
Total number	46,344	1,402,291	..	48,903

(a) Ratio Indigenous:non-Indigenous.

(b) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Note: The sum of components will add to more than 100% as more than one factor can be reported.

Source: ABS and AIHW analysis of 2001 National Health Survey (Indigenous supplement) and 2004–05 NATSIHS.

## Adult immunisation

Data on immunisation of Indigenous persons aged 50 years and over come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey and are presented below.

### Immunisation status by sex and Indigenous status

- In 2004–05, approximately 60% of Indigenous persons aged 50 years and over had been vaccinated against influenza in the last 12 months and 15% had been vaccinated against influenza but not in the last 12 months. These proportions were higher than those reported in 2001 (51% and 10% respectively) (Table 3.02.3).
- A slightly higher proportion of Indigenous females aged 50 years and over had been vaccinated against influenza in the last 12 months (61%) than Indigenous males (58%).
- A significantly higher proportion of Indigenous persons aged 50 years and over in remote areas had been vaccinated against influenza in the last 12 months (80%) than in non-remote areas (52%).
- In 2004–05, approximately 34% of Indigenous persons aged 50 years and over had been vaccinated against pneumonia in the last 5 years, which was significantly higher than the proportion recorded in 2001 (25%).
- A higher proportion of Indigenous females aged 50 years and over had been vaccinated against pneumonia in the last 5 years (37%) than Indigenous males (31%).

- Indigenous persons aged 50 years and over in remote areas were more than twice as likely to have been vaccinated against pneumonia in the last 5 years as Indigenous persons in non-remote areas (56% compared to 26%).
- In 2004–05, a higher proportion of Indigenous persons aged 65 years and over had been vaccinated against influenza and pneumonia (84% and 48% respectively) than non-Indigenous persons of the same age (73% and 43% respectively) (Table 3.02.4).
- However, comparisons of vaccination coverage among Indigenous and non-Indigenous Australians for pneumococcal and influenza need to take into account differences in the age at which vaccinations are funded and provided free to charge for the different population groups. The National Indigenous Pneumococcal and Influenza Immunisation Program provides free pneumococcal and influenza vaccines for all Indigenous people aged 50 years and over and those in the 15–49 years age group who are deemed at ‘high risk’ (for example, those with debilitating diseases or illnesses). For all other Australians, vaccinations are recommended and provided free of charge from the age of 65 years. In 2004–05, a lower proportion of Indigenous persons aged 50 years and over had been vaccinated against influenza and pneumonia in the last 12 months (60% and 34% respectively) than non-Indigenous persons aged 65 years and over (73% and 43% respectively) (Figure 3.02.1).

**Table 3.02.3: Immunisation status, by sex and remoteness, Indigenous persons aged 50 years and over, 2001 and 2004–05**

Immunisation status	2001			2004–05		
	Remote	Non-remote	Total	Remote	Non-remote	Total
<b>Per cent</b>						
<b>Males</b>						
Had vaccination for influenza in last 12 months	75	39	46	81	49	58
Had vaccination for influenza but not in last 12 months	5 <sup>(a)</sup>	14 <sup>(b)</sup>	12 <sup>(b)</sup>	8 <sup>(b)</sup>	18	15
Never had vaccination for influenza	19 <sup>(b)</sup>	46	40	10	32	26
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Had vaccination for pneumonia in last 5 years	58	16 <sup>(b)</sup>	24	53	23	31
Had vaccination for pneumonia but not in last 5 years	n.p.	8 <sup>(a)</sup>	6 <sup>(a)</sup>	—	n.p.	n.p.
Never had vaccination for pneumonia	34 <sup>(b)</sup>	74	66	38	70	61
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Females</b>						
Had vaccination for influenza in last 12 months	74	51	56	80	54	61
Had vaccination for influenza but not in last 12 months	6 <sup>(b)</sup>	9 <sup>(b)</sup>	8 <sup>(b)</sup>	8 <sup>(b)</sup>	17	15
Never had vaccination for influenza	13 <sup>(b)</sup>	40	34	12	28	24
<b>Total<sup>(d)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Had vaccination for pneumonia in last 5 years	39	22	26	59	28	37
Had vaccination for pneumonia but not in last 5 years	—	n.p.	n.p.	—	1 <sup>(a)</sup>	1 <sup>(a)</sup>
Never had vaccination for pneumonia	41	76	68	36	65	56
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Persons</b>						
Had vaccination for influenza in last 12 months	75	45	51	80	52	60
Had vaccination for influenza but not in last 12 months	6 <sup>(a)</sup>	11	10	8	18	15
Never had vaccination for influenza	16 <sup>(b)</sup>	43	37	11	30	25
<b>Total<sup>(d)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Had vaccination for pneumonia in last 5 years	48	19	25	56	26	34
Had vaccination for pneumonia but not in last 5 years	n.p.	4 <sup>(a)</sup>	3 <sup>(a)</sup>	—	1 <sup>(b)</sup>	1 <sup>(b)</sup>
Never had vaccination for pneumonia	38	75	67	37	67	58
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

(continued)



**Table 3.02.3 (continued): Immunisation status, by sex and remoteness, Indigenous persons aged 50 years and over, 2001 and 2004–05**

- (a) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.  
 (b) Estimate has a relative standard error of 25% to 50% and should be used with caution.  
 (c) Includes 'pneumonia vaccination status' not known and not applicable.  
 (d) Includes 'influenza vaccination status' not known and not applicable.

Source: 2004–05 NATSIHS.

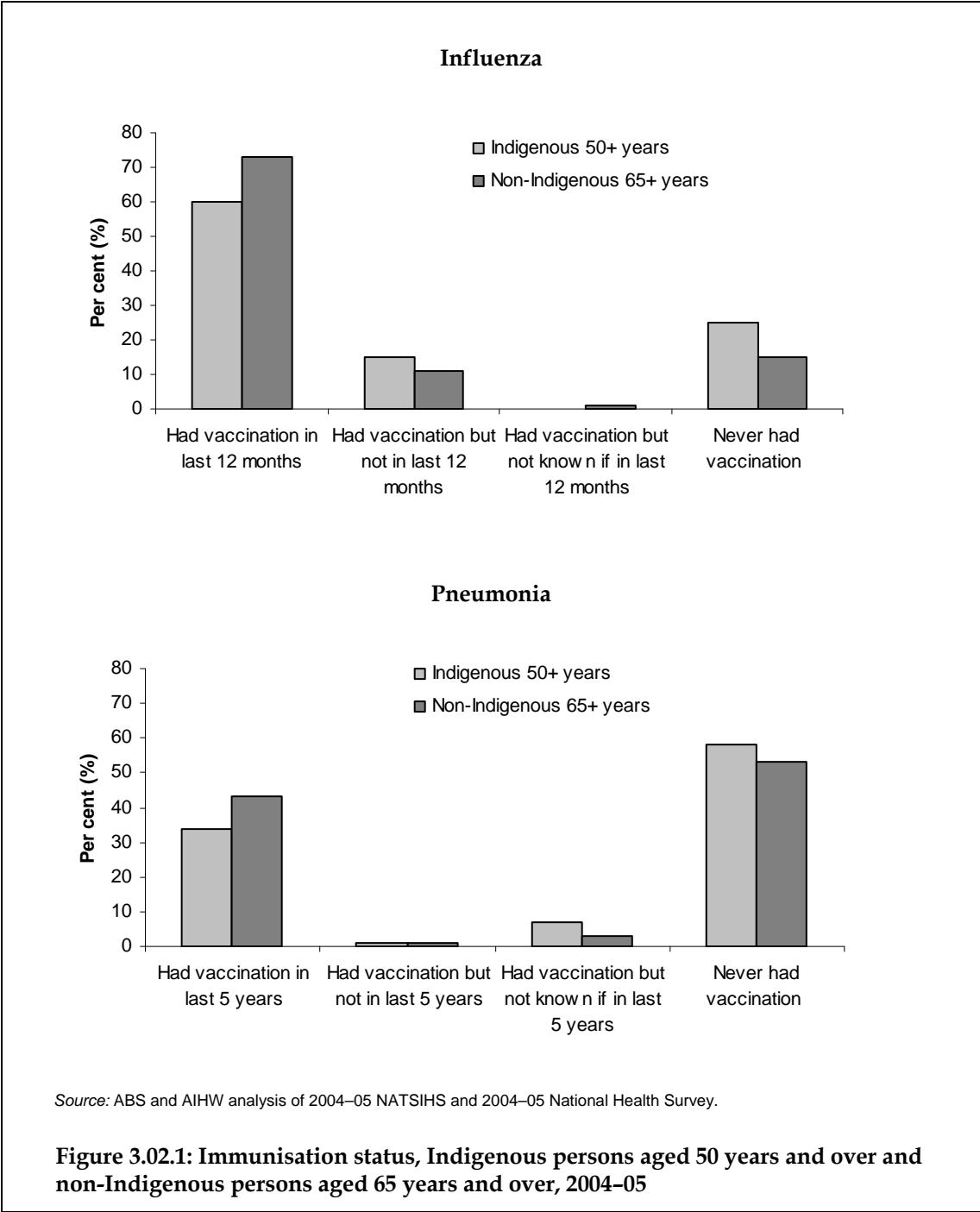
**Table 3.02.4: Immunisation status, Indigenous persons aged 50 years and over and non-Indigenous persons aged 65 years and over, 2004–05**

Immunisation status	Indigenous		Non-Indigenous
	50–64 years	65+ years	65+ years
	(per cent)		
Had vaccination for influenza in last 12 months	52	84	73
Had vaccination for influenza but not in last 12 months	18	7 <sup>(a)</sup>	11
Had influenza vaccination but not known if in last 12 months <sup>(b)</sup>	0 <sup>(a)</sup>	1 <sup>(c)</sup>	1 <sup>(a)</sup>
Never had vaccination for influenza	30	9 <sup>(a)</sup>	15
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>
Had vaccination for pneumonia in last 5 years	30	48	43
Had vaccination for pneumonia but not in last 5 years	1 <sup>(a)</sup>	n.p.	1
Had vaccination for pneumonia but not known if in last 5 years <sup>(d)</sup>	7	n.p.	3
Never had vaccination for pneumonia	63	45	53
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Total number</b>	36,917	12,237	2,430,253

n.p. Not for publication.

- (a) Estimate has a relative standard error of 25% to 50% and should be used with caution.  
 (b) Includes not known if ever had influenza vaccination.  
 (c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.  
 (d) Includes not known if ever had pneumonia vaccination.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.



**Immunisation status by access to health care and selected population characteristics**

- In 2004–05, over half of all Indigenous Australians who had never been vaccinated against influenza or pneumonia had accessed health care in the last 2 weeks (53% and 58% respectively). Approximately 25% of Indigenous Australians who had never been vaccinated against influenza had been admitted to hospital in the last 12 months and 26% had consulted with other health professionals in the last 2 weeks. Approximately 26% of Indigenous people aged 50 years and over who had never been vaccinated against pneumonia had been admitted to hospital in the last 12 months, 34% had

consulted with a doctor in the last 2 weeks and 22% had consulted with other health professionals (Table 3.02.5).

- A higher proportion of Indigenous Australians who spoke a language other than English at home had had an influenza vaccination in the last 12 months and a pneumonia vaccination in the last 5 years than Indigenous Australians who spoke English as their main language at home (Table 3.02.6). Indigenous Australians who were in the lowest quintile of household income and index of disparity and were renters were more likely to have had influenza and pneumonia vaccinations than those in the highest quintiles of income and disparity and who were home owners.

**Table 3.02.5: Immunisation status, by access to health care, Indigenous persons aged 50 years and over, non-remote areas 2004–05<sup>(a)</sup>**

Accessing health care <sup>(b)</sup>	Influenza				Pneumonia			
	Had vaccination in last 12 months	Had vaccination but not in last 12 months	Never had vaccination	Total	Had vaccination in last 5 years	Had vaccination but not in last 5 years	Never had vaccination	Total
	Per cent							
Admitted to hospital	30	28 <sup>(c)</sup>	25 <sup>(c)</sup>	28	33	56 <sup>(d)</sup>	26	28
Visited casualty	3 <sup>(c)</sup>	1 <sup>(d)</sup>	0 <sup>(d)</sup>	2 <sup>(c)</sup>	2 <sup>(c)</sup>	0	2 <sup>(c)</sup>	2 <sup>(c)</sup>
Visited outpatients	8	8 <sup>(d)</sup>	3 <sup>(c)</sup>	7	9 <sup>(c)</sup>	0	5 <sup>(c)</sup>	7
Visited day clinic	6 <sup>(c)</sup>	3 <sup>(d)</sup>	3 <sup>(d)</sup>	4	8 <sup>(c)</sup>	7 <sup>(d)</sup>	3 <sup>(c)</sup>	4
Doctor consultation (GP)	45	30	29	37	43	61 <sup>(d)</sup>	34	37
Specialist consultation	12 <sup>(c)</sup>	14 <sup>(c)</sup>	4 <sup>(c)</sup>	10	12 <sup>(c)</sup>	8 <sup>(d)</sup>	9 <sup>(c)</sup>	10
Dental consultation	6 <sup>(c)</sup>	1 <sup>(d)</sup>	5 <sup>(d)</sup>	5 <sup>(c)</sup>	4 <sup>(c)</sup>	0	6 <sup>(c)</sup>	5 <sup>(c)</sup>
Consultation with other health professional	20	17 <sup>(c)</sup>	26 <sup>(c)</sup>	21	20	13 <sup>(d)</sup>	22	21
<b>Total accessing health care<sup>(e)</sup></b>	<b>67</b>	<b>55</b>	<b>53</b>	<b>61</b>	<b>67</b>	<b>71<sup>(d)</sup></b>	<b>58</b>	<b>61</b>
Not accessing /not stated	33	45	47	39	33	29 <sup>(d)</sup>	42	39
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number	18,119	6,224	10,599	35,128	8,963	304	23,498	35,128

(a) Self-reported data from the 2004–05 NATSIHS.

(b) Health-related actions in last 2 weeks except hospital admissions (in last 12 months).

(c) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(e) Components may not add to total as persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS

**Table 3.02.6: Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05**

Accessing health care <sup>(a)</sup>	Influenza				Pneumonia			
	Had vaccination in last 12 months	Had vaccination but not in last 12 months <sup>(b)</sup>	Never had vaccination	Total <sup>(c)</sup>	Had vaccination in last 5 years	Had vaccination but not in last 5 years <sup>(d)</sup>	Never had vaccination	Total <sup>(e)</sup>
per cent								
<b>Main language spoken at home</b>								
English	55	17	28	100	29	1 <sup>(f)</sup>	63	100
Language other than English	84	5 <sup>(f)</sup>	11 <sup>(f)</sup>	100	60	—	33	100
<b>Household income</b>								
1st quintile	66	13	20	100	39	n.p.	54	100
4th and 5th quintile	41	23 <sup>(f)</sup>	36	100	19 <sup>(f)</sup>	n.p.	76	100
<b>Index of disparity</b>								
1st quintile	63	16	20	100	38	n.p.	54	100
5th quintile	46 <sup>(g)</sup>	3 <sup>(g)</sup>	51 <sup>(g)</sup>	100	10 <sup>(g)</sup>	n.p.	90 <sup>(f)</sup>	100
<b>Location</b>								
Remote	80	8	11	100	56	— <sup>(f)</sup>	37	100
Non-remote	52	18	30	100	26	1 <sup>(f)</sup>	67	100
<b>Private health insurance</b>								
With private cover	38 <sup>(f)</sup>	19 <sup>(f)</sup>	43 <sup>(f)</sup>	100	16 <sup>(f)</sup>	n.p.	80	100
Without private cover	54	18	28	100	27	1 <sup>(f)</sup>	65	100
<b>Employment</b>								
Employed CDEP	71	14 <sup>(g)</sup>	14 <sup>(f)</sup>	100	52	—	41	100
Employed non-CDEP	41	21	38	100	18	1 <sup>(g)</sup>	75	100
<i>Subtotal employed</i>	47	19	33	100	25	1 <sup>(g)</sup>	68	100
Unemployed	75 <sup>(g)</sup>	8 <sup>(g)</sup>	17 <sup>(g)</sup>	100	25 <sup>(g)</sup>	—	75 <sup>(f)</sup>	100
Not in the labour force	65	13	21	100	39	—	53	100
<b>Housing tenure type</b>								
Owner	42	14	43	100	18	n.p.	77	100
Renter	67	15	17	100	42	1 <sup>(f)</sup>	50	100
Other <sup>(h)</sup>	68 <sup>(f)</sup>	16 <sup>(g)</sup>	15 <sup>(g)</sup>	100	40 <sup>(f)</sup>	n.p.	56 <sup>(f)</sup>	100

(continued)

**Table 3.02.6 (continued): Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05**

Accessing health care <sup>(a)</sup>	Influenza				Pneumonia			
	per cent							
	Had vaccination in last 12 months	Had vaccination but not in last 12 months <sup>(b)</sup>	Never had vaccination	Total <sup>(c)</sup>	Had vaccination in last 5 years	Had vaccination but not in last 5 years <sup>(d)</sup>	Never had vaccination	Total <sup>(e)</sup>
per cent								
<b>Treatment when seeking health care in last 12 months compared to non-Indigenous people</b>								
Worse	55 <sup>(f)</sup>	26 <sup>(f)</sup>	19 <sup>(f)</sup>	100	46 <sup>(f)</sup>	n.p.	46 <sup>(f)</sup>	100
The same or better	62	13	25	100	36	1 <sup>(g)</sup>	58	100
Other <sup>(a)</sup>	42	28 <sup>(f)</sup>	28 <sup>(f)</sup>	100	18	n.p.	68	100
<b>Total</b>	<b>60</b>	<b>15</b>	<b>25</b>	<b>100</b>	<b>34</b>	<b>1<sup>(f)</sup></b>	<b>58</b>	<b>100</b>
Total number	29,394	7,397	12,173	49,154	16,880	28,695	304	49,154

n.p. Not for publication.

(a) Includes 'don't know' responses.

(b) Includes 'Had influenza vaccination but not known if in the last twelve months'.

(c) Includes not known if ever had influenza vaccination and not applicable responses.

(d) Includes 'Had pneumonia vaccination but not known if in the last twelve months'.

(e) Includes not known if ever had pneumonia vaccination and not applicable responses.

(f) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(g) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(h) Includes life tenure scheme, participant or rent/buy scheme, boarder, rent free, other and not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

### How influenza vaccination was obtained

- In 2004–05, for approximately 43% of Indigenous Australians aged 50 years and over in non-remote areas, influenza vaccination was provided free of charge (Table 3.02.7). In 2001, approximately 30% of Indigenous Australians aged 50 years and over in non-remote areas received influenza vaccinations free of charge compared to 67% of non-Indigenous Australians.



- In South Australia and Western Australia, Indigenous children aged 1 year had lower coverage for all vaccines than non-Indigenous children (Table 3.02.9). In New South Wales, Victoria and the Northern Territory, coverage rates were similar.
- Vaccination coverage for all vaccines for Indigenous children aged 2 years ranged from 88% in Western Australia to 93% in Victoria (Table 3.02.10).
- Vaccination coverage rates were similar for Indigenous and non-Indigenous children aged 2 years in each state and territory.
- Vaccination coverage rates for all vaccines for Indigenous children aged 6 years ranged from 79% in Western Australia to 89% in the Northern Territory (Table 3.02.11).
- Vaccination coverage rates were similar for Indigenous and non-Indigenous children aged 6 years in each state and territory.

**Table 3.02.8: Vaccination coverage estimates for children at age 1, 2 and 6 years, by Indigenous status, NSW, Vic, WA, SA and NT, as at 31 December 2005<sup>(a)(b)</sup>**

Vaccine	1 year			2 years			6 years		
	Indigenous	Non-Indigenous	Ratio <sup>(c)</sup>	Indigenous	Non-Indigenous	Ratio <sup>(c)</sup>	Indigenous	Non-Indigenous	Ratio <sup>(c)</sup>
	%	%		%	%		%	%	
Hepatitis B	93.9	94.8	1.0	97.9	95.9	1.0	—	—	—
DTP (diphtheria, tetanus and pertussis)	86.0	92.6	0.9*	94.9	95.2	1.0	85.3	85.5	1.0
OPV (oral polio vaccine)	85.6	92.5	0.9*	94.7	95.2	1.0	85.6	85.7	1.0
HIB (Haemophilus influenza type B)	93.1	94.5	1.0	91.6	93.6	1.0	—	—	—
MMR (measles, mumps, rubella)	0.0	0.0	—	93.1	93.8	1.0	85.4	85.7	1.0
<b>All vaccines</b>	<b>84.6</b>	<b>91.1</b>	<b>0.9*</b>	<b>89.9</b>	<b>92.1</b>	<b>1.0</b>	<b>84.3</b>	<b>84.6</b>	<b>1.0</b>

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Three-month cohorts, for cohorts born between 1 July and 30 September 2004, 1 July and 30 September 2003, and 1 July and 30 September 1999 respectively.

(b) Includes data from NSW, Vic, WA, SA and NT only.

(c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for non-Indigenous children.

Note: Data for Victoria contain an error in the number of Aboriginal children aged 72–75 months appearing on the register.

Source: AICR, Medicare Australia.



**Table 3.02.9: Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 1 year of age, by Indigenous status, NSW, Vic, WA, SA and NT, as at 31 December 2005<sup>(a)</sup>**

Vaccines	State/territory																	
	NSW			Vic			WA			SA			NT			NSW, Vic, WA, SA, NT <sup>(b)</sup>		
	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>
	%	%		%	%		%	%		%	%		%	%		%	%	
Hepatitis B	96.0	95.2	1.0	94.2	94.9	1.0	90.8	93.2	1.0	90.1	95.0	0.9	93.4	95.9	1.0	93.9	94.8	1.0
DTP (diphtheria, tetanus and pertussis)	88.9	92.4	1.0	88.4	93.5	0.9	80.0	91.1	0.9*	76.0	92.4	0.8	87.6	93.5	0.9	86.0	92.6	0.9*
OPV (oral polio vaccine)	88.4	92.2	1.0	88.9	93.4	1.0	79.2	91.0	0.9*	76.0	92.4	0.8	87.3	93.3	0.9	85.6	92.5	0.9*
HIB (Haemophilus influenza type B)	95.0	94.2	1.0	93.7	95.1	1.0	90.5	93.4	1.0	88.4	94.7	0.9	92.8	95.5	1.0	93.1	94.5	1.0
MMR (measles, mumps, rubella)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<b>All vaccines</b>	<b>87.6</b>	<b>90.8</b>	<b>1.0</b>	<b>86.5</b>	<b>92.0</b>	<b>0.9</b>	<b>78.1</b>	<b>89.4</b>	<b>0.9*</b>	<b>74.4</b>	<b>91.7</b>	<b>0.8*</b>	<b>86.7</b>	<b>92.5</b>	<b>0.9</b>	<b>84.6</b>	<b>91.1</b>	<b>0.9*</b>

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2004.

(b) Data for these five jurisdictions should not be assumed to represent the immunisation experience in the other jurisdictions.

(c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for non-Indigenous children.

Note: Includes data from NSW, Vic, WA, SA and NT only.

Source: ACIR, Medicare Australia.

**Table 3.02.10: Vaccination coverage estimates for selected diseases for children 'fully vaccinated' at 2 years of age, by Indigenous status, NSW, Vic, WA, SA and NT, as at 31 December 2005 <sup>(a)</sup>**

Vaccines	State/territory																	
	NSW			Vic			WA			SA			NT			NSW, Vic, WA, SA, NT <sup>(b)</sup>		
	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>	Indig.	Non-Indig.	Ratio <sup>(c)</sup>
	%	%		%	%		%	%		%	%		%	%		%	%	
Hepatitis B	97.6	95.7	1.0	98.6	96.1	1.0	98.6	96.1	1.0	98.5	96	1.0	97.6	97.4	1.0	97.9	95.9	1.0
DTP (diphtheria, tetanus and pertussis)	94.3	95.1	1.0	95.7	95.4	1.0	95.2	95.2	1.0	94.7	95.5	1.0	96.1	96.6	1.0	94.9	95.2	1.0
OPV (oral polio vaccine)	94.3	94.9	1.0	95.7	95.4	1.0	94.9	95.2	1.0	93.9	95.4	1.0	95.5	96.4	1.0	94.7	95.2	1.0
HIB (Haemophilus influenza type B)	91.6	93.3	1.0	93.4	93.8	1.0	89.5	93.4	1.0	90.2	94.1	1.0	93.4	95.3	1.0	91.6	93.6	1.0
MMR (measles, mumps, rubella)	91.8	93.4	1.0	95.3	94.2	1.0	93.5	93.8	1.0	93.2	94.3	1.0	94.3	95.5	1.0	93.1	93.8	1.0
<b>All vaccines</b>	<b>89.1</b>	<b>91.8</b>	<b>1.0</b>	<b>92.9</b>	<b>92.5</b>	<b>1.0</b>	<b>88.4</b>	<b>91.6</b>	<b>1.0</b>	<b>90.2</b>	<b>92.7</b>	<b>1.0</b>	<b>91.6</b>	<b>94.1</b>	<b>1.0</b>	<b>89.9</b>	<b>92.1</b>	<b>1.0</b>

(a) Three-month cohort, for cohort born between 1 July and 30 September 2003.

(b) Data for these five jurisdictions should not be assumed to represent the immunisation experience in the other jurisdictions.

(c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for non-Indigenous children.

Note: Includes data from NSW, Vic, WA, SA and NT only.

Source: ACIR, Medicare Australia.

**Table 3.02.11: Vaccination coverage estimates for selected diseases for children ‘fully vaccinated’ at 6 years of age, by Indigenous status, NSW, Vic, WA, SA and NT, as at 31 December 2005<sup>(a)</sup>**

Vaccines	State/territory																	
	NSW			Vic <sup>(b)</sup>			WA			SA			NT			NSW, Vic, WA, SA,NT <sup>(c)</sup>		
	Indig.	Non-Indig.	Rate ratio <sup>(d)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(d)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(d)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(d)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(d)</sup>	Indig.	Non-Indig.	Rate ratio <sup>(d)</sup>
	%	%		%	%		%	%		%	%		%	%		%	%	
Hepatitis B	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
DTP (diphtheria, tetanus and pertussis)	84.9	85.7	1.0	88.6	88.0	1.0	80.5	80.9	1.0	86.4	82.7	1.0	90.7	81.1	1.1	85.3	85.5	1.0
OPV (oral polio vaccine)	85.4	85.8	1.0	88.3	88.2	1.0	80.5	81.3	1.0	86.4	82.7	1.0	91.8	82.8	1.1	85.6	85.7	1.0
HIB (Haemophilus influenza type B)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MMR (measles, mumps, rubella)	84.9	85.7	1.0	88.8	88.3	1.0	80.9	81.1	1.0	85.5	82.9	1.0	91.0	82.4	1.1	85.4	85.7	1.0
<b>All vaccines</b>	<b>84.0</b>	<b>84.7</b>	<b>1.0</b>	<b>88.1</b>	<b>87.3</b>	<b>1.0</b>	<b>79.2</b>	<b>79.6</b>	<b>1.0</b>	<b>85.0</b>	<b>81.7</b>	<b>1.0</b>	<b>89.2</b>	<b>80.0</b>	<b>1.1</b>	<b>84.3</b>	<b>84.6</b>	<b>1.0</b>

(a) Three-month cohort, for cohort born between 1 July and 30 September 2003.

(b) Data for Vic contain an error in the number of Aboriginal children aged 72–75 months appearing on the register. Vaccination coverage rates presented here should therefore be interpreted with caution. Vaccination coverage rates for all vaccines was reported as 87.3% for Aboriginal children and 86.1% for non-Aboriginal children in 2004–05 in the report, Victorian Government Department of Human Services 2006, *Aboriginal Services Plan key indicators 2004–05*.

(c) Data for these five jurisdictions should not be assumed to represent the immunisation experience in the other jurisdictions.

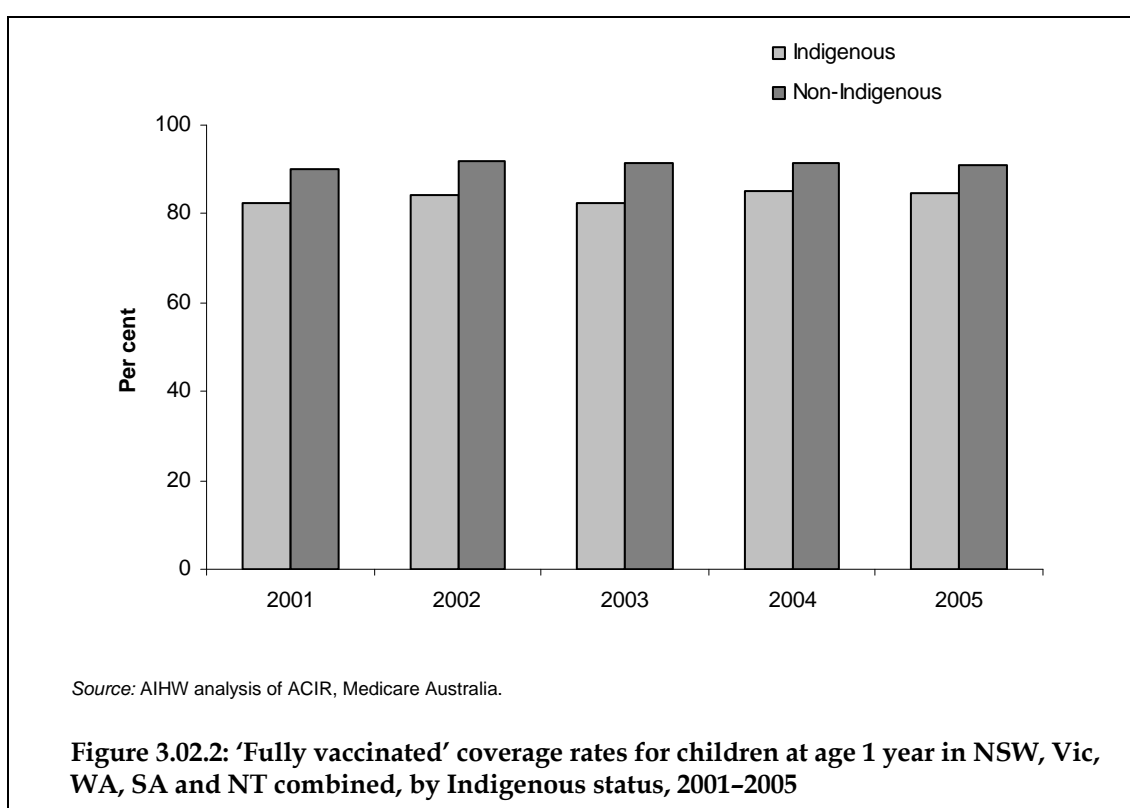
(d) Ratio—coverage estimate for Indigenous children divided by coverage estimate for non-Indigenous children.

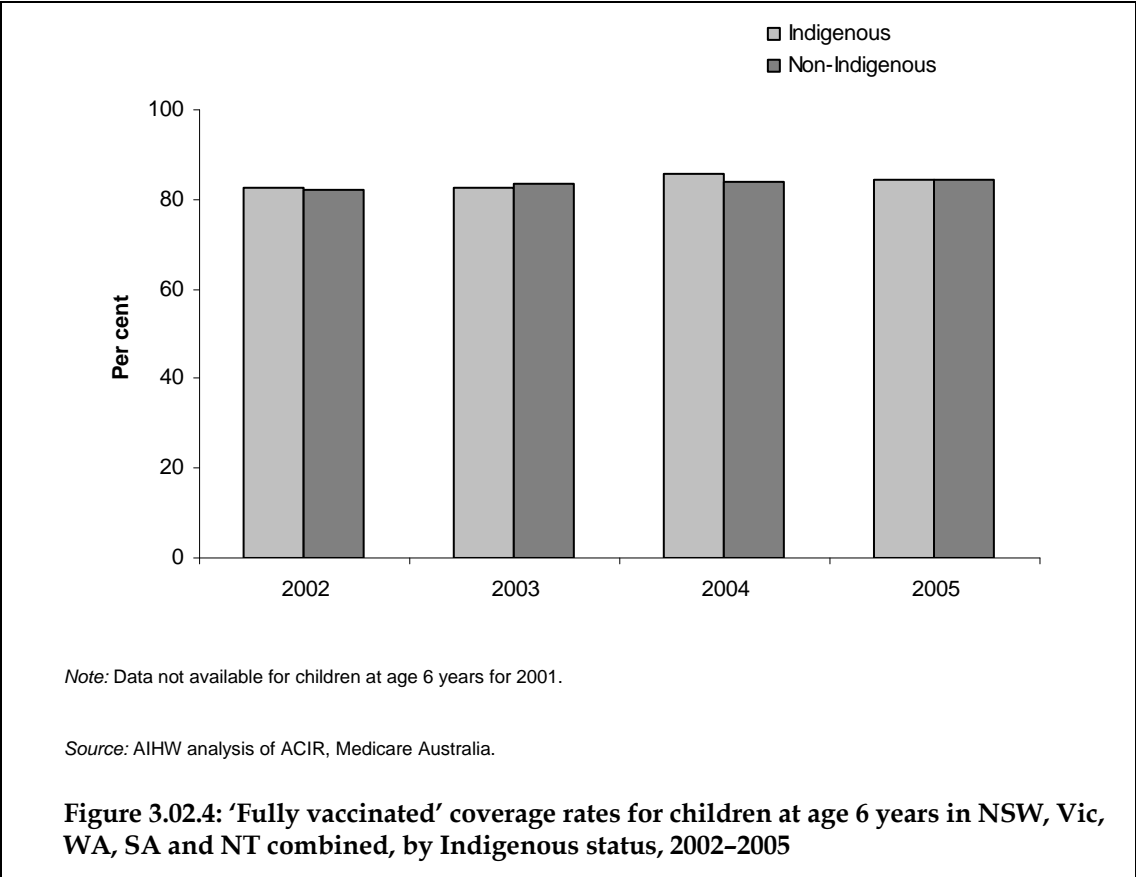
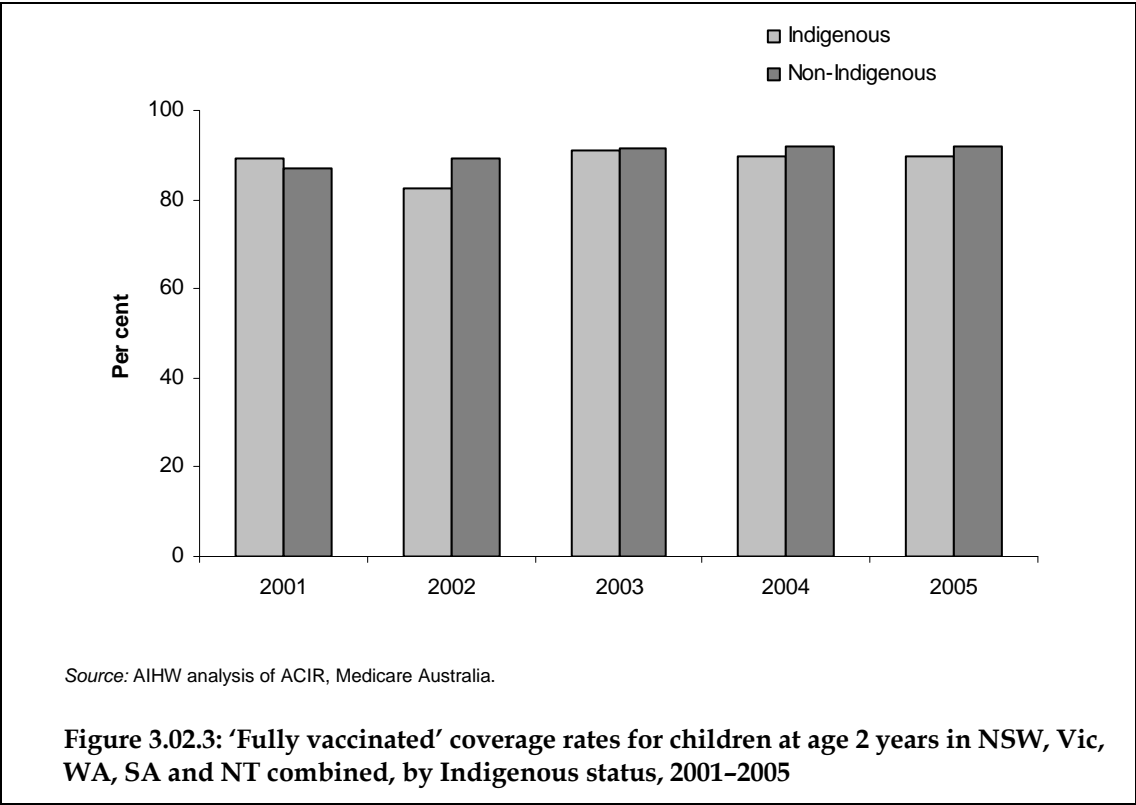
Note: Includes data from NSW, Vic, WA, SA and NT only.

Source: ACIR, Medicare Australia.

## Time series analyses

- Between 2001 and 2005 there were no significant changes in the proportion of Indigenous and non-Indigenous children who were fully vaccinated at 1 year of age (Figure 3.02.2).
- Between 2001 and 2005, there were non-significant increases in the proportion of Indigenous children who were fully immunised at 2 years of age and significant increases in the proportion of non-Indigenous children who were fully immunised at 2 years of age (Figure 3.02.3).
- Between 2002 and 2005, there were non-significant increases in the proportion of Indigenous children who were fully immunised at 6 years of age and significant increases in the proportion of non-Indigenous children who were fully immunised at 6 years of age (Figure 3.02.4).





## **Data quality issues**

### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

*The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians and thus overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.*

*Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.*

*Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in major cities, regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.*

*In remote communities there were some modifications to the NATSIHS content in order to address language and cultural appropriateness in traditional communities, as well as to assist respondents in understanding the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built in edit checks and sequencing.*

### **Immunisation data**

*The 2004–05 NATSIHS collected immunisation status data for Indigenous Australian children in non-remote areas only. The 2004–05 National Health Survey did not collect child immunisation data, therefore no comparative data are available for non-Indigenous children. The 2004–05 National Health Survey collected influenza and pneumococcal vaccination status data for all adults aged 50 years or more. The 2004–05 NATSIHS collected influenza and pneumococcal vaccination data for persons aged 15 years and over.*

*Further information on NATSIHS data quality issues can be found in the national publication (ABS 2006).*

### **Australian Childhood Immunisation Register**

#### **Registrations**

*The ACIR was established in 1996. When a vaccination is given to a child, details of that vaccination are sent to the Register by the immunisation provider. These details can be sent via a number of means:*

- *Medicare Australia online claiming – a software application that allows the transmission of ACIR data via the immunisation provider's desktop software*
- *the internet – approved immunisation providers can record an immunisation encounter through the ACIR secure area within Medicare Australia's website*
- *electronically – by using electronic data interchange*
- *manually – by completing either an immunisation encounter form or an immunisation history form and sending it to Medicare Australia.*

*(continued)*

### **Data quality issues (continued)**

*Some immunisation providers send vaccination details to the ACIR via their state or territory health department. Immunisation providers are encouraged to send vaccination details to the Register on a weekly basis (Australian Government: Medicare Australia 2006).*

*The ACIR automatically includes all children aged under seven years who are enrolled in Medicare as its denominator to calculate vaccine coverage rate (ABS and AIHW 2006). It is estimated that approximately 99% of children are registered with Medicare by twelve months of age. However, it is not currently possible to accurately determine whether this is true of the Indigenous Australian child population, or whether Indigenous Australian children are less likely to be enrolled in Medicare. Children not registered with Medicare are added to the ACIR when details of an eligible immunisation are supplied by a recognised immunisation provider (DoHA 2006).*

#### **Indigenous status question**

*Indigenous identification is collected via a 'yes/no' flag on immunisation encounter forms, and through Medicare offices when any changes are made to personal details. Medicare uses the standard definition of Indigenous status, however, these details are converted to a 'yes' or 'no' when reports on vaccination coverage are produced from the ACIR. The immunisation encounter form method of Indigenous identification is voluntary and relies on the immunisation provider seeking the information. Improving Indigenous identification on the ACIR database is an issue currently being investigated by the Australian Government.*

#### **Under-identification**

*General limitations of data available from the ACIR must be considered when used to estimate vaccination coverage. A study conducted in 2001 found that the ACIR underestimated overall Australian immunisation coverage by 2.7% at 12 months of age and 5% at 24 months (Hull et al. 2004). However, for Indigenous Australian children these estimates may not be valid, as there is the issue of both under-reporting of vaccinations given to the ACIR and incomplete identification of Indigenous Australian children. This means that ACIR coverage estimates could overestimate or underestimate coverage, depending on whether those children not identified as Indigenous Australian have higher or lower than average vaccination coverage. The ACIR holds records only for children up to 7 years of age.*

*At the time of writing its report Vaccine preventable diseases and vaccination coverage in Aboriginal and Torres Strait Islander people, Australia 1999 to 2002 the National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases stated that: 'Indigenous status is currently either not routinely reported or not transferred to the ACIR from the Australian Capital Territory, Queensland and Tasmania, so these jurisdictions were not included in this report' (Menzies et al. 2004).*

*Vaccination coverage data from the ACIR and the NATSIHS are not directly comparable due to the differences in the cohort used, population coverage, data collection method, method of calculating 'fully immunised' and vaccines included.*

## **References**

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ABS and AIHW (Australian Bureau of Statistics and Australian Institute of Health and Welfare) 2006. The health and welfare of Australia's Aboriginal and Torres Strait Islander peoples 2005. ABS cat. no. 4704.0; AIHW cat. no. IHW 14. Canberra: ABS and AIHW.

Australian Government: Medicare Australia. Information for immunisation providers 2006. Australian Government Medicare Australia, Canberra 2006. Viewed 30 June 2006, <[http://www.medicareaustralia.gov.au/providers/programs\\_services/acir/info\\_for\\_imm\\_providers.htm](http://www.medicareaustralia.gov.au/providers/programs_services/acir/info_for_imm_providers.htm)>.

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Menzies R, McIntyre P and Beard F (National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases) 2004. *Vaccine preventable diseases and vaccination coverage in Aboriginal and Torres Strait Islander people, Australia, 1999 to 2002*. *Communicable Diseases Intelligence* 28: Suppl. 1.



## 3.03 Early detection and early treatment

*The early detection and early treatment of disease among the Indigenous population measured by the health assessment and disease screening of Aboriginal and Torres Strait Islander peoples*

### Data sources

Data for this measure come from the Medicare database, the AIHW BreastScreen Australia database and the Service Activity Reporting (SAR) database.

#### Medicare database

Medicare enrolment application forms are lodged by the Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database which is held by the Department of Health and Ageing.

In November 2002, the ABS standard question on Indigenous identification was included on this form. Because the Indigenous identifier was only introduced recently, the coverage of Indigenous Australians in this dataset is not complete. Aboriginal and Torres Strait Islander persons who had identified as Indigenous in this database as at 1 July 2005 numbered 80,658.

#### BreastScreen Australia

The BreastScreen Australia program consists of a network of dedicated screening and assessment services throughout urban, rural and remote areas of all states and territories. The program provides free biennial mammographic screening and follow-up of any suspicious lesions identified at screening to the point of diagnosis. It is aimed specifically at asymptomatic women aged 50–69 years, with a participation target of 70%. However, women aged 40–49 years and 70 years and older are able to attend for screening (AIHW 2006a). The national program was established in 1991. It is funded through the Australian Government Department of Health and Ageing (DoHA) and each of the state and territory governments, and is administered through state coordination units. The AIHW monitors and reports biennially on the performance of BreastScreen Australia.

The standard ABS question is used to record Indigenous status in this database. 'Not stated' values for Indigenous status are not separately quantified but are included in the 'non-Indigenous' numbers.

The participation rate for Indigenous women in breast screening should be treated with caution as it is not known how many women do not report their Indigenous status.

#### Service Activity Reporting database

The Service Activity Reporting database (SAR) collects data from approximately 140 Australian Government funded Aboriginal and Torres Strait Islander primary health care services and is held at DoHA. It is estimated that these services provide GP services to around 40% of the Indigenous population. Service-level data on health care and health-related activities are collected by survey questionnaire over a 12-month period.

Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05.

It should be noted that the SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

## Analyses

### Medicare data

The Medicare database includes information on the number of health assessments for Indigenous and non-Indigenous Australians of different ages (Item numbers 704, 706, 708, 710, 700 and 702).

### Medicare Benefits Schedule health assessments/checks

Over the last few years, the Australian Government has introduced a number of new Indigenous health checks and health assessments within the Medicare Benefits Schedule (MBS) to help improve early intervention and diagnosis for treatable conditions. The MBS now provides items specifically for regular health checks or assessments for Aboriginal and Torres Strait Islander people of all ages.

A health assessment includes an assessment of a patient's health and physical, psychological and social function and whether preventative health care and education should be offered to the patient. The assessment must also include keeping a record of the health assessment and offering the patient a written report about the health assessment, with recommendations about matters covered by the health assessment.

- Annual health checks for Aboriginal and Torres Strait Islander children aged 0–14 years were only introduced into the MBS in May 2006. For the two month period May 2006 to June 2006, there were 423 health assessments of Indigenous children (a rate of 14 per 1,000 Indigenous children) (Table 3.03.1).
- Two yearly health checks for Aboriginal and Torres Strait Islander aged 15–54 years were introduced in the MBS in May 2004. Between July 2005 and June 2006, there were 8,747 health assessments of Indigenous Australians aged 15–54 years, which was a rate of 32 per 1,000 population. The rate at which Indigenous Australians aged 15–54 years received health assessments under the MBS ranged from 1 per 1,000 in Tasmania to 51 per 1,000 in the Northern Territory.
- Annual health assessments for Aboriginal and Torres Strait Islander Australians aged 55 years and over were introduced in November 1999. Between July 2005 and June 2006, there were 2,517 health assessments of Indigenous Australians aged 55 years and over (a rate of 69 per 1,000 population). The rate of MBS health assessments for Indigenous Australians aged 55 years and over ranged from 9 per 1,000 in the Australian Capital Territory to 80 per 1,000 in the Northern Territory.
- Over the two-year period 2004–2005, Indigenous Australians aged 55 years and over received MBS health assessments at a rate of 58 per 1,000. This was much lower than the rate at which all Australians aged 75 years and over received MBS health assessments during this period (175 per 1,000) (Table 3.03.2).
- The rate of MBS health assessments for Indigenous Australians aged 55 years and over increased between the first quarter of 2000 and the second quarter of 2006 (from 27 per

1,000 in January–March 2000 to 77 per 1,000 in April–June 2006). The average yearly increase in the rate was around 7 per 1,000 (Figure 3.03.1). The rate of MBS assessments for Indigenous Australians aged 15–54 years increased between the third quarter 2004 and the second quarter 2006 (from 232 per 1,000 to 264 per 1,000).

**Table 3.03.1: Medicare Benefits Schedule health assessments and health checks for Indigenous Australians aged 0–14 years, 15–54 years and 55 years and over, by state/territory, various years**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Aboriginal and Torres Strait Islander child health checks aged 0–14 years (MBS Item 708)<sup>(a)</sup></b>									
Number	166	9	124	70	6	0	0	48	423
Rate per 1,000	18.3	5.0	14.1	16.2	3.6	0.0	0.0	13.9	13.9
<b>Aboriginal and Torres Strait Islander health checks aged 15–54 years (MBS Item 710)<sup>(b)</sup></b>									
Number	1,658	386	2,752	1,667	452	10	9	1,813	8,747
Rate per 1,000	20.9	22.1	36.1	41.2	28.5	1.0	3.6	50.8	31.5
<b>Aboriginal and Torres Strait Islander Health Assessments aged 55 years and older (MBS Item 704/706)<sup>(c)</sup></b>									
Number	800	158	713	394	92	13	2	345	2,517
Rate per 1,000	71.5	69.2	75.5	76.0	45.1	9.8	9.4	79.6	69.8

(a) Child health checks commenced in May 2006 and therefore these data are only for the two-month period May and June 2006. Rates are calculated using the 2006 Indigenous population projections for those aged 0–14 years divided by 6 to calculate an estimate for May–June. Issues of take-up and administrative requirements will affect these data.

(b) These adult health checks were introduced in May 2004 as a biennial assessment. Data provided are for the period 1 July 2005 to 30 June 2006. Rates are calculated using the average of 2005 and 2006 Indigenous population projections for those aged 15–54 years. Monthly patterns of take-up for this item had become more stable by July 2005.

(c) Health assessments for older patients were introduced in November 1999. Data provided are for the period 1 July 2005 to 30 June 2006. Rates are calculated using the average of 2005 and 2006 Indigenous population projections for those aged 55 years and over.

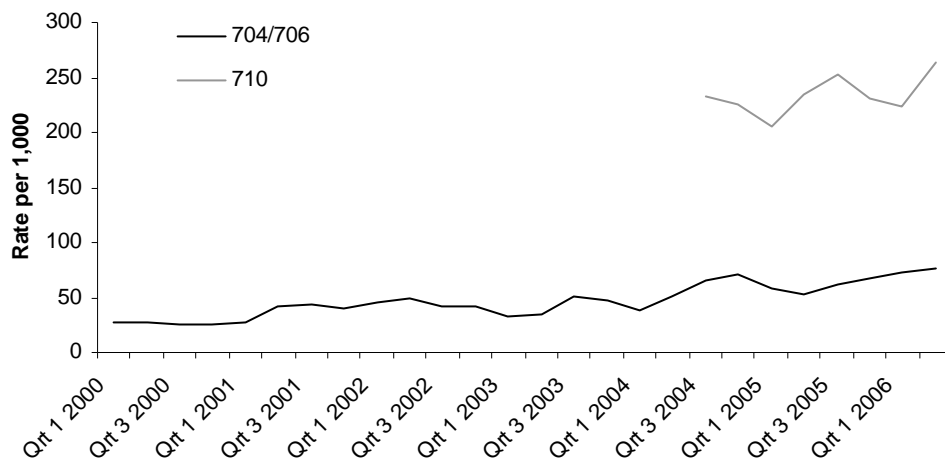
Source: AIHW analysis of Medicare data.

**Table 3.03.2: Health assessments for older patients: Indigenous persons 55 years and older and all Australians aged 75 years and older, 2004–2005**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
<b>Aboriginal and Torres Strait Islander health assessments aged 55 years and older (MBS Item 704/706)</b>									
Number	1,282	275	1,030	648	230	25	8	551	4,049
Rate per 1,000 <sup>(a)</sup>	59.2	63.0	56.5	64.9	58.3	9.8	20.4	66.2	58.2
<b>All Australian health assessments aged 75 years and older (MBS Item 700/702)</b>									
Number	162,235	107,777	81,475	27,260	42,848	11,860	3,105	90	436,650
Rate per 1,000 <sup>(a)</sup>	184.6	167.6	187.7	128.7	184.2	182.4	112.4	14.7	174.7

(a) Rates are calculated using the 2004 and 2005 Indigenous population projections for those aged 55 years and over and the total Australian population estimates for those aged 75 years and over.

Source: AIHW analysis of Medicare data.



#### Notes

1. Rates for Item 704/706 were calculated using the Indigenous population estimates for 2000–2006, divided by 4 to obtain quarterly rates for each year.
2. Rates for Item 710 were calculated using the Indigenous population estimates for 2004–2006, divided by 4 to obtain quarterly rates for each year.
3. The rate for Item 708 was calculated to be 69 per 1,000 for the two month period May 2006–June 2006.

Source: AIHW analysis of Medicare data.

**Figure 3.03.1: Rate of MBS health checks/assessments for Indigenous Australians aged 15–54 years (Item 710) and Indigenous Australians aged 55 years and over (Item 704/706), January–March 2000 to April–June 2006**

## Breast screening

BreastScreen Australia, jointly funded by the Australian, state and territory governments, undertakes nationwide breast cancer screening. It targets women aged 50–69 years for screening once every two years. The program aims to have 70% or more of women aged 50–69 years participating in screening over a 24-month period. All recruitment activities undertaken by BreastScreen Australia specifically target women in this age group, although women aged 40–49 years and those over 70 years may also use the service.

- Of the 1,618,306 women aged 40 years and over participating in screening through the BreastScreen Australia program in 2002–2003, there were 12,354 (0.8%) who identified themselves as Aboriginal or Torres Strait Islander. While 29,380 women in 2002–2003 were classified as not stating their Indigenous status, the true figure is higher because some jurisdictions classified these women as ‘non-Indigenous’ (AIHW 2006b).
- For the two-year period 2003–2004, the participation rate for BreastScreen Australia programs was highest among those aged 60–69 years for Indigenous women. The participation rate measures the proportion of the eligible population attending the screening program within a 24-month period.
- The age-standardised participation rate for Indigenous women aged 50–69 years was 38% which was also markedly lower than the national rate for all females in that age group (55%). The participation rate for Indigenous women aged 40 years and over was

also lower than for non-Indigenous women of the same age (26% compared to 36% for all women) (Table 3.03.3).

- The breast screening participation rates for Indigenous women aged 50–69 years ranged from 19% in the Northern Territory to 50% in Queensland.
- The participation rates for Indigenous women aged 40 years and over and 50–69 years were slightly higher in 2003–2004 (26% and 38%) than in 1999–2000 (24% and 35%). There was little change in the participation rates for all women over the period 1999–2000 to 2003–2004 (Figure 3.03.2).

Care needs to be taken when comparing Indigenous and non-Indigenous participation rates due to under-identification of Indigenous women in the BreastScreen Australia program. Caution also needs to be taken in comparing data across jurisdictions, given differences in the collection of data by Indigenous status across jurisdictions.

**Table 3.03.3: Age-specific participation rates<sup>(a)</sup> in BreastScreen Australia programs of Indigenous and all women, by state/territory, 2003–2004 (per cent)**

Age group	NSW	Vic <sup>(b)</sup>	Qld <sup>(c)</sup>	WA	SA	Tas	ACT	NT	Australia
<b>Indigenous women</b>									
40–49 years	12.2	5.5	28.3	10.3	6.1	15.1	4.2	6.4	14.8
50–59 years	31.8	45.7	49.8	28.7	32.9	38.8	28.9	19.0	35.7
60–69 years	41.9	44.1	50.0	43.0	38.7	37.2	47.8	18.0	40.7
70–79 years	29.4	28.2	37.1	23.9	14.3	n.a.	n.a.	12.5	27.3
80+	10.6	2.4	3.3	5.5	1.6	n.a.	n.a.	6.2	5.7
<b>40+ (age-standardised rate)<sup>(d)</sup></b>	<b>25.2</b>	<b>26.4</b>	<b>37.5</b>	<b>22.7</b>	<b>20.1</b>	<b>n.a.</b>	<b>n.a.</b>	<b>12.8</b>	<b>26.3</b>
<b>50–69 years (age-standardised rate)<sup>(d)</sup></b>	<b>35.8</b>	<b>45.1</b>	<b>49.9</b>	<b>34.3</b>	<b>35.1</b>	<b>38.2</b>	<b>36.3</b>	<b>18.6</b>	<b>37.7</b>
<b>All women</b>									
40–44 years	13.6	5.5	24.0	10.2	10.0	16.1	2.8	8.4	12.8
45–49 years	26.4	10.6	37.9	22.6	21.1	30.3	15.3	19.1	23.7
50–54 years	45.2	57.5	54.2	53.7	61.8	52.1	45.6	39.4	52.3
55–59 years	51.1	58.7	59.4	57.7	63.4	60.4	54.3	49.4	56.5
60–64 years	53.0	60.6	60.7	59.3	65.3	59.7	57.6	47.4	58.2
65–69 years	50.9	57.8	60.8	56.5	62.3	59.8	52.9	42.6	56.2
70–74 years	39.6	50.5	53.2	18.4	22.9	43.7	16.2	29.9	41.2
75–79 years	29.0	14.5	18.1	8.8	11.7	9.2	6.4	17.7	19.3
80–84 years	14.2	2.7	5.0	3.3	3.8	3.3	3.0	12.9	7.4
85+ years	3.5	0.5	1.4	0.6	0.6	0.5	0.6	2.5	1.7
<b>40+ (age-standardised rate)<sup>(d)</sup></b>	<b>34.6</b>	<b>34.1</b>	<b>42.1</b>	<b>33.1</b>	<b>36.4</b>	<b>37.8</b>	<b>28.3</b>	<b>28.7</b>	<b>35.9</b>
<b>50–69 years (age-standardised rate)<sup>(d)</sup></b>	<b>49.5</b>	<b>58.5</b>	<b>58.2</b>	<b>56.5</b>	<b>63.1</b>	<b>57.3</b>	<b>51.8</b>	<b>44.4</b>	<b>55.4</b>

(a) The participation rate is the number of women screened in the reference period, divided by the number of women in the reference period based on ABS Estimated Resident Populations.

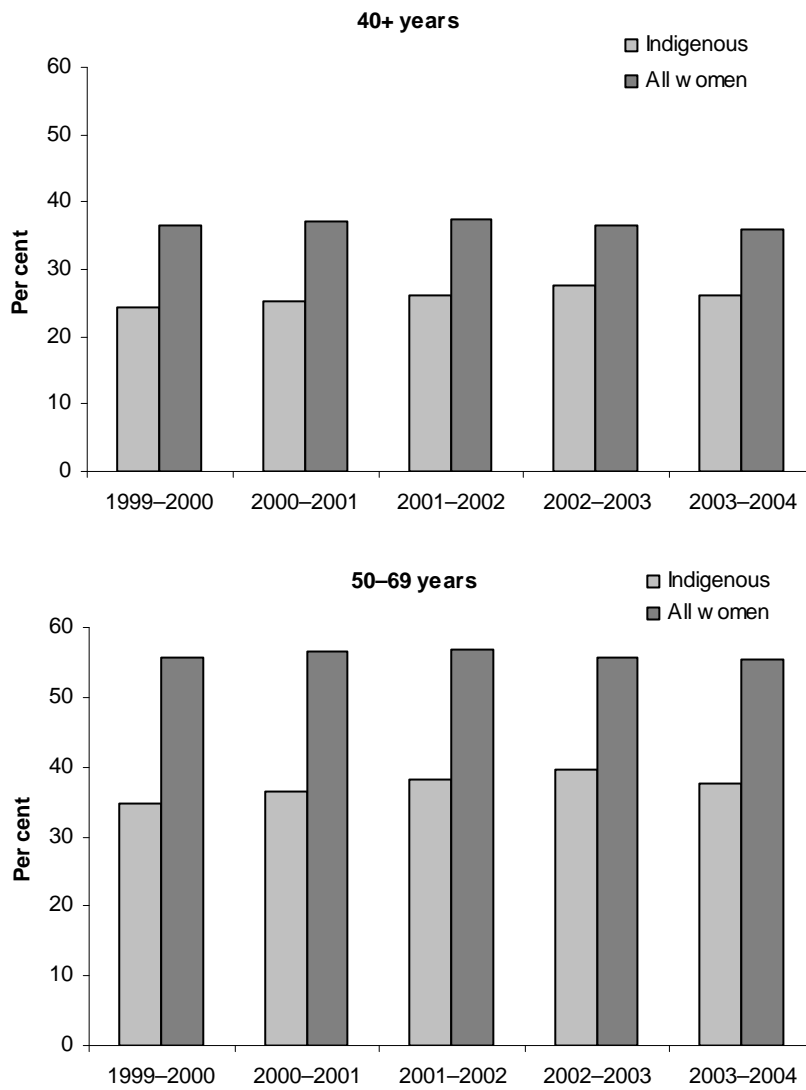
(b) Victorian postcodes allocated to the Albury/Wodonga area (NSW jurisdiction) are included in Victoria's jurisdiction and account for the slight decrease in participation rates when compared to participation rates published by BreastScreen Victoria.

(c) For Indigenous women in Queensland the 70–79 years category includes all women aged over 70 years.

(d) Rates are directly age standardised to the Australian 2001 Standard population.

Source: SCRGSP 2006.





Source: SCGRSP 2006- Report on Government Services 2006

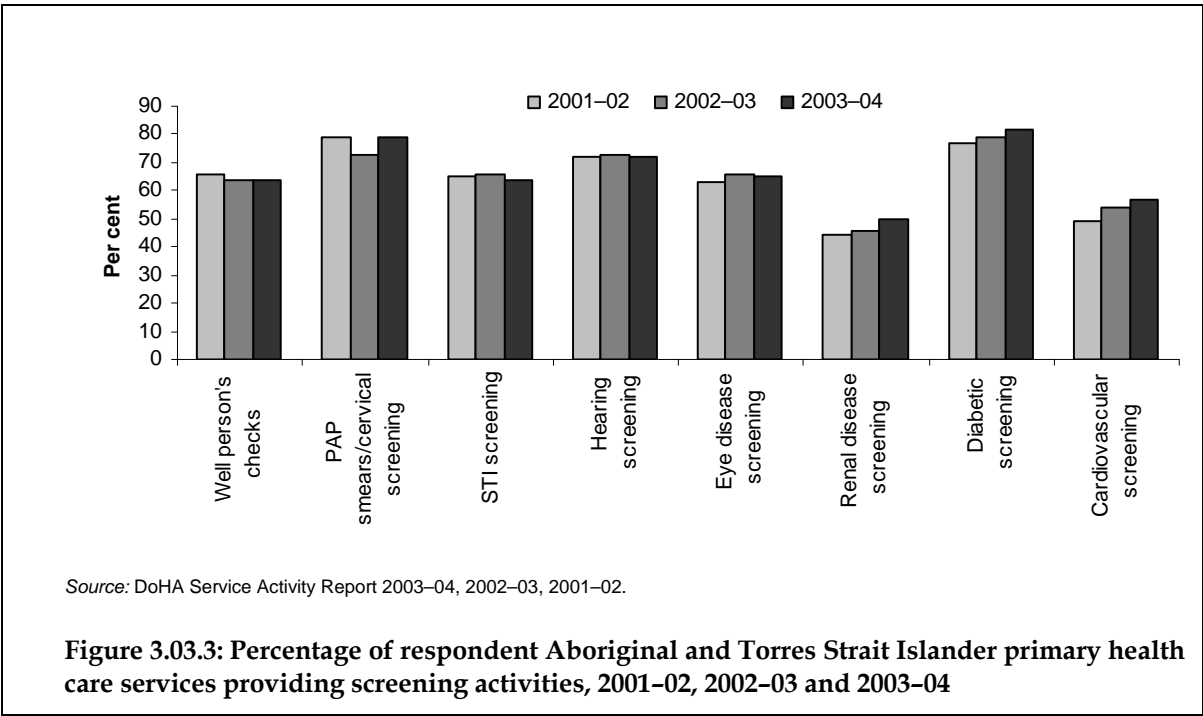
**Figure 3.03.2: Participation rates BreastScreen Australia programs of women 40+ years and women 50-69 years, Indigenous and all women 1999-2000 to 2003-2004.**

# Aboriginal and Torres Strait Islander primary health care services

## Screening activities

The Service Activity Report includes data on health-related activities undertaken or facilitated by Aboriginal and Torres Strait Islander primary health care services, including a range of 'screening' programs.

- In 2003-04, approximately 82% of respondent Aboriginal and Torres Strait Islander primary health care services provided diabetic screening, 79% provided Pap smear/cervical screening, 72% provided hearing screening, 65% provided eye disease screening, 64% provided regular age/sex appropriate well persons checks and Sexually transmitted infection (STI) screening, 57% provided cardiovascular screening and 50% provided renal disease screening (Figure 3.03.3).
- Between 2001-02 and 2003-04, there was little change in the proportion of Aboriginal and Torres Strait Islander primary health care services providing most screening services. Over this period there was a slight increase in the proportion of Aboriginal and Torres Strait Islander primary health care services providing diabetic screening and cardiovascular screening.



## **Additional information**

### **Cervical cancer**

No data are currently available on cervical cancer screening by Indigenous status. Data on the mortality of Indigenous women from cervical cancer are presented below.

- Over the period 2001–2004 in Queensland, Western Australia, South Australia and the Northern Territory combined there were 27 deaths of Indigenous women from cervical cancer. Indigenous women died at around five times the rate of non-Indigenous women in these states and territories (11 per 100,000 compared to 2 per 100,000) (AIHW 2006c).
- The age-standardised rate for Indigenous women aged 20–69 years, which is the target age for cervical cancer screening, was 9.9 per 100,000 compared to 2.0 per 100,000 for non-Indigenous women of the same age.

### **Studies on early detection, diagnosis and survival rates for cancer in Indigenous Australians**

There have been a number of studies that have investigated the stage of diagnosis and survival rates for cancer for Indigenous Australians.

A study by Condon et al. (2005) on the stage at diagnosis and cancer survival of Indigenous and non-Indigenous people in the Northern Territory between 1991 and 2000 found that Indigenous people were more likely than non-Indigenous people to be diagnosed with advanced disease for cancers of the colon and rectum, breast, cervix and non-Hodgkin's lymphoma. The difference in the proportion of people diagnosed with localised disease ranged from 13 percentage points for cervical cancer (Indigenous 63% compared with non-Indigenous 76%) to 29 percentage points for non-Hodgkin's lymphoma (6% compared with 35%). However, for cancer of the lung, Indigenous people were more likely to be diagnosed with localised disease (41% compared with 31%), possibly because many older Indigenous people have regular chest X-rays for clinical management of chronic respiratory disease and as part of contact-tracing and long-term follow-up by the tuberculosis control program.

Indigenous people had lower cancer survival than non-Indigenous people for all five cancer sites. The difference in age-stage-adjusted five-year survival rates was greatest for non-Hodgkin's lymphoma (Indigenous 16% compared with non-Indigenous 65%) and least for lung cancer (5% compared with 12%). With few exceptions, Indigenous people had lower survival than non-Indigenous people with the same stage at diagnosis for each cancer site. The relative risk of cancer death (Indigenous compared with non-Indigenous) was greater for people diagnosed at younger than older age for cancers of the colon and rectum, lung and breast, but not for cervical cancer or non-Hodgkin's lymphoma. For colorectal and lung cancers the relative risk was greater for people diagnosed with localised compared to advanced disease; this was not the case for the other three cancer sites.

Compared with non-Indigenous people diagnosed with the same cancer, Indigenous people are doubly disadvantaged because they are not only diagnosed later, with more advanced disease, but also have lower survival for every stage at diagnosis (Condon et al. 2005).

In relation to the cancer survival differential it is relevant to note that the 'absolute difference in cancer survival is greatest for cancers with the highest survival in non-Indigenous people – cancers of the thyroid, breast, prostate and bowel. For cancer of the thyroid, five-year survival for all Australian cases is over 90% and for breast cancer over 80%, compared with only 60% and 42% respectively for Indigenous cases in the Northern Territory. These

cancers are amenable to early diagnosis, effective treatment and a high probability of cure. Better access to, and higher quality of, health care offers the possibility of disease cure for many Indigenous people with these cancers' (Condon 2004).

A recent study of 815 Indigenous and 810 non-Indigenous patients diagnosed with cancer in Queensland between 1997 and 2002 found that after adjustment for stage at diagnosis, treatment and comorbidities, non-Indigenous Australians had better survival than Indigenous patients (hazard ratio = 1.3, 95% CI 1.1-1.5). The stage at diagnosis was significantly different with 47% of Indigenous patients with localised cancers compared with 53% of non-Indigenous patients. Comorbidities such as diabetes or chronic renal disease were more common in Indigenous patients. Indigenous patients were less likely to have had treatment for cancer (surgery, chemotherapy, radiotherapy) and waited longer for surgery (hazard ratio = 0.84, 95% CI 0.72-0.97) than non-Indigenous patients (Valery et al. 2006).

Exploring the experience of Indigenous people and their outcomes in relation to cancer incidence, stage of disease at presentation, access to treatment, survival and mortality can help illustrate aspects of Indigenous Australians' access to and interaction with the health system. This provides an opportunity to monitor health system performance for Indigenous Australians in relation to both primary care and specialist services, and the interaction between them (Condon 2004).

## **Data quality issues**

### **Medicare data**

#### **MBS items**

*The MBS items included in this measure have been introduced over the last few years with the child health check item commencing in May 2006. The take-up of new MBS items is influenced by the speed at which practitioners and the population become aware of the new items and how to use them. Also take-up can be influenced by administrative processes and the time taken to change computer systems to incorporate these new items. Analysis of monthly statistics on Items 704 and 706 suggest that it took several years for these statistics to stabilise into a fairly regular pattern. Item 710 was introduced in May 2004 and within 12 months monthly statistics had become relatively stable.*

#### **Standard Indigenous status question**

*In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms.*

#### **Under-identification**

*Because the Indigenous identifier was only introduced recently, the coverage of Indigenous Australians in this dataset is not complete. Aboriginal and Torres Strait Islanders who had identified as Indigenous in this database as at 1 July 2005 numbered 80,658.*

#### **Breast screening**

*Data are available on breast screening from the BreastScreen Australia program by Indigenous status. It would also be useful to have Indigenous data for the other breast cancer indicators monitored nationally including breast cancer incidence, detection rate of small invasive cancers, interval cancer rate, program sensitivity (screen-detected cancers), detection of ductal carcinoma in situ, recall to assessment and mortality rates for breast cancer.*

#### **Under-identification**

*The AIHW reports that the participation rate for Indigenous women in breast screening should be treated with caution as it is not known how many women did not report their Indigenous status. The comparison of participation rates between Indigenous and non-Indigenous women should therefore be treated with caution (AIHW 2006b).*

### **Service Activity Reporting data**

*Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05. The SAR collects service-level data on health care and health-related activities by survey questionnaire over a 12-month period. While this data collection provides valuable information, it needs to be recognised that there are limitations that have to be considered when using these data. Particular issues include:*

- *The SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.*
- *The SAR questionnaire collects a broad set of indicators for the services and did not aim to provide a comprehensive set of statistics on the activities of the services or their needs.*
- *These data provide a rough guide to service activity in this area but do not attempt to measure quantity or quality.*
- *These data also do not differentiate between services provided by the service and those facilitated by the service.*

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Condon JR, Barnes A, Armstrong BK, Selva-Nayagam S, Elwood M 2005. Stage at diagnosis and cancer survival of Indigenous and non-Indigenous people in the Northern Territory 1991–2000, NCC Initiative, Editor. Melbourne: Menzies School of Health Research, Cooperative Research Centre for Aboriginal Health.

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## 3.04 Chronic disease management

*The management of chronic disease among the Aboriginal and Torres Strait Islander population*

### Data sources

Data on chronic disease management come from the Service Activity Reporting (SAR) of data collection.

The SAR collects data from approximately 140 Australian Government funded Aboriginal and Torres Strait Islander primary health care services and is held at the Australian Government Department of Health and Ageing (DoHA). It is estimated that these services provide GP services to around 40% of the Indigenous population. Service-level data on health care and health-related activities are collected by survey questionnaire over a 12-month period.

Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05.

It should be noted that the SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

Data on the management of specific chronic diseases such as rheumatic heart disease, coronary artery disease and type 2 diabetes were unable to be provided at present.

For the purpose of this measure, chronic disease management is defined as the clinical management of a disease once it is established, that is, once it has been diagnosed.

### Analyses

#### Aboriginal and Torres Strait Islander primary health care services

##### Chronic disease management

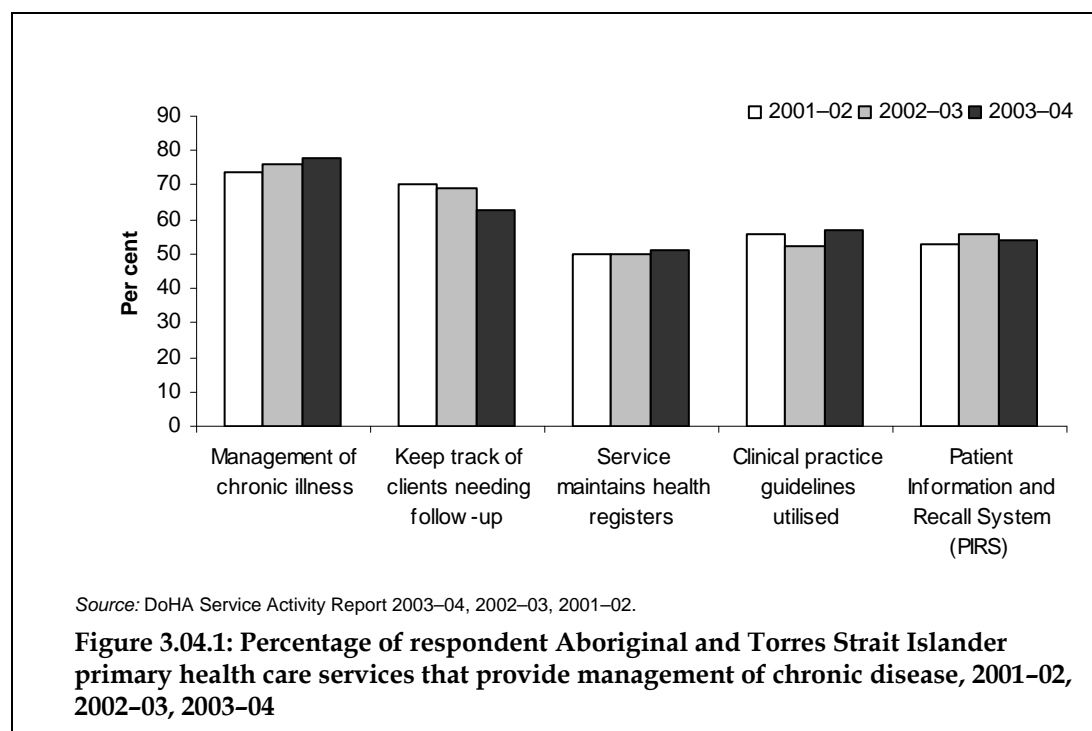
- In 2003–04, there were 138 respondent Aboriginal and Torres Strait Islander primary health care services. Not all services provide clinical care. Approximately 77% of these services had a doctor working at the service.
- Approximately 78% of Aboriginal and Torres Strait Islander primary health care services provided management of chronic illness, 63% reported keeping track of clients needing follow-up (for example, through monitoring sheets/follow-up files), 54% used patient information recall systems which automatically provide reminders for follow-up and routine health checks, 51% reported they maintained health registers (for example, chronic disease register) and 57% utilised clinical practice guidelines. Approximately 54% of Aboriginal and Torres Strait Islander primary health care services reported they used Patient Information and Recall Systems (PIRS) which automatically provide reminders for follow-up and routine health checks (Table 3.04.1).

- There was little change in the proportion of Aboriginal and Torres Strait Islander primary health care services providing management of chronic illness, maintaining health registers and utilising clinical practice guidelines between 2001–02 and 2003–04 (Figure 3.04.1). There was a slight decline in the proportion of Aboriginal and Torres Strait Islander primary health care services keeping track of clients needing follow-up, for example, through monitoring sheets/follow-up files (from 70% to 63%) and a slight increase in those utilising patient information recall systems for follow-up (from 53% to 54%) between 2001–02 and 2003–04.

**Table 3.04.1: Percentage of respondent Aboriginal and Torres Strait Islander primary health care services providing chronic disease management activities and use of Patient Information and Recall Systems, 2003–04**

	per cent
<b>Chronic disease management activities</b>	
Management of chronic illness	78
Keep track of clients needing follow-up (e.g. through monitoring sheets/follow-up files)	63
Service maintains health registers (e.g. Chronic Disease Register)	51
Clinical practice guidelines utilised (e.g. Central Australian Remote Practitioners Association, diabetes guidelines)	57
<b>Patient Information and Recall Systems (PIRS)</b>	
PIRS which automatically provides reminders for follow-up and routine health checks	54

Source: DoHA Service Activity Report 2003–04.





## **Additional information**

### **Acute rheumatic fever and rheumatic heart disease**

#### **Registrations of acute rheumatic fever**

- During 2004 there were 35 registrations of people with acute rheumatic fever (ARF) in the Top End of the Northern Territory and 24 in Central Australia during 2004. All registrations in Central Australia were for Indigenous Australians and all but two in the Top End were Indigenous. In both registers, 29% of cases were recurrences.
- The peak age of incidence of acute rheumatic fever is 5–14 years. In 2004, 63% of all cases of acute rheumatic fever occurred in this age group and all cases reported occurred in Aboriginal and Torres Strait Islander children.

For more information on acute rheumatic fever see Measure 1.06.

#### **Secondary prevention of rheumatic heart disease**

The immediate aim in the management of acute rheumatic fever/rheumatic heart disease is to identify cases of acute rheumatic fever, and once identified, to prevent the progression to rheumatic heart disease through secondary prevention measures. Secondary prevention refers to the early detection of disease and implementation of measures to prevent recurrent and worsening of disease and poorer outcomes.

Secondary prophylaxis with benzathine penicillin G (BPG) is the only RHD control strategy shown to be cost effective at both community and population levels and is recommended for all people with a history of ARF or RHD. Four-weekly BPG dosages is the current treatment of choice, except in patients considered to be at high risk for whom three-weekly administration is recommended. Pharmacokinetic data suggest that prolonging the dosing interval beyond four weeks may increase the risk of breakthrough ARF, therefore regular and timely adherence to the dosing regimen is important. Where BPG is contraindicated, alternatives are available, although these are considered to be less effective. Secondary prophylaxis should be continued in all people with ARF or RHD for a minimum of 10 years after the last episode of ARF or until the age of 21 years (whichever is the longer period). Those with moderate or severe RHD should continue secondary prophylaxis up to the age of 35–40 years. The fundamental goal for the long-term management of chronic RHD is to prevent or at least forestall valve surgery. Prophylaxis with BPG to prevent recurrent ARF is therefore a crucial strategy in managing patients with a history of ARF and RHD (NHFA and CSANZ 2006).

Adherence to secondary prophylaxis has been problematic in remote Aboriginal and Torres Strait Islander communities. For example, in 2005 in the Top End of the Northern Territory 28% of patients on secondary prophylaxis missed half or more of their scheduled BPG injections over a 12-month period, while around half of all episodes of ARF were recurrences. This suggests that adherence to prophylaxis is very poor. The main reason for poor adherence in remote Aboriginal and Torres Strait Islander communities is thought to be related to the availability and acceptability of health services, rather than personal factors such as injection refusal, pain of injections, or a lack of knowledge and understanding of ARF and RHD (NHFA and CSANZ 2006).

## **Data quality issues**

### **Service Activity Reporting (SAR) data collection**

*Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05. The SAR collects service-level data on health care and health-related activities by survey questionnaire over a 12-month period. While this data collection provides valuable information, it needs to be recognised that there are limitations that have to be considered when using these data. Particular issues include:*

- *The SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.*
- *The SAR questionnaire collects a broad set of indicators for the services and did not aim to provide a comprehensive set of statistics on the activities of the services or their needs.*
- *Data provided are often estimates and while these are thought to be reasonable, there has been no audit to check the accuracy of these figures.*

*In relation to the statistics for this performance measure, these data provide a rough guide to service activity in this area but do not attempt to measure quantity or quality.*

## **References**

NHFA (National Heart Foundation of Australia) and CSANZ (Cardiac Society of Australia and New Zealand) 2006. Diagnosis and management of acute rheumatic fever and rheumatic heart disease in Australia: an evidence-based review. National Heart Foundation of Australia (RF/RHD Guideline Development Working Group).

## 3.05 Differential access to key hospital procedures

*The key hospital procedure differentials between Aboriginal and Torres Strait Islander peoples and other Australians as measured through standardised rates, ratios and rate differences in hospital separations with the same principal diagnosis*

### Data sources

Data for this measure come from the AIHW's National Hospital Morbidity Database.

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations in 2003–04 – Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2005). These four jurisdictions represent approximately 60% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of patients was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period July 2002 to June 2004. An aggregate of two years of data has been used as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a change in a type of care (for example, from acute to rehabilitation).

### Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

## Hospitalisations

### Hospitalisations with a procedure recorded

Table 3.05.1 presents the proportion of hospitalisations with a procedure recorded between June 2002 and July 2004 by a number of demographic variables. This table includes all states and territories as the proportions are of those in hospital and not population rates and as such are not affected by Indigenous under-identification issues as are other data on hospital admissions.

- Between July 2002 and June 2004, there were around 10.8 million hospitalisations with a procedure reported in Australia, 2.5% (287,857) of which were hospitalisations recorded for Indigenous patients. In public hospitals, excluding procedures for haemodialysis, there were around 4.8 million hospitalisations with a procedure reported, 2.6% (126,847) of which were hospitalisations recorded for Indigenous patients. Over half of all hospitalisations had more than one procedure performed.
- While Indigenous Australians were more likely to be hospitalised than other Australians, they were less likely to undergo a procedure once admitted to hospital. Between July 2002 and June 2004, excluding care involving dialysis, 53% of Indigenous hospitalisations in public hospitals had a procedure recorded, compared with 70% of other hospitalisations in public hospitals (Table 3.05.1).
- The proportion of hospitalisations with a procedure recorded was highest for Indigenous patients aged 55–64 years (56%). Patients who were hospitalised in remote or very remote areas were less likely to undergo a procedure (43% of Indigenous and 55% of other patients) compared to those hospitalised in major cities (68% and 72% for Indigenous and other patients respectively).

**Table 3.05.1: Proportion of hospitalisations with a procedure recorded by Indigenous status, public hospitals, July 2002 to June 2004<sup>(a)</sup>**

	Indigenous	Other <sup>(b)</sup>
	%	%
<b>Overall</b>	52.6	69.6
<b>Sex</b>		
Males	52.0	69.5
Females	53.3	69.8
<b>Age group (years)</b>		
Under 1	40.2	47.4
1–14	46.9	57.0
15–34	49.4	63.7
35–54	49.7	70.9
55–64	55.7	75.9
65+	54.5	75.0
<b>Place of residence</b>		
Major cities	68.3	72.0
Regional (inner and outer)	52.1	66.6
Remote/very remote	43.1	55.3
Unknown	54.8	57.3
<b>Same-day admission</b>		
Yes	57.0	73.7
No	51.3	66.9
<b>Patient accommodation</b>		
Private	63.0	74.6
Public	52.7	68.9

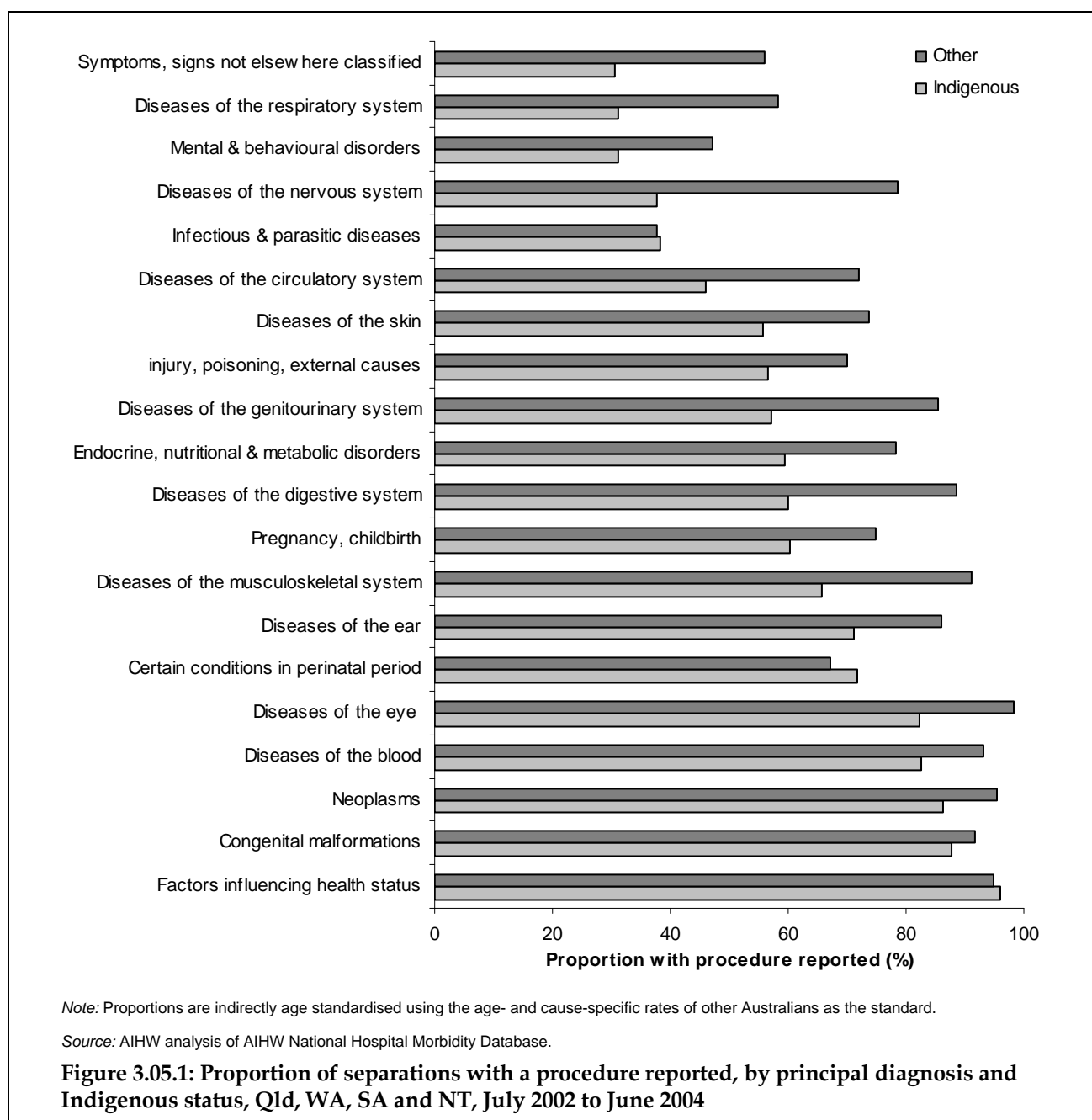
(a) Hospitalisations with a principal diagnosis of care involving dialysis (Z49) have been excluded.

(b) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was 'not stated'.

Note: Proportions are age standardised using the age and cause-specific rates of other Australians.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

- Between July 2002 and June 2004, in Queensland, Western Australia, South Australia and the Northern Territory combined, although the overall rate of procedures per 1,000 population was higher for Indigenous persons, Figure 3.05.1 shows that the proportion of separations with a procedure by principal diagnosis was lower for Indigenous patients than for other patients for almost all of the diagnosis chapters. For example, for diseases of the nervous system, 38% of separations for Indigenous patients had a procedure reported, compared with 78% of separations for other patients. Factors influencing health status and contact with health services, which includes dialysis, infectious and parasitic diseases and certain conditions originating in the perinatal period were the only chapters for which the proportion of separations with procedures was higher for Indigenous patients.



## Hospital procedures

Procedures are clinical interventions that are surgical in nature, carry a procedural risk, carry an anaesthetic risk, require specialised training, and/or require special facilities or equipment only available in an acute care setting. Procedures, therefore, encompass surgical procedures and non-surgical investigative and therapeutic procedures such as X-rays and chemotherapy. Client support interventions that are neither investigative nor therapeutic (such as anaesthesia) are also included.

- Over the period July 2002 to June 2004, there were 374,670 hospital procedures performed on Indigenous patients in Queensland, Western Australia, South Australia and the Northern Territory combined. Approximately 35% of these procedures were for haemodialysis (Table 3.05.2).
- Procedures on the urinary system was the most frequently reported procedure chapter for Indigenous patients (135,119). For haemodialysis the number of procedures per 1,000 population for persons identified as Indigenous was about 15 times that for other persons. For procedures on the respiratory system the rate for persons identified as Indigenous was twice that for other persons and for procedures on the cardiovascular system the rate was 1.4 times that of other persons.
- Procedures for which the rate for Indigenous persons was less than that for other persons included procedures on the nervous system, procedures on the nose, mouth and pharynx, procedures on the male genital organs, chemotherapy and radiation, oncology, dental services, digestive and gynaecological procedures.

**Table 3.05.2: Hospital procedures, by type of procedure reported and Indigenous status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Number		Per cent		Rate per 1,000 <sup>(e)</sup>		Ratio <sup>(g)</sup>
	Indigenous	Other <sup>(f)</sup>	Indigenous	Other <sup>(f)</sup>	Indigenous	Other <sup>(f)</sup>	
Procedures on urinary system	135,119	665,088	36.1	7.0	476.4	45.4	10.5*
<i>Haemodialysis</i>	131,021	463,186	35.0	4.8	462.9	31.6	14.6*
Non-invasive, cognitive and interventions, not elsewhere classified	113,857	4,167,749	30.4	43.7	284.1	287.0	1.0
Obstetric procedures	17,659	355,160	4.7	3.7	25.5	25.4	1.0
Dermatological and plastic procedures	14,715	492,928	3.9	5.2	31.1	33.8	0.9*
Procedures on musculoskeletal system	13,545	447,253	3.6	4.7	28.4	30.7	0.9*
Imaging services	13,208	367,669	3.5	3.9	37.4	25.2	1.5*
Procedures on digestive system	12,473	917,151	3.3	9.6	36.3	62.5	0.6*
Dental services	11,153	326,564	3.0	3.4	12.8	23.2	0.6*
Procedures on cardiovascular system	10,757	335,142	2.9	3.5	32.7	22.9	1.4*
Gynaecological procedures	8,584	363,198	2.3	3.8	17.1	25.2	0.7*
Procedures on respiratory system	7,590	124,940	2.0	1.3	17.2	8.6	2.0*
Procedures on eye and adnexa	2,965	175,556	0.8	1.8	13.3	12.1	1.1*
Chemotherapeutic and radiation oncology procedures	2,991	294,962	0.8	3.1	9.5	20.0	0.5*
Procedures on nervous system	2,937	156,269	0.8	1.6	6.5	10.7	0.6*
Procedures on ear and mastoid process	2,534	50,303	0.7	0.5	3.2	3.6	0.9*
Procedures on nose, mouth and pharynx	2,069	141,767	0.6	1.5	3.7	9.9	0.4*
Procedures on male genital organs	1,067	63,131	0.3	0.7	2.0	4.4	0.4*
Procedures on breast	649	47,565	0.2	0.5	1.9	3.2	0.6*
Procedures on blood and blood-forming organs	649	37,725	0.2	0.4	1.9	2.6	0.7*
Procedures on endocrine system	149	8,391	0.0	0.1	0.4	0.6	0.8*
<b>Total (excluding dialysis)</b>	<b>243,709</b>	<b>9,104,685</b>	<b>65.0</b>	<b>95.5</b>	<b>578.4</b>	<b>627.3</b>	<b>0.9*</b>
<b>Total (including haemodialysis)<sup>(h)</sup></b>	<b>374,670</b>	<b>9,538,513</b>	<b>100.0</b>	<b>100.0</b>	<b>1,041.1</b>	<b>656.9</b>	<b>1.6*</b>

(continued)



**Table 3.05.2 (continued): Hospital procedures, by type of procedure reported and Indigenous status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the  $p < .05$  level.

- (t) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (u) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).
- (v) Financial year reporting.
- (w) Data are presented by state/territory of usual residence of the patient and are reported for Western Australia, South Australia, the Northern Territory and Queensland only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (x) Directly age standardised using the Australian 2001 Standard population.
- (y) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
- (z) Rate ratio Indigenous:other.
- (aa) Includes procedures for the procedure category was not stated.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

### Time series analyses

Hospital procedure rates, rate ratios and rate differences between Indigenous and other Australians over the five-year period 1998–99 to 2003–04 excluding haemodialysis procedures are presented in Table 3.05.3 and Figure 3.05.2.

- Over the period 1998–99 to 2003–04, there were significant increases in hospital procedure rates, excluding dialysis for both Indigenous and other Australians. The fitted trend implies an average yearly increase in the rate of around 44 per 1,000 for Indigenous Australians and 50 per 1,000 for other Australians.
- There were no significant changes in the hospitalisation rate ratios or rate differences between Indigenous and other Australians over the period.

It should be noted that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital procedures for Indigenous Australians. Also, changes in access, hospital policies and practices all impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in procedures may reflect better access to hospitals/hospital procedures rather than a worsening of health.

**Table 3.05.3: Age-standardised hospital procedure rates, rate ratios and rate differences (excluding dialysis), Qld, WA, SA and NT, 1998-99 to 2003-04**

	1998-99	1999-00	2001-01	2001-02	2002-03	2003-04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>							
Persons	389.1	406.4	504.0	519.1	561.7	599.7	43.8*
<b>Other Australian<sup>(b)</sup> rate per 1,000</b>							
Persons	414.1	413.6	560.5	580.4	625.0	632.1	49.8*
<b>Rate ratio<sup>(c)</sup></b>							
Persons	0.9	1.0	0.9	0.9	0.9	0.9	0.0
<b>Rate difference<sup>(d)</sup></b>							
Persons	-25.0	-7.2	-56.5	-61.3	-63.3	-32.3	-0.6

\* Represents results with statistically significant increases or declines at the  $p < .05$  level over the period 1998-99 to 2003-04.

(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

(c) Other includes hospitalisations for non-Indigenous Australians and those for whom Indigenous status was not stated.

(d) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

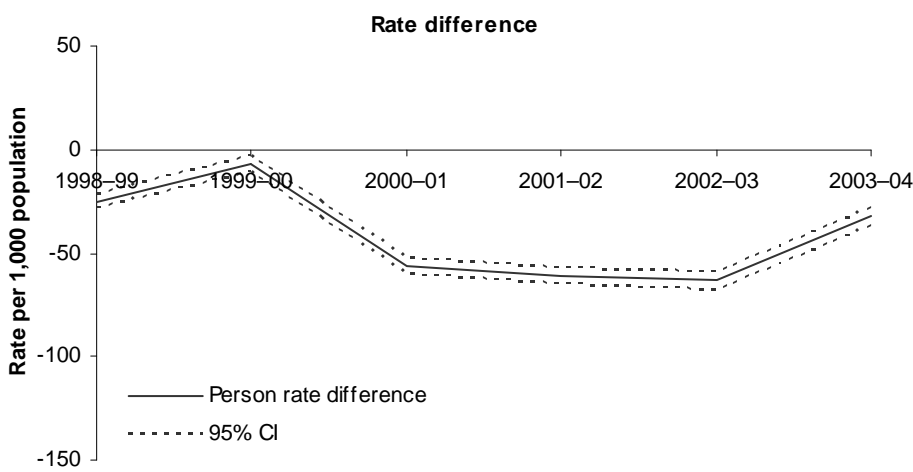
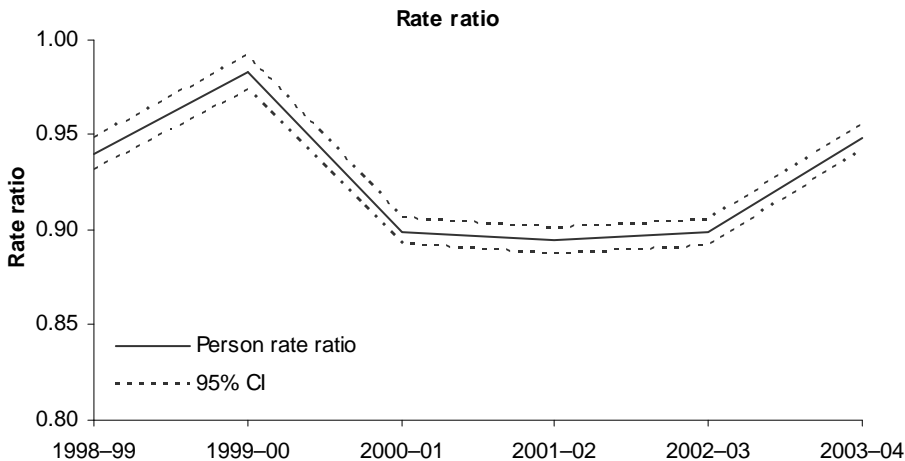
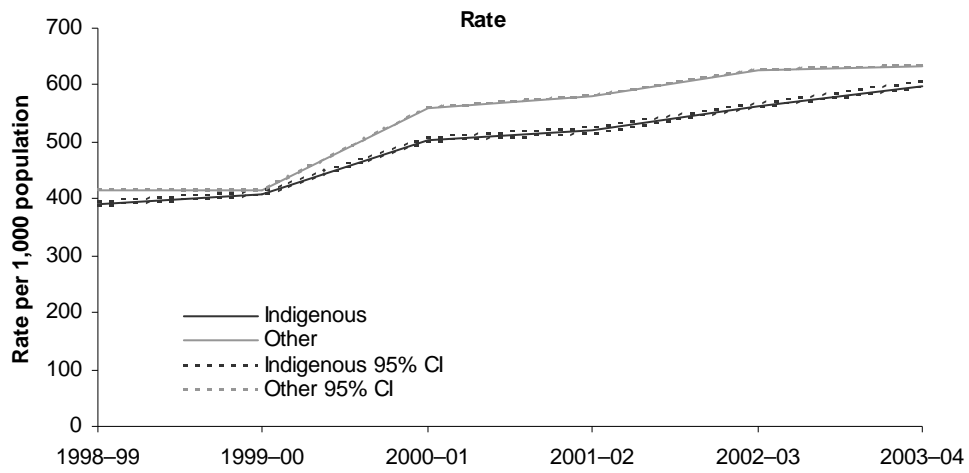
(e) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Notes:

Rates have been directly age standardised using the Australian 2001 Standard population.

Excludes procedures for haemodialysis (block no. 1060 for 2002-03 to 2003-04 and block no. 1059 for 1998-99 to 2001-02).

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.05.2: Hospital procedure rates, rate ratios and rate differences between Indigenous and other Australians, Qld, WA, SA and NT, 1998-99 to 2003-04**

## Additional information

### Coronary heart disease hospital procedures

The AIHW report *Aboriginal and Torres Strait Islander people with coronary heart disease: further perspectives on health status and treatment* (AIHW 2006) looked at the disparities between Aboriginal and Torres Strait Islander people and other Australians in the health status and treatment of coronary heart disease including the use of coronary procedures in hospital. The key findings from this report are outlined below.

- In 2002–03, among those Australians hospitalised with coronary heart disease, Indigenous Australians were less likely to receive coronary procedures such as coronary angiography and revascularisation procedures than other Australians. This was evident across all age groups (Table 3.05.4). The detailed age-specific rates indicate that, in both relative and absolute terms, the largest differences for both angiography and revascularisation occurred in the 55–64 and 65–74 year age groups. The rates for other Australians were around double that of Indigenous Australians and the rate difference was over 20 percentage points for angiography and over 10 percentage points for revascularisation. Revascularisation procedures include percutaneous coronary intervention (PCI) and coronary artery bypass grafts (CABG).
- After taking the different population age structures into account, the angiography and revascularisation rate for Aboriginal and Torres Strait Islanders was 40% lower than the rate for other Australians (rate ratio of 0.6 for both).
- Similar results were observed when PCI and CABG were analysed separately, with Indigenous Australians generally less likely to receive these procedures than other Australians across all age groups for those hospitalised for coronary heart disease (Table 3.05.5). The age-adjusted procedure rate for PCI is around 40% lower than other Australians, while the age-adjusted rate for CABG is 20% lower (age-standardised rate ratio of 0.6 and 0.8 respectively).
- Indigenous Australians with coronary heart disease tended to be more complex cases (measured by the number of comorbidities). In 2002–03 Aboriginal and Torres Strait Islander people with coronary heart disease were less likely to undergo a coronary procedure across all levels of complexity. The largest difference in procedure rates between Indigenous Australians and other Australians occurred in the least complex groups (no or 1–2 comorbidities present). In these groups, Indigenous Australians were just over half as likely to have a coronary procedure.
- The complexity of cases did not explain the lower procedure rate in Indigenous Australians compared with other Australians.

**Table 3.05.4: Use of coronary procedures for those hospitalised with coronary heart disease, by Indigenous status, Qld, WA, SA and NT, 2002-03**

Age group	Indigenous Australians		Other Australians		Inequality measures	
	Number	Per cent <sup>(a)</sup>	Number	Per cent <sup>(a)</sup>	Rate ratio <sup>(b)</sup>	Rate difference <sup>(c)</sup>
<b>Coronary angiography</b>						
25-34	53	23.8	222	39.2	0.6*	-15.4
35-44	241	27.7	1,664	39.5	0.7*	-11.8
45-54	344	26.1	6,746	44.8	0.6*	-18.6
55-64	247	24.4	11,905	45.9	0.5*	-21.6
65-74	100	20.7	13,081	42.5	0.5*	-21.7
75+	28	13.4	9,471	25.9	0.5*	-12.5
<b>All ages<sup>(d)</sup></b>						
Crude	1,016	24.6	43,106	38.1	0.6*	-13.5
ASR <sup>(e)</sup>	—	—	—	—	0.6*	—
<b>Revascularisation (PCI and CABG)</b>						
25-34	33	14.8	91	16.0	0.9	-1.3
35-44	135	15.5	954	22.7	0.7*	-7.1
45-54	211	16.0	4,036	26.8	0.6*	-10.8
55-64	160	15.8	7,153	27.6	0.6*	-11.8
65-74	58	12.0	7,688	25.0	0.5*	-12.9
75+	12	5.7	5,379	14.7	0.4*	-9.0
<b>All ages<sup>(d)</sup></b>						
Crude	609	14.8	25,306	22.4	0.7*	-7.6
ASR <sup>(e)</sup>	—	—	—	—	0.6*	—

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(a) Per cent refers to the proportion of hospitalisations with coronary heart disease as the principal diagnosis receiving either coronary angiography or coronary revascularisation.

(b) Rate ratio—Indigenous:other.

(c) Rate difference—hospitalisation rate for Indigenous Australians divided by hospitalisation rate for other Australians.

(d) Includes those aged less than 25 years.

(e) ASR refers to indirectly age-standardised rate using 'other Australians' population as the standard population.

Source: AIHW 2006.

**Table 3.05.5: Inequalities in the use of PCI and CABG procedures for those hospitalised with a principal diagnosis of coronary heart disease, Qld, WA, SA and NT, 2002–03**

	Age group (years)						All ages <sup>(a)</sup>	
	25–34	35–44	45–54	55–64	65–74	75+	Crude	ASR <sup>(b)</sup>
<b>PCI</b>								
Rate ratio <sup>(c)</sup>	0.9	0.6*	0.5*	0.5*	0.4*	0.4*	0.6*	0.6*
Rate difference <sup>(d)</sup> (%)	–2.0	–6.2	–9.6	–8.8	–9.2	–6.0	–5.3	—
<b>CABG</b>								
Rate ratio <sup>(c)</sup>	1.6	0.8	0.9	0.7*	0.7*	0.4	0.7*	0.8*
Rate difference <sup>(d)</sup> (%)	1.2	–0.9	–1.1	–3.1	–3.7	–3.0	–2.3	—

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(a) Includes those aged less than 25 years.

(b) ASR refers to indirectly age-standardised rate using 'other Australians' population as the standard population.

(c) Rate ratio—Indigenous:other.

(d) Rate difference—hospitalisation rate for Indigenous Australians divided by hospitalisation rate for other Australians.

Source: AIHW 2006.

## Cancer research work

A recent study of 815 Indigenous and 810 non-Indigenous patients diagnosed with cancer in Queensland between 1997 and 2002 found that after adjustment for stage at diagnosis, treatment and comorbidities, non-Indigenous Australians had better survival than Indigenous patients (hazard ratio = 1.3, 95% CI 1.1–1.5). Indigenous patients were less likely to have had treatment for cancer (surgery, chemotherapy, radiotherapy) and waited longer for surgery (hazard ratio = 0.84, 95% CI 0.72–0.97) than non-Indigenous patients (Valery et al. 2006).

A study in Western Australian of patients who had a cancer registration in the state between 1982 and 2001 found that Indigenous people were less likely to receive surgery for their lung cancer and prostate cancer, but not breast cancer (Hall et al. 2004).

## **Data quality issues**

### **Hospital separation data**

#### ***Separations***

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.*

#### ***Indigenous status question***

*Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The not stated category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).*

#### ***Under-identification***

*The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander people. While the identification of Indigenous people in hospitalisations is incomplete in all states and territories, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2003–04 (AIHW 2005). It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated information from Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these four jurisdictions is 60%. The following caveats have also been recommended:*

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a degree of Indigenous under-identification in Western Australia and relatively marked Indigenous under-identification in Queensland data).*
- *Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.*
- *Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in other jurisdictions (ABS & AIHW 2005).*

#### ***Numerator and denominator***

*Rate and ratio calculations rely on good numerator and denominator data. The changes in the completeness of identification of Indigenous people in hospital records may take place at different rates than changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from the ABS's Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1001 to 2009 (ABS 2004).*

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## 3.06. Ambulatory care sensitive hospital admissions

*The number of hospital admissions for ambulatory care sensitive conditions for Aboriginal and Torres Strait Islander people expressed as a rate by age group, age-standardised rate and ratio*

### Data sources

Data for this measure come from the AIHW's National Hospital Morbidity Database.

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations in 2003–04 – Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2005). These four jurisdictions represent approximately 60% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period July 2002 to June 2004. An aggregate of two years of data has been used as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a change in a type of care (for example, from acute to rehabilitation).

Ambulatory care sensitive conditions are those for which, in theory, hospitalisation is thought to be avoidable through health care in ambulatory settings. Ambulatory settings include primary health care including general practice, community care, emergency department care and outpatient care. The conditions selected for this measure are those thought to be sensitive to preventative care, adequate management of chronic conditions, and timely care for an acute illness in ambulatory settings, particularly primary health care.

Ambulatory care sensitive conditions can be broken down into three categories:

- vaccine-preventable conditions, including influenza, tetanus, measles, mumps, rubella, diphtheria, pertussis and polio

- potentially preventable acute conditions, including dehydration, gastroenteritis, kidney infection, perforated ulcer, cellulitis, pelvic inflammatory disease, ear, nose and throat infections, and dental conditions
- potentially preventable chronic conditions, including diabetes, asthma, angina, hypertension, congestive heart failure and chronic obstructive pulmonary disease.

## Analyses

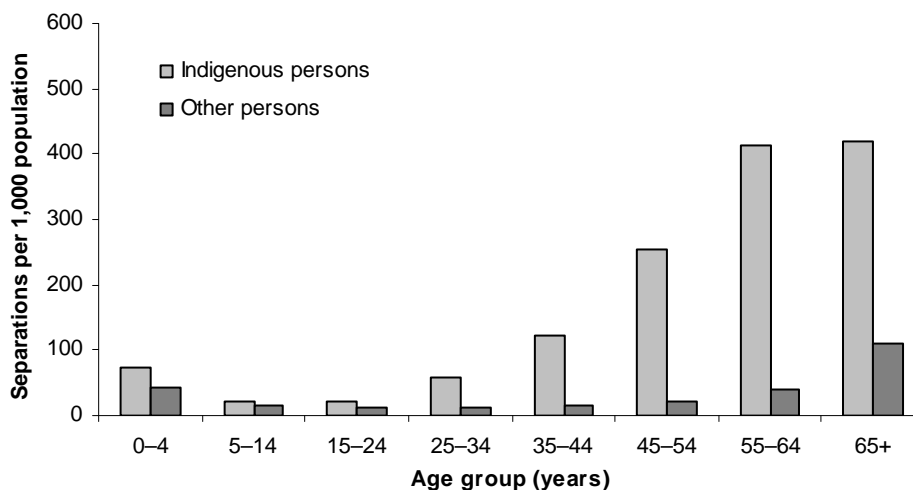
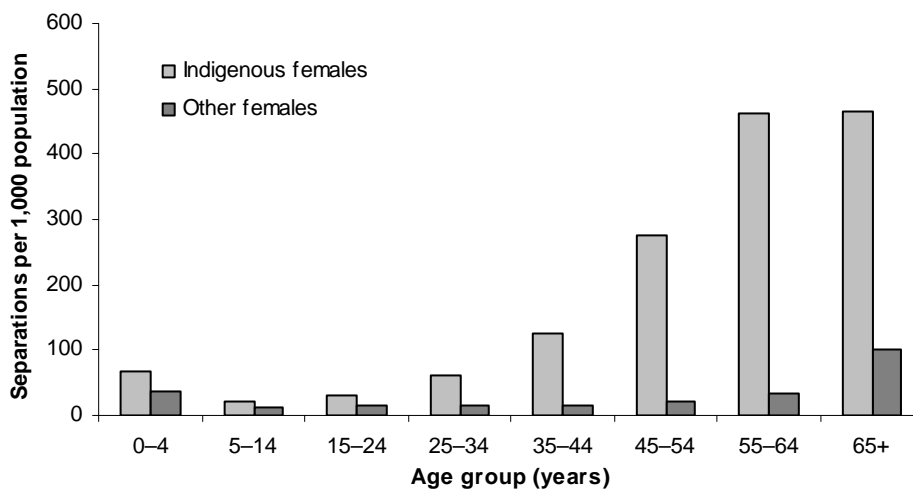
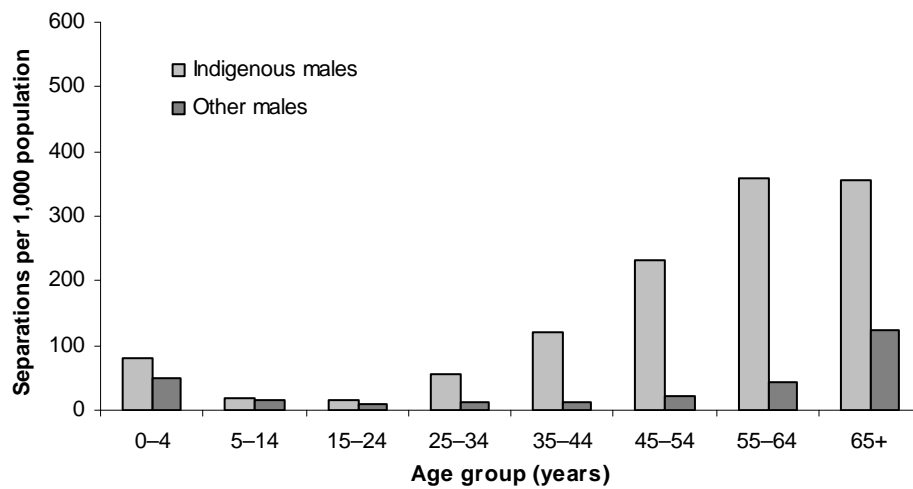
Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

## Hospitalisations

- For the two-year period July 2002 to June 2004, there were 502,864 ambulatory care sensitive hospital admissions in Queensland, Western Australia, South Australia and the Northern Territory combined, 52,160 (10.4%) of which were hospitalisations of Aboriginal and Torres Strait Islander peoples.
- Ambulatory care sensitive conditions represented 20% of all hospital admissions of Aboriginal and Torres Strait Islander Australians in the four jurisdictions.

## Hospitalisations by age and sex

- In the two-year period July 2002 to June 2004, Indigenous males and females had higher hospitalisation rates than other males and females for ambulatory care sensitive conditions across all age groups (Figure 3.06.1).
- Differences in rates between Indigenous and other Australians were particularly marked in the older age groups. For males, the greatest difference in rates occurred in the 35–44 and 45–54 year age groups where Indigenous males were hospitalised for ambulatory care sensitive conditions at 9–10 times the rate of other males. For females, the greatest difference in rates occurred in the 45–54 and 55–64 year age group where Indigenous females were hospitalised at 11–12 times the rate of other females.
- For both Indigenous and other Australian males and females, hospitalisation rates increased with age, being highest among those aged 65 years and over.
- Approximately 44% of Indigenous Australians hospitalised for ambulatory care sensitive conditions were males (22,859) and 56% were females (29,301).



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.06.1: Age-specific hospitalisation rates for ambulatory care sensitive hospital admissions, by Indigenous status and sex, Qld, WA, SA and NT, July 2002 to June 2004**

## **Hospitalisations by state/territory**

Table 3.06.1 presents the number of ambulatory care sensitive hospital admissions for the two-year period July 2002 to June 2004 in Queensland, Western Australia, South Australia and the Northern Territory.

- Indigenous Australians in Queensland, South Australia and the Northern Territory were hospitalised for ambulatory care sensitive conditions at around four times the rate of other Australians. In Western Australia, Indigenous Australians were hospitalised at around 10 times the rate of other Australians.
- In Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous Australians were hospitalised for ambulatory care sensitive conditions at around five times the rate of other Australians.

**Table 3.06.1: Hospitalisations for ambulatory care sensitive hospital admissions, by Indigenous status and sex, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Indigenous				Other <sup>(e)</sup>				Ratio <sup>(i)</sup>
	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	
<b>Qld</b>									
Males	7,539	110.8	107.3	114.2	119,491	34.3	34.1	34.5	3.2*
Females	8,579	119.2	116.1	122.3	111,597	29.5	29.3	29.6	4.0*
Persons	16,118	115.2	112.9	117.5	231,088	31.7	31.6	31.8	3.6*
<b>WA</b>									
Males	9,458	261.2	254.8	267.5	56,647	32.8	32.5	33.1	8.0*
Females	13,664	351.2	344.5	357.8	55,897	29.2	29.0	29.5	12.0*
Persons	23,122	308.8	304.1	313.4	112,544	30.8	30.6	31.0	10.0*
<b>SA</b>									
Males	1,862	118.2	111.2	125.2	50,668	113.5	109.0	118.0	3.5*
Females	2,177	134.9	128.0	141.8	50,600	29.4	29.2	29.7	4.6*
Persons	4,039	127.9	122.9	132.8	101,268	31.2	31.0	31.3	4.2
<b>NT</b>									
Males	4,000	113.5	109.0	118.0	3,720	35.4	34.0	36.8	3.2*
Females	4,881	127.7	123.5	131.9	2,083	22.5	21.4	23.6	5.7*
Persons	8,881	121.0	117.9	124.1	5,804	29.7	28.8	30.6	4.1*
<b>Qld, WA, SA, NT</b>									
<b>Males</b>	<b>22,859</b>	<b>149.2</b>	<b>146.7</b>	<b>151.7</b>	<b>230,526</b>	<b>33.6</b>	<b>33.5</b>	<b>33.8</b>	<b>4.4*</b>
<b>Females</b>	<b>29,301</b>	<b>177.8</b>	<b>175.4</b>	<b>180.2</b>	<b>220,177</b>	<b>29.2</b>	<b>29.1</b>	<b>29.3</b>	<b>6.1*</b>
<b>Persons</b>	<b>52,160</b>	<b>164.7</b>	<b>163.0</b>	<b>166.4</b>	<b>450,704</b>	<b>31.2</b>	<b>31.1</b>	<b>31.3</b>	<b>5.3*</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

- (a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004): ICD-10-AM codes J10 J11 J188 A35 A36 A37 A80 B05 B06 B161 B169 B180 B181 B26 G000 M014 J45 J46 I50 I110 J81 E101 E102 E103 E104 E105 E106 E107 E108 E110 E111 E112 E113 E114 E115 E116 E117 E118 E130E131 E132 E133 E134 E135 E136 E137 E138 E140 E141 E142 E143 E144 E145 E146 E147 E148 J20 J41 J42 J43 J44 J47 I20 I240 I248 I249 D501 D508 D509 I10 I119 E40 E41 E42 E43 E550 E643E86 K522 K528 K529 N390 N10 N12 N11 N136 K250 K251 K252 K254 K255 K256 K260 K261 K262K264 K265 K266 K270 K271 K272 K274 K275 K276 K280 K281 K282 K284 K285 K286 L03 L04 L08 L980 L88 L983 N70 N73 N74 H66 H67 J02 J03 J06 J312 K02 K03 K04 K05 K06 K08 K098 K099 K12 K13 K35 K36 K37 O15 G40 G41 R56 R02. Note some of these codes are for principal diagnosis only, some are for principal or associated diagnosis, and some are principal diagnosis with the exclusion of some procedure codes. For more information on coding used, and refer to AIHW and National Health Performance Committee 2004, *The national report on health sector performance indicators 2003*.
- (c) Financial year reporting.
- (d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Western Australia, South Australia, the Northern Territory and Queensland only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Other includes hospitalisations of Indigenous people and those for whom Indigenous status was not stated.
- (f) Directly age standardised using the Australian 2001 Standard population.
- (g) LCL = lower confidence limit.
- (h) UCL = upper confidence limit.
- (i) Rate ratio Indigenous:other.

Note: Person numbers and rates include hospitalisations for which sex was indeterminate or 'not stated'.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## Hospitalisations by diagnosis

Table 3.06.2 presents data on the top 10 ambulatory care sensitive hospital admissions for Aboriginal and Torres Strait Islander peoples in Queensland, Western Australia, South Australia and the Northern Territory combined for the two-year period July 2002 to June 2004.

- In the two-year period July 2002 to June 2004, diabetes complications were the most common type of ambulatory sensitive condition among Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined; followed by convulsions and epilepsy; and ear, nose and throat infections. Indigenous Australians were hospitalised at around 12, 6 and 2 times the rate of other Australians for these conditions respectively.
- Chronic obstructive pulmonary disease (COPD) was the fourth most common ambulatory sensitive condition for which Indigenous Australians were hospitalised, at almost five times the rate of other Australians.
- For most ambulatory sensitive care conditions, other Australians had a greater average length of stay in hospital than Indigenous Australians (4.9 days compared to 3.8 days). This contrasts with the length of stay for all conditions combined which was higher for Indigenous Australians (3.1) than other Australians (2.1).
- Congestive heart failure and COPD were responsible for the greatest average number of days in hospital of these conditions, with Indigenous Australians staying an average of around 6 days in hospital compared to 8 days for other Australians.

**Table 3.06.2: Top 10 ambulatory care sensitive hospital admissions, by Indigenous status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Separations					Average bed days		Total bed days		
	Number Indigenous	Indigenous rate per 1,000 <sup>(e)</sup>	LCL 95% <sup>(f)</sup>	UCL 95% <sup>(g)</sup>	Other rate per 1,000 <sup>(e)</sup>	Ratio <sup>(h)</sup>	Indigenous	Other <sup>(i)</sup>	Indigenous	Other <sup>(i)</sup>
Diabetes complications	26,789	101.2	99.8	102.5	8.3	12.2*	4.4	6.6	117,184	803,056
Convulsions and epilepsy	3,943	8.4	8.1	8.7	1.4	6.1*	2.5	3.0	9,818	58,203
Ear, nose and throat infections	3,074	4.2	4.0	4.4	1.8	2.3*	2.1	1.8	6,496	44,590
Chronic Obstructive Pulmonary Disease	2,910	13.6	13.0	14.2	2.7	5.0*	5.5	7.7	15,916	306,156
Asthma	2,706	5.2	4.9	5.5	1.9	2.7*	2.5	2.5	6,685	69,136
Cellulitis	2,589	5.8	5.5	6.1	1.3	4.3*	3.5	5.0	9,175	97,269
Pyelonephritis	2,336	7.1	6.7	7.5	1.9	3.8*	3.7	4.8	8,688	131,131
Dental problems	2,276	3.0	2.8	3.1	2.7	1.1	1.6	1.1	3,615	44,464
Angina	1,687	6.7	6.3	7.1	2.3	2.9*	2.5	2.8	4,174	94,458
Congestive cardiac failure	1,583	7.1	6.7	7.5	2.0	3.5*	5.7	7.6	8,077	226,645
<b>Total<sup>(j)</sup></b>	<b>52,160</b>	<b>164.7</b>	<b>163.0</b>	<b>166.4</b>	<b>31.2</b>	<b>5.3*</b>	<b>3.8</b>	<b>4.9</b>	<b>189,828</b>	<b>1,875,108</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

- (a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).
- (c) Financial year reporting.
- (d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Directly age standardised using the Australian 2001 Standard population.
- (f) LCL = lower confidence limit.
- (g) UCL = upper confidence limit.
- (h) Ratio - Indigenous:Other.
- (i) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was 'not stated'.
- (j) Note that the sum of the number of hospitalisations for each condition exceeds the total as more than one ambulatory care sensitive condition can be diagnosed for each hospital separation.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## Hospitalisations by diagnosis and age group

Table 3.06.3 presents data on the top three ambulatory care sensitive hospital admissions by age group for Aboriginal and Torres Strait Islander peoples in Queensland, Western Australia, South Australia and the Northern Territory combined for the two-year period July 2002 to June 2004.

- In the two-year period July 2002 to June 2004, ear, nose and throat infections were the most common type of ambulatory sensitive condition among Indigenous Australians aged less than 1 year of age, followed by pyelonephritis (chronic infection of the kidneys). Indigenous infants were hospitalised at around three times the rate of other infants for ear, nose and throat infections and at similar rates to other infants for pyelonephritis. Ear, nose and throat infections and pyelonephritis accounted for approximately 6% and 1% of all hospitalisations of Indigenous infants.
- Ear, nose and throat infections were also a common reason for hospitalisation among Indigenous Australians aged 1–14 years of age who were hospitalised at twice the rate of other Australians at this age. Ear, nose and throat infections accounted for 6% of total hospitalisations of Indigenous Australians in this age group.
- Pyelonephritis and cellulitis (bacterial infection of the skin) were common ambulatory care sensitive conditions causing hospitalisation among Aboriginal and Torres Strait Islander peoples aged 15–24 years. Indigenous Australians of this age were hospitalised at three and four times the rate of other Australians for these conditions respectively. These conditions together accounted for approximately 2% of total hospitalisations of Indigenous Australians aged 15–24 years.
- Diabetes complications were the most common ambulatory care sensitive condition among Indigenous Australians aged 25–44, 45–64 and 65 years and older. Indigenous Australians were hospitalised at between six and 23 times the rate of other Australians for diabetes complications in these age groups. Diabetes complications were responsible for 7%, 14% and 14% of total hospitalisations of Indigenous Australians in these age groups respectively.
- Chronic obstructive pulmonary disease was another common potentially preventable condition responsible for hospitalisation among Indigenous Australians aged 45–64 and 65 years and over. Indigenous Australians were hospitalised at up to eight times the rate of other Australians for this condition. COPD accounted for 1% and 3% of total hospitalisations of Indigenous Australians aged 45–64 and 65 years and over respectively.



**Table 3.06.3: Major ambulatory care sensitive hospital admissions, by age group and Indigenous status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

Age group (years)	Condition	Indigenous				Other <sup>(e)</sup>				Rate ratio <sup>(i)</sup>
		Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	
<1	Ear, nose and throat infections	705	48.9	45.3	52.5	2,606	15.2	14.6	15.8	3.2
	Pyelonephritis	127	8.8	7.3	10.3	1,255	7.3	6.9	7.7	1.2
	Convulsions and epilepsy	110	7.6	6.2	9.1	869	5.1	4.7	5.4	1.5
1–14	Ear, nose and throat infections	1,575	7.8	7.5	8.2	13,251	5.0	4.9	5.0	1.6
	Dental conditions	1,563	7.8	7.4	8.2	17,263	6.5	6.4	6.6	1.2
	Asthma	1,295	6.4	6.1	6.8	13,933	5.2	5.1	5.3	1.2
15–24	Pyelonephritis	319	2.9	2.6	3.2	2,254	1.1	1.1	1.2	2.6
	Cellulitis	305	2.8	2.5	3.1	1,275	0.6	0.6	0.7	4.3
	Diabetes complications	297	2.7	2.4	3.0	2,166	1.1	1.0	1.1	2.5
25–44	Diabetes complications	6,768	41.9	40.9	42.9	9,381	2.2	2.2	2.3	18.9
	Convulsions and epilepsy	1,857	11.5	11.0	12.0	4,532	1.1	1.0	1.1	10.7
	Cellulitis	949	5.9	5.5	6.3	3,808	0.9	0.9	0.9	6.5
45–64	Diabetes complications	15,513	229.6	226.0	233.2	35,198	10.0	9.9	10.1	23.0
	COPD	1,255	18.6	17.5	19.6	8,413	2.4	2.3	2.4	7.8
	Angina	955	14.1	13.2	15.0	10,563	3.0	2.9	3.0	4.7
65+	Diabetes complications	4,144	260.3	252.3	268.2	72,824	40.4	40.1	40.7	6.4
	COPD	967	60.7	56.9	64.6	30,654	17.0	16.8	17.2	3.6
	Congestive cardiac failure	430	27.0	24.5	29.6	26,152	14.5	14.3	14.7	1.9

(continued)

**Table 3.06.3 (continued): Major ambulatory care sensitive hospital admissions, by age group and Indigenous status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the  $p < .05$  level.

- (a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).
- (c) Financial year reporting.
- (d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Other includes hospitalisations for Indigenous people and those for whom Indigenous status was not stated.
- (f) Rate per 1,000 population.
- (g) LCL = lower confidence limit.
- (h) UCL = upper confidence limit.
- (i) Rate ratio—hospitalisation rate for Indigenous Australians divided by hospitalisation rate for other Australians.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## Time series analyses

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australian's for ambulatory care sensitive conditions are presented below.

It should be noted that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may reflect better access rather than a worsening of health but is likely to be a combination of both.

### All ambulatory care sensitive conditions

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for total ambulatory care sensitive conditions over the five-year period 1998–99 to 2003–04 are presented in Table 3.06.4 and Figure 3.06.2. This period has been used for analysis as coding changes were made to diabetes complications (the most common ambulatory care sensitive condition) in July 1999 and July 2000. Coding for diabetes is only consistent from 2000–01 onwards and thus data for prior years should not be included in the analysis of trends involving diabetes complications.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for ambulatory care sensitive conditions among Indigenous Australians during the period 2000–01 to 2003–04. The fitted trend implies an average yearly increase in the rate for females of around 19 per 1,000, most of which is attributable to an increase in rates in 2003–04. These increases in hospitalisation rates were significant for both males and females.
- Over the same period, there were significant increases in hospitalisation rates for ambulatory care sensitive conditions among other Australians, with an average yearly increase in the rate of around 0.8 per 1,000. These increases in hospitalisation rates were also significant for both males and females.

- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2000–01 to 2003–04, reflecting both a relative and absolute increase in the gap between hospitalisation rates of Indigenous and other Australians for ambulatory care sensitive conditions over the period.

**Table 3.06.4: Age-standardised hospitalisation rates, rate ratios and rate differences for all ambulatory care sensitive hospital admissions, Qld, WA, SA and NT, 2000-01 to 2003-04**

	2000-01	2001-02	2002-03	2003-04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>					
Males	120.7	117.0	126.6	171.3	16.2*
Females	135.6	141.1	152.7	202.1	21.1*
Persons	128.9	130.6	141.1	187.6	18.6*
<b>Other Australians rate per 1,000<sup>(b)</sup></b>					
Males	31.6	32.0	32.6	34.6	1.0*
Females	28.2	28.1	28.6	29.8	0.5*
Persons	29.7	29.8	30.4	32.0	0.8*
<b>Rate ratio<sup>(c)</sup></b>					
Males	3.8	3.7	3.9	4.9	0.4
Females	4.6	4.7	5.0	6.3	0.6*
Persons	4.3	4.4	4.6	5.9	0.5*
<b>Rate difference<sup>(d)</sup></b>					
Males	89.1	84.99	94.0	136.7	15.2*
Females	105.9	111.3	122.3	170.1	20.4*
Persons	99.3	100.8	110.7	155.6	17.9*

\* Represents results with statistically significant increases or declines at the  $p < .05$  level over the period 2001-01 to 2003-04.

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

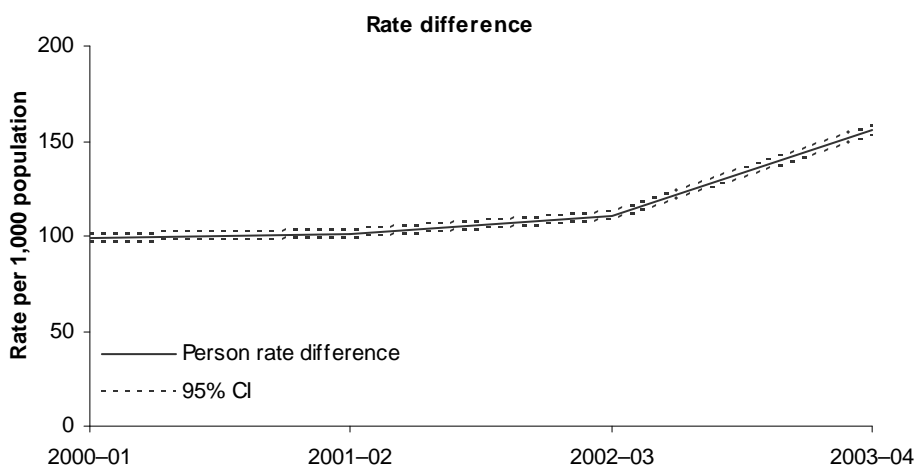
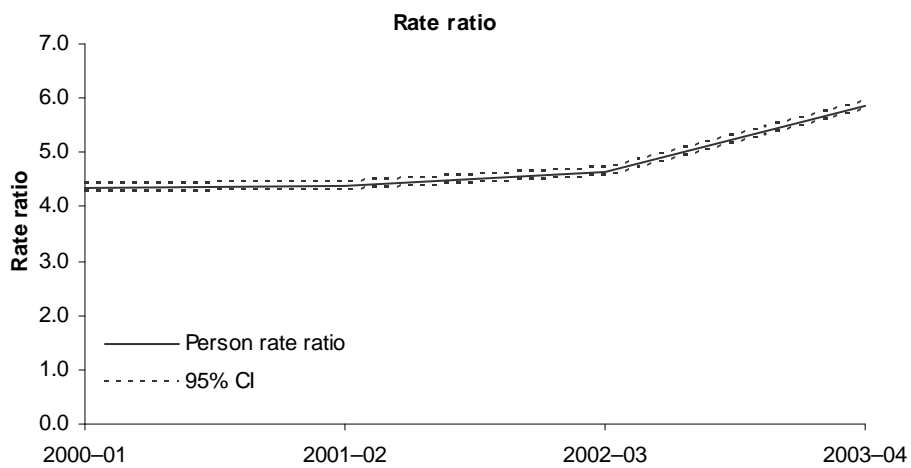
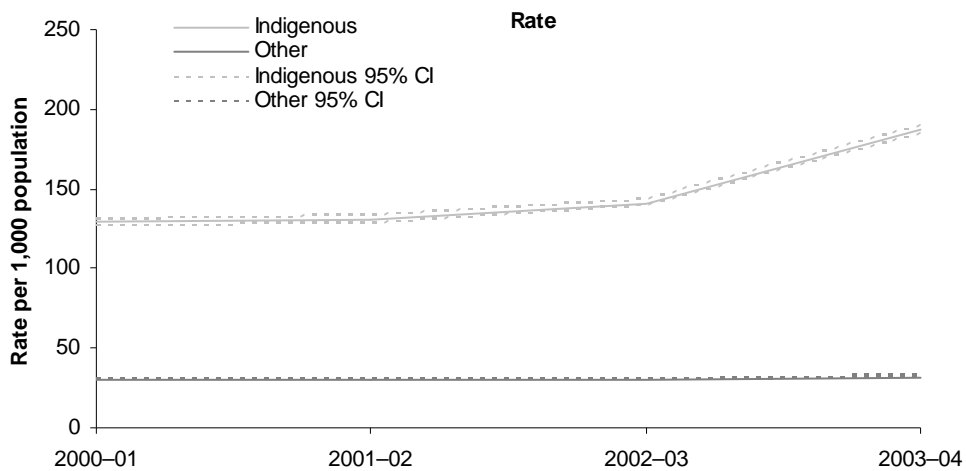
(b) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(c) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(d) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Note: Rates have been directly age standardised using the Australian 2001 Standard population.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.06.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for total ambulatory care sensitive conditions, Qld, WA, SA and NT, 2000-01 to 2003-04**

## Vaccine-preventable conditions

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine-preventable conditions such as influenza, diphtheria, measles, mumps and rubella over the period 1998–99 to 2003–04 are presented in Table 3.06.5 and Figure 3.06.3.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were apparent declines in hospitalisation rates for vaccine-preventable conditions (predominantly influenza) among Indigenous and other Australians during the period 1998–99 to 2003–04, however, these declines were only statistically significant for Indigenous females and other females. The fitted trend implies an average yearly decline in the rate of around 1.9 per 1,000 for Indigenous females and 0.4 per 1,000 for other females.
- Most of the declines in rates for vaccine-preventable hospitalisations over this period were attributable to a sharp decline in hospitalisation rates from 1998–99 to 1999–00. This is likely to be the result of the introduction of a number of vaccination programs and changes to the Australian Standard Vaccination Schedule in 1999 and 2000. Such changes include: funding for influenza and pneumococcal vaccine for Aboriginal and Torres Strait Islander adults aged 50 years and over and for those aged 15–49 years who are at high risk from these diseases; funding of influenza vaccine for non-Indigenous Australians aged 65 years and over; inclusion of diphtheria-tetanus-pertussis – hepatitis B vaccine on the childhood immunisation schedule; and the new requirement for full immunisation against hepatitis B and haemophilus influenza type B (Hib) at 12 months of age (Menzies et al. 2004).
- There were significant declines in the hospitalisation rate ratios between Indigenous and other Australians for vaccine-preventable conditions over the period 1998–99 to 2003–04. There were significant declines in the hospitalisation rate differences between Indigenous and other females.

**Table 3.06.5: Age-standardised hospitalisation rates, rate ratios and rate differences for vaccine preventable conditions, Qld, WA, SA and NT, 1998–99 to 2003–04**

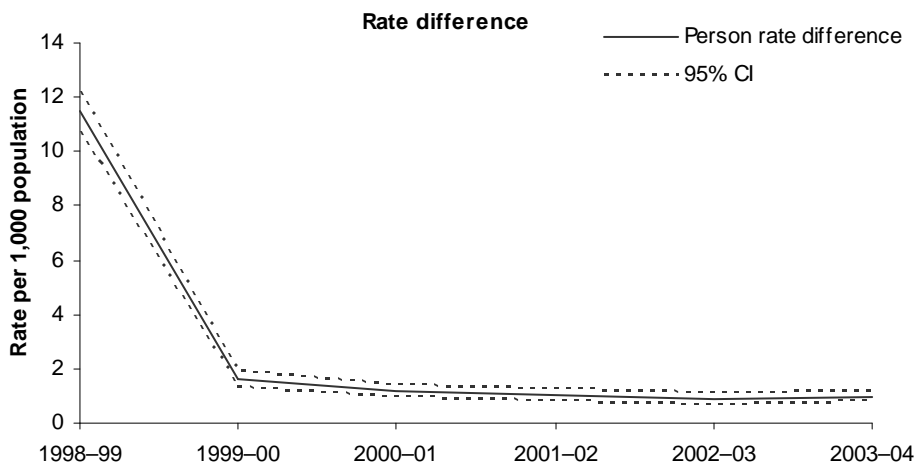
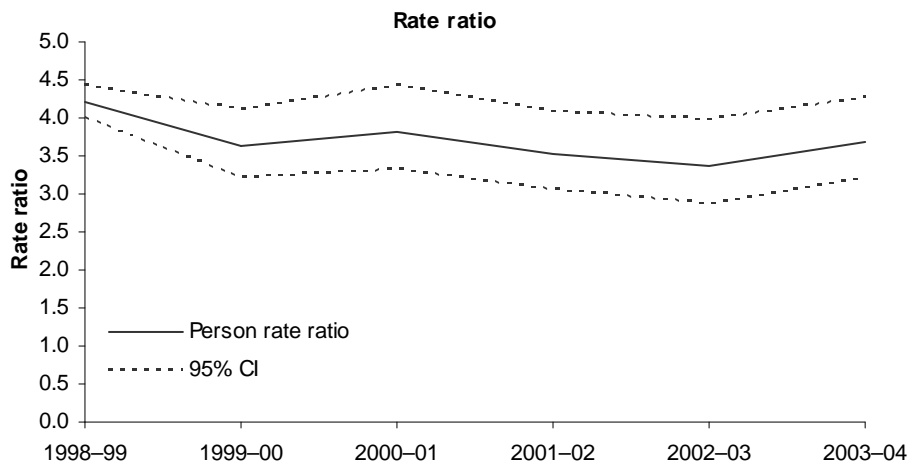
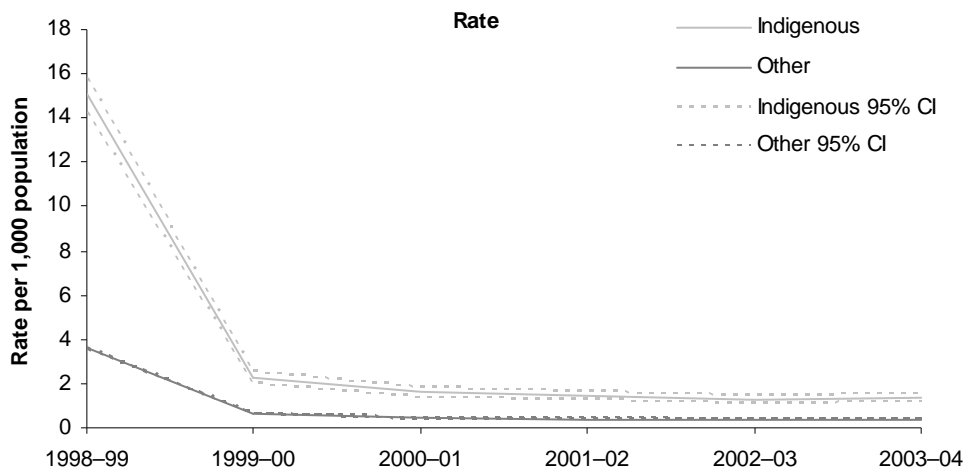
	1998–99	1999–2000	2000–01	2001–02	2002–03	2003–04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>							
Males	16.9	1.9	1.6	1.5	1.4	1.5	-2.3
Females	13.5	2.5	1.6	1.4	1.1	1.3	-1.9*
Persons	15.1	2.2	1.6	1.4	1.3	1.4	-2.0
<b>Other Australian rate per 1,000<sup>(b)</sup></b>							
Males	4.3	0.7	0.4	0.4	0.4	0.4	-0.6
Females	3.0	0.5	0.4	0.4	0.3	0.3	-0.4*
Persons	3.6	0.6	0.4	0.4	0.4	0.4	-0.5
<b>Rate ratio<sup>(c)</sup></b>							
Males	3.9	2.8	3.5	3.4	3.4	3.7	0.0
Females	3.8	4.1	3.9	3.5	3.1	3.5	-0.1*
Persons	4.2	3.7	3.8	3.5	3.4	3.7	-0.1*
<b>Rate difference<sup>(d)</sup></b>							
Males	12.6	1.2	1.1	1.0	1.0	1.1	-1.7
Females	10.0	1.9	1.2	1.0	0.8	0.9	-1.4*
Persons	11.5	1.6	1.2	1.0	0.9	1.0	-1.6

\* Represents results with statistically significant increases or declines at the p<.05 level over the period 1998–99 to 2003–04.

- (a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (b) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
- (c) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.
- (d) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Note: Rates have been directly age standardised using the Australian 2001 Standard population.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.06.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for vaccine-preventable conditions, Qld, WA, SA and NT, 1998-99 to 2003-04**



### **Potentially preventable chronic conditions**

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable chronic conditions such as diabetes, asthma, angina, hypertension and chronic obstructive pulmonary disease over the period 2000–01 to 2003–04 are presented in Table 3.06.6 and Figure 3.06.4. This period has been used for analysis as coding changes were made to diabetes complications (the most common potentially preventable chronic condition) in July 1999 and July 2000. Coding for diabetes is only consistent from 2000–01 onwards and thus data for prior years should not be included in the analysis of trends involving diabetes complications.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for potentially preventable chronic conditions (predominantly diabetes) among Indigenous Australians during the period 2000–01 to 2003–04. The fitted trend implies an average yearly increase in the rate of around 19 per 1,000, most of which is attributable to an increase in rates in 2003–04. These increases in hospitalisation rates were significant for both males and females.
- There were also significant increases in hospitalisation rates for potentially preventable chronic conditions for other Australians, with an average yearly increase in the rate of around 0.5 per 1,000. These increases were statistically significant for males but not for females.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 2000–01 to 2003–04. This reflects a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians for potentially preventable chronic conditions over the period 2000–01 to 2003–04.

**Table 3.06.6: Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable chronic conditions, Qld, WA, SA and NT, 2000-01 to 2003-04**

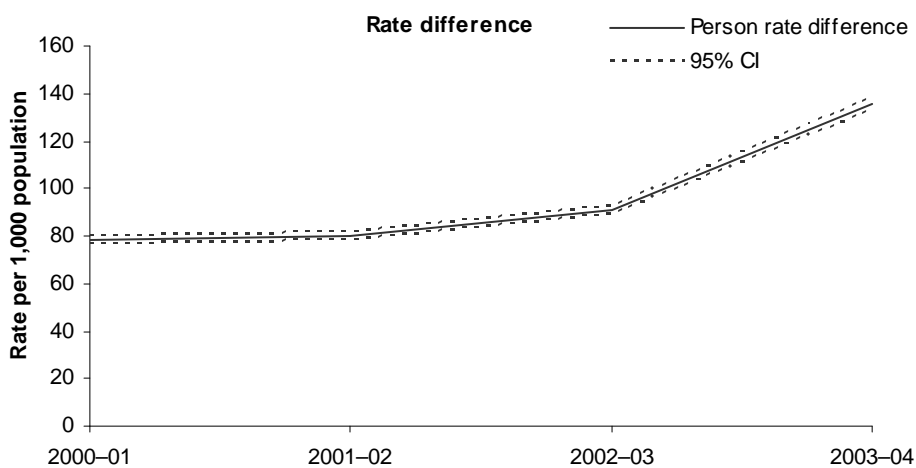
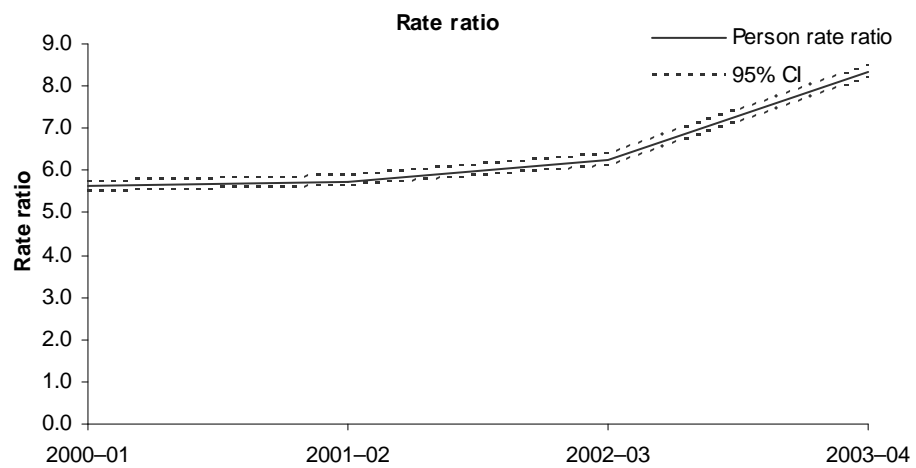
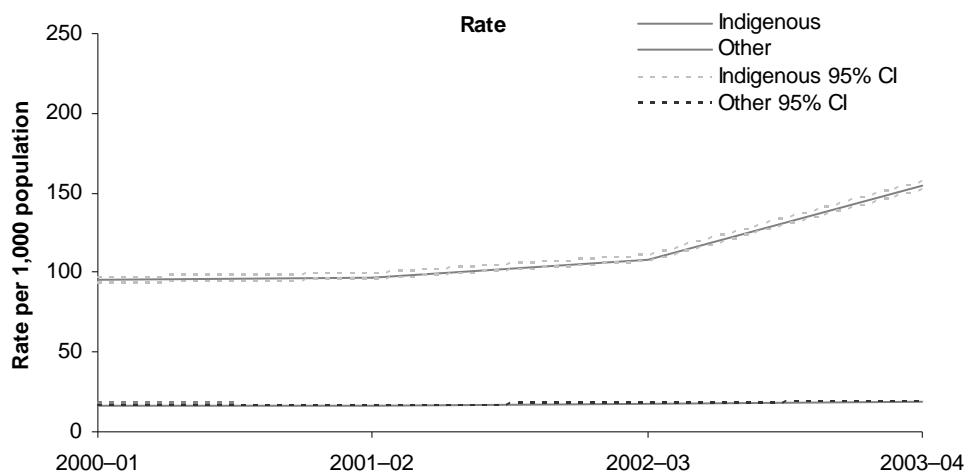
	2001-01	2001-02	2002-03	2003-04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>					
Males	88.5	84.5	94.8	138.4	16.0*
Females	100.9	106.3	119.0	168.0	21.4*
Persons	95.4	96.8	108.3	154.0	18.7*
<b>Other Australian rate per 1,000<sup>(b)</sup></b>					
Males	19.4	19.6	20.1	21.8	0.8*
Females	14.8	14.5	14.9	15.7	0.3
Persons	16.9	16.8	17.3	18.5	0.5*
<b>Rate ratio<sup>(c)</sup></b>					
Males	4.6	4.3	4.7	6.4	0.6
Females	6.0	6.3	6.9	9.1	1.0*
Persons	5.6	5.8	6.3	8.3	0.9*
<b>Rate difference<sup>(d)</sup></b>					
Males	69.0	64.9	74.7	116.7	15.3*
Females	84.0	89.5	101.7	149.5	20.9*
Persons	78.5	80.0	91.0	135.5	18.2*

\* Represents results with statistically significant increases or declines at the  $p < 0.05$  level over the period 2000-01 to 2003-04.

- (a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (b) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
- (c) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.
- (d) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Note: Rates have been directly age standardised using the Australian 2001 Standard population.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.06.4: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable chronic conditions, Qld, WA, SA and NT, 2000-01 to 2003-04**

## Potentially preventable acute conditions

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable acute conditions such as kidney infection, perforated ulcer, cellulitis, pelvic inflammatory disease, ear, nose and throat infections and dental conditions over the period 1998–99 to 2003–04 are presented in Table 3.06.7 and Figure 3.06.5.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant declines in hospitalisation rates for potentially preventable acute conditions among Indigenous females during the period 1998–99 to 2003–04. The fitted trend implies an average yearly decline in the rate of around 1 per 1,000.
- There were significant increases in hospitalisation rates for other Australians during the same period, with an average yearly increase in the rate of 0.4 per 1,000.
- There were significant declines in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians over the period 1998–99 to 2003–04, reflecting a relative and absolute decline in the gap between hospitalisation rates for Indigenous and other Australians. The declines in hospitalisation rate ratios were significant for both males and females and the declines in hospitalisation rate differences were significant for females but not for males.

**Table 3.06.7: Age-standardised hospitalisation rates, rate ratios and rate differences for potentially preventable acute conditions, Qld, WA, SA and NT, 1998–99 to 2003–04**

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>							
Males	35.3	33.9	32.0	32.5	32.2	34.8	–0.2
Females	41.1	38.7	35.9	35.9	35.7	36.1	–1.0*
Persons	38.4	36.5	34.1	34.4	34.2	35.6	–0.6
<b>Other Australian rate per 1,000<sup>(b)</sup></b>							
Males	10.2	10.7	11.0	11.3	11.4	11.8	0.3*
Females	11.0	11.6	12.4	12.6	12.8	13.2	0.4*
Persons	10.6	11.1	11.7	12.0	12.1	12.5	0.4*
<b>Rate ratio<sup>(c)</sup></b>							
Males	3.5	3.2	2.9	2.9	2.8	3.0	–0.1*
Females	3.9	3.5	3.1	3.0	2.9	2.9	–0.2*
Persons	3.6	3.3	2.9	2.9	2.8	2.8	–0.2*
<b>Rate difference<sup>(d)</sup></b>							
Males	25.1	23.3	21.0	21.1	20.8	23.0	–0.5
Females	30.5	27.6	24.2	23.9	23.6	23.6	–1.3*
Persons	27.8	25.4	22.4	22.4	22.1	23.0	–1.0*

\* Represents results with statistically significant increases or declines at the  $p < .05$  level over the period 1998–99 to 2003–04.

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

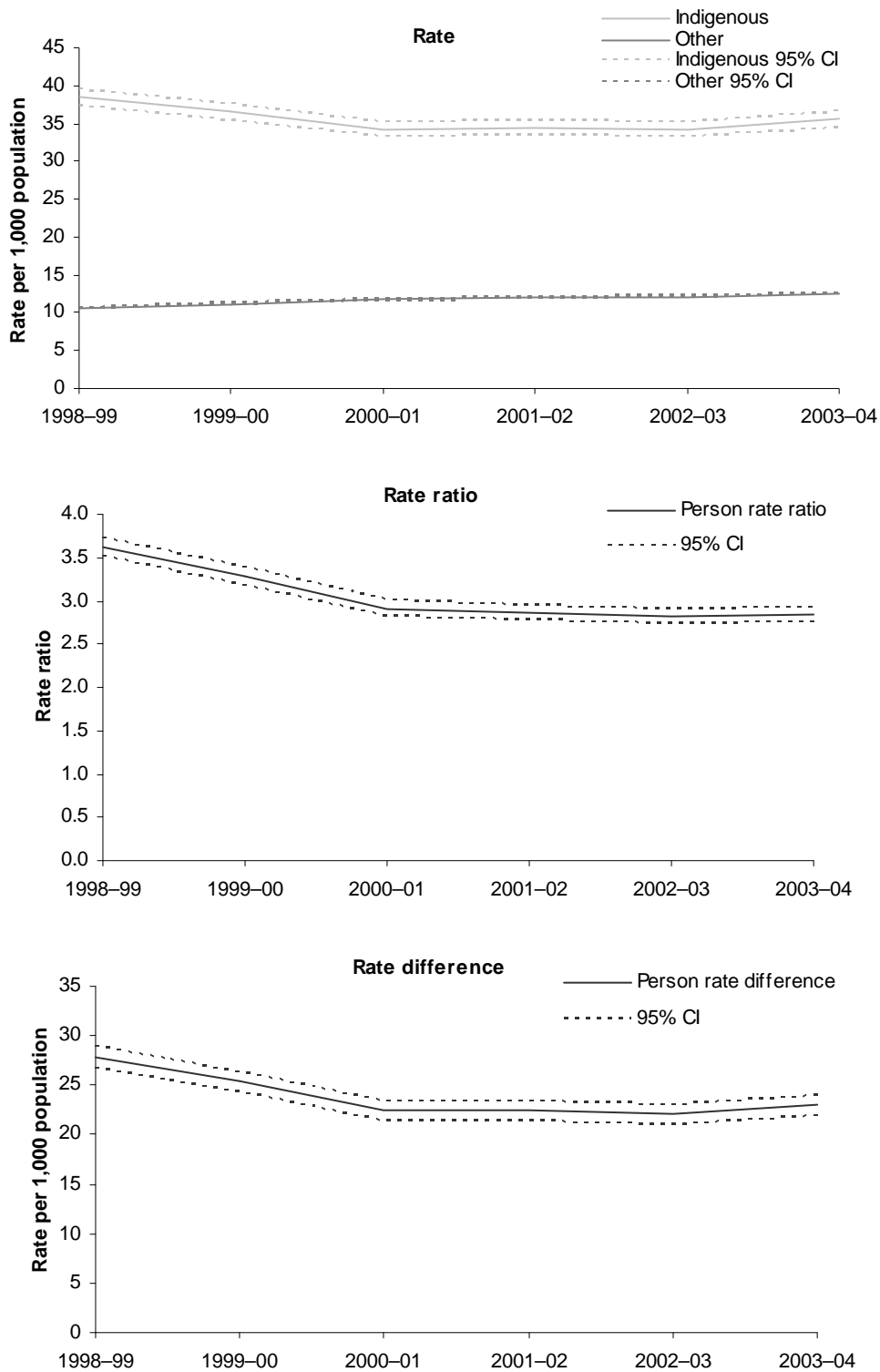
(b) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(c) Hospitalisation rates for Indigenous Australians divided by hospitalisation rates for other Australians.

(d) Hospitalisation rates for Indigenous Australians minus hospitalisation rates for other Australians.

Note: Rates have been directly age standardised using the Australian 2001 Standard population.

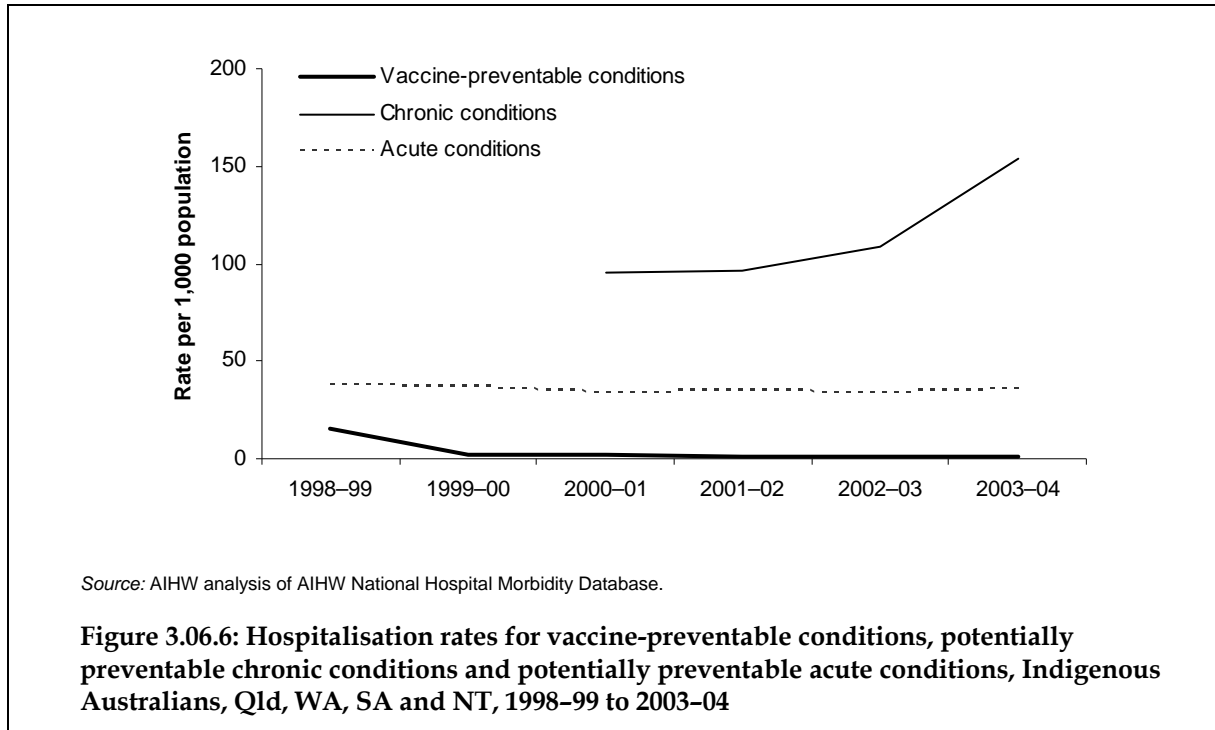
Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.06.5: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for potentially preventable acute conditions, Qld, WA, SA and NT, 1998-99 to 2003-04**

Figure 3.06.6 presents hospitalisation rates for Indigenous Australians for vaccine preventable, potentially preventable chronic and potentially preventable acute conditions. Indigenous Australians are hospitalised at much higher rates for chronic conditions than acute conditions or vaccine preventable conditions.



## **Data quality issues**

### **Hospital separations data**

#### ***Separations***

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.*

#### ***Indigenous status question***

*Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The not stated category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).*

#### ***Under-identification***

*The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander people. While the identification of Indigenous people in hospitalisations is incomplete in all states and territories, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2003–04 (AIHW 2005). It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated information from Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these four jurisdictions is 60%. The following caveats have also been recommended:*

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a degree of Indigenous under-identification in Western Australia and relatively marked Indigenous under-identification in Queensland data).*
- *Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.*
- *Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in other jurisdictions (ABS & AIHW 2005).*

#### ***Numerator and denominator***

*Rate and ratio calculations rely on good numerator and denominator data. The changes in the completeness of identification of Indigenous people in hospital records may take place at different rates than changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from the ABS's Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2009 (ABS 2004).*

## **References**

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Menzies R, McIntyre P and Beard F (National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases) 2004. Vaccine preventable diseases and vaccination coverage in Aboriginal and Torres Strait Islander people, Australia, 1999 to 2002. *Communicable Diseases Intelligence* 28(1): Suppl.1.

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## 3.07 Discharge against medical advice

*The rate at which Aboriginal and Torres Strait Islander peoples leave hospital against medical advice or are discharged at their own risk*

### Data sources

Data for this measure come from the AIHW's National Hospital Morbidity Database.

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations in 2003–04 – Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2005). These four jurisdictions represent approximately 60% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period July 2002 to June 2004. An aggregate of two years of data has been used as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a change in a type of care (for example, from acute to rehabilitation).

### Analyses

Age-standardised rates and ratios have been used for this indicator as a measure of hospitalisations in the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates of hospital admissions among Indigenous people and those of other Australians, taking into account differences in age distributions.

### Hospitalisations

- For the period July 2002 to June 2004, in Queensland, Western Australia, South Australia and the Northern Territory combined, there were 21,023 hospitalisations where the

patient left hospital against medical advice or was discharged at their own risk, 8,450 (40.2%) of which were hospitalisations of Indigenous patients.

- For approximately 3% of all hospitalisations of Indigenous Australians, the patient was discharged against medical advice.

### **Hospitalisations by age and sex**

- A slightly higher proportion of Indigenous males were discharged from hospital against medical advice (3.2%) than Indigenous females (2.5%) (Table 3.07.1).
- Indigenous Australians aged 25–34 and 35–44 years were most likely to be discharged from hospital against medical advice. Indigenous Australians in these age groups were discharged from hospital against medical advice at 20–30 times the rate of other Australians (Table 3.07.2).

**Table 3.07.1: Discharges from hospital against medical advice, by Indigenous status and sex (excluding mental and behavioural disorders), Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Number		Per cent <sup>(e)</sup>		Indigenous			Other <sup>(f)</sup>			Rate Ratio <sup>(j)</sup>
	Indigenous	Other <sup>(f)</sup>	Indigenous	Other <sup>(f)</sup>	Rate per 1000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	Rate per 1,000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	
Males	4,030	7,390	3.2	0.3	17.7	17.1	18.3	1.0	1.0	1.1	17.1*
Females	4,420	5,183	2.5	0.2	16.4	15.9	16.9	0.7	0.7	0.7	22.6*
Persons	<b>8,450</b>	<b>12,573</b>	<b>2.8</b>	<b>0.3</b>	<b>17.0</b>	<b>16.6</b>	<b>17.4</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>19.4*</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2002–03 to 2003–04.

(f) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Directly age standardised using the Australian 2001 Standard population.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous:other.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Table 3.07.2: Discharges from hospital against medical advice, by Indigenous status and age group (excluding mental and behavioural disorders), Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

Age group (years)	Number		Per cent <sup>(e)</sup>		Indigenous			Other <sup>(f)</sup>			Rate Ratio <sup>(j)</sup>
	Indigenous	Other <sup>(f)</sup>	Indigenous	Other <sup>(f)</sup>	Rate per 1,000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	Rate per 1,000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	
0–4	587	344	4.3	0.2	8.0	7.5	8.8	0.4	0.3	0.4	21.1*
5–14	151	185	2.2	0.1	1.1	0.9	1.2	0.1	0.1	0.1	11.1*
15–24	1,448	2,275	9.7	0.7	13.2	12.5	13.9	1.1	1.1	1.2	11.5*
25–34	2,464	2,797	12.4	0.6	27.2	26.1	28.3	1.4	1.3	1.4	19.9*
35–44	2,200	2,428	7.9	0.5	31.0	29.7	32.3	1.1	1.1	1.1	27.9*
45–54	1,168	1,749	3.5	0.3	26.1	24.6	27.6	0.9	0.8	0.9	30.2*
55–64	313	1,237	1.3	0.2	13.7	12.2	15.3	0.8	0.8	0.8	16.7*
65+	119	1,558	0.7	0.1	7.5	6.1	8.8	0.9	0.8	0.9	8.6*
<b>Total<sup>(k)</sup></b>	<b>8,450</b>	<b>12,573</b>	<b>2.8</b>	<b>0.3</b>	<b>17.0</b>	<b>16.6</b>	<b>17.4</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>19.4*</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2002–03 to 2003–04.

(f) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(g) Directly age standardised using the Australian 2001 Standard population.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous:other.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## Hospitalisations by state/territory

- Overall, Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined were discharged from hospital against medical advice at 19 times the rate of other Australians.
- In Queensland, Indigenous Australians were discharged from hospital against medical advice at eight times the rate of other Australians. In Western Australia, South Australia and the Northern Territory, Indigenous Australians were discharged from hospital against medical advice at 29, 24 and 28 times the rate of other Australians in these jurisdictions respectively (Table 3.07.3; Figure 3.07.1).

**Table 3.07.3: Discharges from hospital against medical advice, by Indigenous status and state/territory (excluding mental and behavioural disorders), Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Number		Per cent <sup>(e)</sup>		Indigenous			Other <sup>(f)</sup>			Rate Ratio <sup>(j)</sup>
	Indig.	Other	Indig.	Other	Rate per 1,000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	Rate per 1000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	
Qld	1,653	6,876	1.5	0.3	7.5	7.1	7.9	0.9	0.9	1.0	8.0*
WA	2,832	3,094	3.4	0.3	23.6	22.6	24.6	0.8	0.8	0.8	28.8*
SA	857	2,345	3.1	0.2	18.9	17.5	20.2	0.8	0.8	0.8	24.0*
NT	3,108	258	3.8	0.5	28.9	27.8	30.1	1.1	0.9	1.2	27.5*
<b>Qld, WA, SA and NT</b>	<b>8,450</b>	<b>12,573</b>	<b>2.8</b>	<b>0.3</b>	<b>17.0</b>	<b>16.6</b>	<b>17.4</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>19.4*</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2002–03 to 2003–04.

(f) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

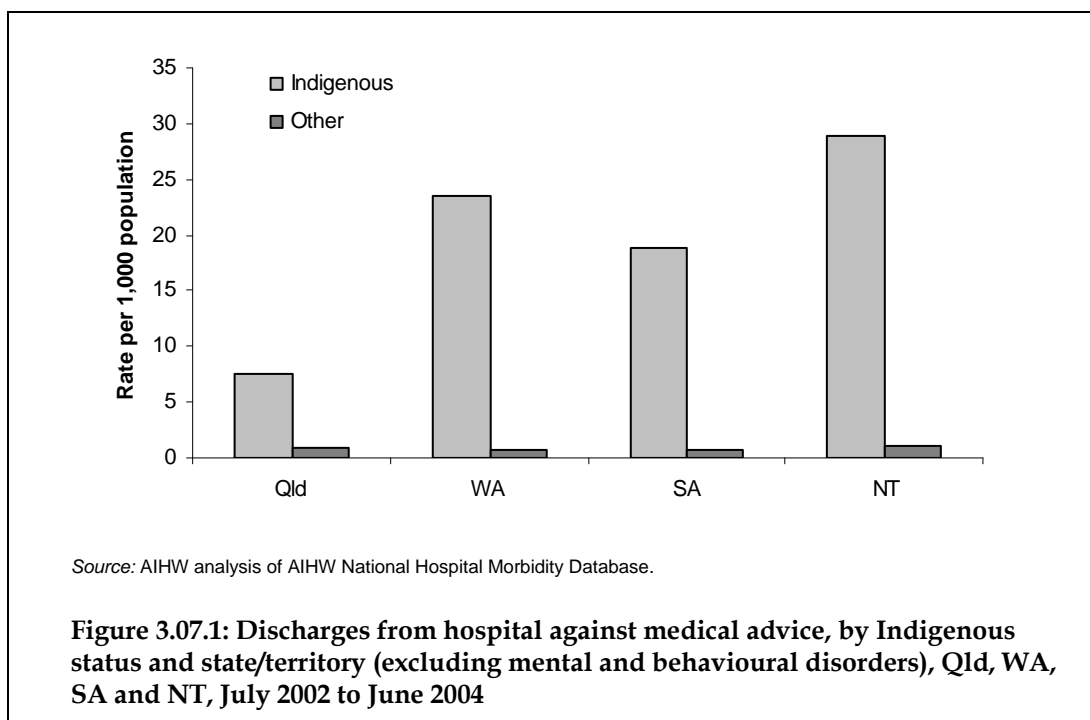
(g) Directly age standardised using the Australian 2001 Standard population.

(h) LCL = lower confidence limit.

(i) UCL = upper confidence limit.

(j) Rate ratio Indigenous:other.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



### Hospitalisations by principal diagnosis

- The most common principal diagnoses of hospitalisations of Indigenous Australians who were discharged against medical advice were injury and poisoning (2,027 separations) followed by respiratory diseases (1,228 separations). These two groups of diagnoses represented 39% of all hospitalisations discharged against medical advice. As a proportion of all Indigenous separations for each specific diagnoses group, discharge against medical advice was also highest for injury and poisoning (8%), followed by diseases of the skin (7%) and symptoms, signs and abnormal clinical and laboratory findings (7%) (Table 3.07.4).
- Indigenous Australians who were hospitalised for injury and poisoning were discharged from hospital against medical advice at 19 times the rate of other Australians. Indigenous Australians who were hospitalised for respiratory diseases were discharged against medical advice at 42 times the rate of other Australians and Indigenous Australians who were hospitalised for infectious and parasitic diseases were discharged from hospital against medical advice at 41 times the rate of other Australians.

**Table 3.07.4: Discharges from hospital against medical advice, by Indigenous status and principal diagnosis (excluding mental and behavioural disorders), Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Number		Per cent <sup>(e)</sup>		Indigenous			Other <sup>(f)</sup>			Rate Ratio <sup>(i)</sup>
	Indigenous	Other <sup>(f)</sup>	Indigenous	Other <sup>(f)</sup>	Rate per 1,000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	Rate per 1000 <sup>(g)</sup>	95% LCL <sup>(h)</sup>	95% UCL <sup>(i)</sup>	
Injury, poisoning and certain other consequences of external causes (S00–Y98)	2,027	2,865	8.0	0.9	3.8	3.6	4.0	0.2	0.2	0.2	19.1*
Diseases of the respiratory system (J00–J99)	1,228	908	5.4	0.4	2.6	2.5	2.8	0.1	0.1	0.1	41.7*
Diseases of the digestive system (K00–K93)	778	1,387	5.2	0.2	1.6	1.5	1.8	0.1	0.1	0.1	17.0*
Symptom, signs and abnormal clinical and laboratory findings, nec (R00–R99)	742	1,791	6.5	0.6	1.6	1.5	1.7	0.1	0.1	0.1	13.0*
Complications of pregnancy, childbirth and the puerperium (O00–O99)	644	1,070	2.7	0.3	0.9	0.9	1.0	0.1	0.1	0.1	12.4*
Diseases of the skin and subcutaneous tissue (L00–L99)	519	442	6.5	0.5	1.0	0.9	1.1	0.0	0.0	0.0	32.0*
Certain infectious and parasitic diseases (A00–B99)	438	265	5.7	0.4	0.8	0.7	0.8	0.0	0.0	0.0	40.5*
Endocrine, nutritional and metabolic diseases (E00–E90)	396	412	6.3	0.5	0.9	0.8	1.0	0.0	0.0	0.0	30.1*
Diseases of the circulatory system (I00–I99)	373	1,004	3.8	0.3	1.0	0.9	1.1	0.1	0.1	0.1	15.0*
Diseases of the genitourinary system (N00–N99)	315	490	3.9	0.2	0.6	0.6	0.7	0.0	0.0	0.0	18.9*
Diseases of the musculoskeletal system (M00–M99)	253	450	5.1	0.2	0.5	0.5	0.6	0.0	0.0	0.0	17.3*
Other <sup>(k)</sup>	736	1,486	0.5	0.1	1.5	1.4	1.6	0.1	0.1	0.1	14.8*
<b>Total<sup>(l)</sup></b>	<b>8,450</b>	<b>12,573</b>	<b>2.8</b>	<b>0.3</b>	<b>17.0</b>	<b>16.6</b>	<b>17.4</b>	<b>0.9</b>	<b>0.9</b>	<b>0.9</b>	<b>19.4*</b>

(continued)

**Table 3.07.4 (continued): Discharges from hospital against medical advice, by Indigenous status and principal diagnosis (excluding mental and behavioural disorders), Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the  $p < .05$  level.

- (a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).
- (c) Financial year reporting.
- (d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Percentage of hospital separations (excluding mental and behavioural disorders) in the period 2002–03 to 2003–04.
- (f) Includes hospitalisations for which no principal diagnosis was recorded. Excludes mental and behavioural disorders (F00–F99).
- (g) Directly age standardised using the Australian 2001 Standard population.
- (h) LCL = lower confidence limit.
- (i) UCL = upper confidence limit.
- (j) Rate ratio Indigenous:other.
- (k) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
- (l) Includes: neoplasms, diseases of the nervous system, certain conditions originating in the perinatal period, diseases of the ear and mastoid process, diseases of the eye and adnexa, diseases of the blood and blood-forming organs and certain disorders involving the immune system, and congenital malformations, deformations and chromosomal abnormalities and factors influencing health status and contact with health services.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



## Time series analyses

The number and rate of hospitalisations for which Indigenous and other Australians were discharged against medical advice over the five-year period 1998–99 to 2003–04 are presented in Table 3.07.5.

- Over the period 1998–99 to 2003–04, in Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in the rate at which Indigenous Australians were discharged from hospital against medical advice. The fitted trend implies an average annual increase in the rate of around 0.2 per 1,000. It should be noted that most of the increase took place between 1998–99 and 1999–00 after which rates remained relatively stable.
- Over the same period, there were no significant changes in the rates at which other Australians were discharged from hospital against medical advice.

It should be noted that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may reflect better access to hospitals rather than a worsening of health.

**Table 3.07.5: Discharges against medical advice, by Indigenous status (excluding mental and behavioural disorders), Qld, WA, SA and NT, 1998–99 to 2003–04<sup>(a)(b)(c)(d)</sup>**

	Number		Indigenous			Other <sup>(e)</sup>			Rate Ratio <sup>(i)</sup>
	Indigenous	Other <sup>(e)</sup>	Rate per 1000 <sup>(f)</sup>	95% LCL <sup>(g)</sup>	95% UCL <sup>(h)</sup>	Rate per 1,000 <sup>(f)</sup>	95% LCL <sup>(g)</sup>	95% UCL <sup>(h)</sup>	
1998–99	3,917	6,089	16.6	16.0	17.2	0.9	0.9	0.9	18.5*
1999–00	4,196	6,383	17.5	16.9	18.1	0.9	0.9	1.0	18.8*
2000–01	4,206	6,520	17.4	16.8	18.0	0.9	0.9	1.0	18.5*
2001–02	4,387	6,531	17.5	16.9	18.1	0.9	0.9	1.0	18.8*
2002–03	4,343	6,222	17.3	16.8	17.9	0.9	0.9	0.9	19.9*
2003–04	4,514	6,534	17.8	17.2	18.3	0.9	0.9	0.9	19.7*

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004).

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(f) Directly age standardised using the Australian 2001 Standard population.

(g) LCL = lower confidence limit.

(h) UCL = upper confidence limit.

(i) Rate ratio - Indigenous: Other.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## **Data quality issues**

### **Hospital separations data**

#### ***Separations***

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.*

#### ***Indigenous status question***

*Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The not stated category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).*

#### ***Under-identification***

*The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander people. While the identification of Indigenous people in hospitalisations is incomplete in all states and territories, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2003–04 (AIHW 2005). It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated information from Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these four jurisdictions is 60%. The following caveats have also been recommended:*

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a degree of Indigenous under-identification in Western Australia and relatively marked Indigenous under-identification in Queensland data).*
- *Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.*
- *Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in other jurisdictions (ABS & AIHW 2005).*

#### ***Numerator and denominator***

*Rate and ratio calculations rely on good numerator and denominator data. The changes in the completeness of identification of Indigenous people in hospital records may take place at different rates than changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from the ABS's Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2009 (ABS 2004).*

## **References**

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National Centre for Classification in Health 2004. International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification. 4<sup>th</sup> Edition. National Centre for Classification in Health.

## 3.08 Access to mental health services

*Access to mental health care services such as hospitals, community mental health care, doctors and Aboriginal and Torres Strait Islander Primary Health Care Services by Aboriginal and Torres Strait Islander peoples*

### Data sources

Data for this indicator come from:

- National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)
- Bettering the Evaluation and Care of Health (BEACH) survey
- AIHW National Hospital Morbidity Database
- AIHW National Community Mental health Care Database
- Service Activity Reporting data for Australian Government funded Aboriginal and Torres Strait Islander primary health care organisations.

#### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians about health-related issues including health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

#### **Bettering the Evaluation and Care of Health (BEACH) survey**

Information about encounters in general practice is available from the BEACH survey which is conducted by the AIHW and the University of Sydney. Information is collected from a random sample of approximately 1,000 general practitioners (GPs) from across Australia each year. A sample of 100 consecutive encounters is collected from each GP.

The number of Indigenous patients identified in the BEACH survey is likely to be underestimated. This is because some GPs might not ask about Indigenous status, or the patient may choose not to identify (AIHW 2002). The estimates presented here are also derived from a relatively small sample of GP encounters involving Indigenous Australians.

Due to a late inclusion of a 'not stated' category of Indigenous status in 2001–02, (before which not stated responses were included with non-Indigenous encounters), GP encounters for which Indigenous status was not reported have been included with encounters for non-Indigenous people under the 'other' category.

Data are presented for the five-year period 2000–01 to 2004–05, during which there were 7,296 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, representing 1.6% of total GP encounters.

## **Hospitalisations**

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations in 2003–04 – Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2005a). These four jurisdictions represent approximately 60% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period July 2002 to June 2004. An aggregate of two years of data has been used as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a change in a type of care (for example, from acute to rehabilitation).

Mental health services can be provided in ambulatory or non-ambulatory settings. Ambulatory mental health care ranges from care provided in the primary care setting to care in hospital based outpatient services, community-based mental health care and same day admitted patient mental health care in specialised psychiatric and general hospitals. Non-ambulatory mental health care settings include admitted patient mental health care in specialised psychiatric and general hospitals and residential mental health care. Mental health services are provided by a range of health professionals such as psychiatrists, GPs, psychologists, counsellors and Aboriginal mental health workers.

## **Community mental health care**

Information on the use of community mental health services by Aboriginal and Torres Strait Islander people is available from the AIHW National Community Mental Health Care Database (NCMHCD). The information collected in the database is a nationally agreed set of common data elements collected by service providers based on the National Minimum Data Set for Community Mental Health Care.

The quality of Indigenous identification in this database varies by jurisdiction. In 2003–04, Western Australia, Tasmania and the Northern Territory reported that the quality of their data was suitable for analysis.

As with hospitalisation data, service contacts for which the Indigenous status of the client was not reported have been included with hospitalisations for non-Indigenous people under the 'other' category.

### **Service Activity Reporting (SAR) database**

The SAR database collects data from approximately 140 Australian Government funded Aboriginal and Torres Strait Islander primary health care services and is held at DoHA. It is estimated that these services provide GP services to around 40% of the Indigenous population. Service-level data on health care and health-related activities are collected by survey questionnaire over a 12-month period.

Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05.

It should be noted that the SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

## **Analyses**

Age-standardised rates and ratios have been used for this indicator as a measure of the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates among Indigenous people and those of other Australians, taking into account differences in age distributions.

### **Self-reported data**

Self-reported data from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey on visiting a health professional for mental health related reasons are presented in Tables 3.08.1, 3.08.2a and 3.08.2b below.

- In 2004–05, approximately 12% of Indigenous Australians reported visiting a health professional about their feelings in the four weeks prior to survey (Table 3.08.1).
- The Northern Territory had the highest proportion of Indigenous Australians reporting they visited a health professional about their feelings (17%) followed by Victoria (16%); both New South Wales and Queensland had the lowest (both 10%).
- The highest proportion of Indigenous Australians who reported visiting a professional about their feelings were in very remote areas (14%) followed by inner regional areas (13%) (Table 3.08.2a).
- A higher proportion of Indigenous Australians (20%) reported visiting an 'other health professional' than non-Indigenous Australians (13%). This difference was greatest in remote areas, where 32% of Indigenous Australians reported visiting an 'other health professional' compared with 13% of non-Indigenous Australians (Table 3.08.2b).

**Table 3.08.1: Whether saw doctor or health professional about feelings in last four weeks, Indigenous Australians, by state/territory, 2004–05**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust
	<b>Per cent</b>								
Yes	10	16	10	11	13	13	13	17	12
No	89	83	90	88	86	87	87	82	88
Don't know/not stated/refusal	1 <sup>(a)</sup>	1 <sup>(a)</sup>	—	1 <sup>(a)</sup>	— <sup>(a)</sup>	— <sup>(a)</sup>	—	1 <sup>(a)</sup>	1 <sup>(b)</sup>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number <sup>(c)</sup>	63,317	13,405	58,068	28,676	11,793	8,345	1,966	23,073	208,643

(a) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(b) Persons who were asked whether saw a doctor or other health professional about feelings.

(c) Estimate has a relative standard error of between 25% and 50% and should be interpreted with caution.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

**Table 3.08.2a: Whether saw doctor or health professional about feelings in last four weeks, Indigenous Australians,<sup>(a)</sup> by remoteness, 2004–05**

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
	per cent					
Yes	11	13	10	12	14	12
No	88	86	90	87	86	88
Don't know/not stated/refused	— <sup>(b)</sup>	— <sup>(b)</sup>	n.p.	n.p.	n.p.	— <sup>(c)</sup>
<b>Total<sup>(d)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number <sup>(d)</sup>	65,915	43,047	46,086	17,160	35,177	207,384

n.p. Not available for publication.

(a) Persons aged 18 years and over who scored greater than 1 on at least one of the K5 (Kessler Psychological Distress Scale) items.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Estimate has a relative standard error of between 25% and 50% and should be interpreted with caution.

(d) Includes refusal.

Source: ABS and AIHW analysis of 2004–05 NATSIHS

**Table 3.08.2b: Type of other health professional consulted (selected), by Indigenous status and remoteness, 2004–05**

	Non-remote		Remote <sup>(a)</sup>		Australia	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous <sup>(b)</sup>	Indigenous	Non-Indigenous
	per cent					
Accredited counsellor <sup>(c)</sup>	1	—	— <sup>(d)</sup>	n.a.	1	—
Psychologist	1	—	— <sup>(d)</sup>	n.a.	1	—
None of above <sup>(e)</sup>	15	13	30 <sup>(d)</sup>	n.a.	18	13
<b>Total who saw other health professional<sup>(f)(g)</sup></b>	<b>16</b>	<b>13</b>	<b>32<sup>(d)</sup></b>	<b>n.a.</b>	<b>20</b>	<b>13</b>
Total number	348,315	19,061,481	125,995	n.a.	474,310	19,292,387

n.a. Not available.

(a) Respondents in non-remote areas were provided with a prompt card which contained 'other health professional' categories whereas the question in remote areas was open-ended. Subsequently there may have been some under-reporting by remote respondents.

(b) Non-Indigenous data were not collected in very remote areas of Australia in the 2004–05 National Health Survey.

(c) Persons in remote areas who saw a mental health worker were coded as having seen an accredited counsellor.

(d) Estimate has a relative standard error of between 25% and 50% and should be interpreted with caution.

(e) Persons who saw an 'other health professional' other than an accredited counsellor and/or psychologist.

(f) Includes not stated and not known if consulted other health professional.

(g) Sum of components may add up to more than total as persons may have reported seeing more than one type of other health professional.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.



## Hospitalisations

- For the two-year period July 2002 to June 2004, there were 210,420 hospitalisations from mental health related conditions in Queensland, Western Australia, South Australia and the Northern Territory combined, 11,264 (5.4%) of which were hospitalisations of Aboriginal and Torres Strait Islander peoples.
- Mental health related conditions were responsible for 3.6% of all hospitalisations of Aboriginal and Torres Strait Islander Australians.

### Hospitalisations by state/territory

Table 3.08.3 presents hospitalisations for a principal diagnosis of mental health related conditions in Queensland, Western Australia, South Australia and the Northern Territory, for the two-year period July 2002 to June 2004.

- In Western Australia and South Australia, Indigenous Australians were hospitalised for mental health related conditions at around three times the rate of other Australians in these states. In the Northern Territory, Indigenous Australians were hospitalised at around twice the rate of other Australians and in Queensland the rate ratio was 1.4.
- In the Northern Territory, both Indigenous and other Australians were hospitalised for mental health related conditions at low rates in comparison to hospitalisation rates in Queensland, Western Australia and South Australia.
- In Queensland, Western Australia, South Australia and the Northern Territory combined, Indigenous males were hospitalised from mental health related conditions at around twice the rate of other Australians in these jurisdictions. Indigenous females were hospitalised at a slightly higher rate than that of other females.

**Table 3.08.3: Hospitalisations for principal diagnosis of mental health related conditions, by Indigenous status, sex and state/territory, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Indigenous				Other <sup>(e)</sup>				Ratio <sup>(i)</sup>
	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	
<b>Qld</b>									
Males	2,422	23.0	22.0	24.1	48,912	13.3	13.2	13.4	1.7*
Females	1,941	17.3	16.4	18.2	59,752	16.1	16.0	16.2	1.1*
Persons	4,363	20.0	19.3	20.7	108,664	14.7	14.6	14.8	1.4*
<b>WA</b>									
Males	1,942	34.0	32.3	35.8	21,130	11.3	11.1	11.4	3.0*
Females	1,964	31.6	30.1	33.2	28,824	15.2	15.0	15.4	2.1*
Persons	3,906	32.7	31.6	33.9	49,954	13.2	13.1	13.3	2.5*
<b>SA</b>									
Males	834	36.9	33.9	39.9	17,799	12.0	11.8	12.2	3.1*
Females	1,135	45.2	42.3	48.1	21,361	13.6	13.5	13.8	3.3*
Persons	1,969	41.0	39.0	43.1	39,160	12.8	12.7	13.0	3.2*
<b>NT</b>									
Males	569	10.3	9.3	11.3	889	5.9	5.5	6.3	1.7*
Females	456	7.8	7.0	8.7	487	3.8	3.4	4.2	2.1*
Persons	1,026	9.0	8.4	9.7	1,378	5.0	4.7	5.3	1.8*
<b>Qld, WA, SA, NT</b>									
<b>Males</b>	<b>5,767</b>	<b>24.3</b>	<b>23.5</b>	<b>25.0</b>	<b>88,730</b>	<b>12.4</b>	<b>12.3</b>	<b>12.4</b>	<b>2.0*</b>
<b>Females</b>	<b>5,496</b>	<b>21.3</b>	<b>20.6</b>	<b>21.9</b>	<b>110,424</b>	<b>15.1</b>	<b>15.1</b>	<b>15.2</b>	<b>1.4*</b>
<b>Persons</b>	<b>11,264</b>	<b>22.7</b>	<b>22.2</b>	<b>23.2</b>	<b>199,156</b>	<b>13.8</b>	<b>13.7</b>	<b>13.8</b>	<b>1.6*</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

- (a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004): ICD-10-AM codes F00–F99, G30, G47.0, G47.1, G47.2, G47.8, G47.9, 099.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.
- (c) Financial year reporting.
- (d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
- (f) Directly age standardised using the Australian 2001 Standard population.
- (g) LCL = lower confidence limit.
- (h) UCL = upper confidence limit.
- (i) Rate ratio Indigenous:other.

Note: Person numbers and rates include hospitalisations for which sex was not stated.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## Hospitalisations by ambulatory and non-ambulatory equivalent

Mental health services can be provided in ambulatory or non-ambulatory settings.

Ambulatory mental health care settings range from care provided in the primary care setting through to ambulatory care in hospital-based outpatient services, community-based mental health care and same day admitted patient mental health care in specialised psychiatric and general hospitals. Non-ambulatory mental health care settings include admitted patient mental health care in specialised psychiatric and general hospitals and residential mental health care.

- Table 3.08.4 and Figure 3.08.1 present ambulatory equivalent and non-ambulatory equivalent mental health related hospitalisations for Indigenous and non-Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory over the two-year period July 2002 to June 2004.
- Between July 2002 and June 2004, there were 1,291 ambulatory equivalent mental health related hospitalisations among Indigenous Australians (362 with specialised psychiatric care and 928 without specialised psychiatric care).
- Over the same period there were 9,969 non-ambulatory equivalent mental health related separations among Indigenous Australians (4,361 with specialised psychiatric care and 5,608 without specialised psychiatric care).
- Rates of ambulatory equivalent mental health related hospitalisation with specialised psychiatric care were lower for Indigenous Australians than other Australians (rate ratio 0.2).
- Rates of ambulatory-equivalent mental health related hospitalisations were lower for Indigenous Australians than other Australians (rate ratio of 0.6). This was particularly the case for ambulatory-equivalent separations with specialised psychiatric care. The rate of these hospitalisations per 1,000 Aboriginal and Torres Strait Islander peoples was around one-fifth the rate for other Australians (rate ratio of 0.2). In contrast, the rate of ambulatory-equivalent separations without specialised psychiatric care per 1,000 Indigenous population was double that for other Australians (rate ratio of 2.1).
- Rates of non-ambulatory-equivalent mental health related hospitalisations per 1,000 Aboriginal and Torres Strait Islander peoples were more than double that for other Australians (rate ratio of 2.1). The rate of such hospitalisations with specialised psychiatric care among Indigenous Australians was around 1.3 times that of other Australians. The rate of non-ambulatory-equivalent separations among Indigenous Australians without specialised psychiatric care was almost four times that of other Australians.

**Table 3.08.4: Ambulatory-equivalent and non-ambulatory-equivalent mental health related hospitalisations, by Indigenous status and sex, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Males					Females					Persons				
	No.	Rate per 1,000 <sup>(e)</sup>	LCL 95% <sup>(f)</sup>	UCL 95% <sup>(g)</sup>	Ratio <sup>(h)</sup>	No.	Rate per 1,000 <sup>(e)</sup>	LCL 95% <sup>(f)</sup>	UCL 95% <sup>(g)</sup>	Ratio <sup>(h)</sup>	No.	Rate per 1,000 <sup>(e)</sup>	LCL 95% <sup>(f)</sup>	UCL 95% <sup>(g)</sup>	Ratio <sup>(h)</sup>
<b>Ambulatory equivalent</b>															
With specialised psychiatric care															
Indigenous	178	0.8	0.7	0.9	0.3*	185	0.7	0.6	0.8	0.2*	363	0.7	0.7	0.8	0.2*
Other <sup>(i)</sup>	19,423	2.6	2.6	2.7		30,890	4.3	4.2	4.3		50,313	3.4	3.4	3.5	
Without specialised psychiatric care															
Indigenous	457	1.9	1.7	2.1	2.4*	471	1.8	1.6	1.9	1.9*	928	1.8	1.7	2.0	2.1*
Other <sup>(i)</sup>	5,745	0.8	0.8	0.8		6,686	0.9	0.9	0.9		12,431	0.9	0.8	0.9	
<b>Total Indigenous</b>	<b>635</b>	<b>2.7</b>	<b>2.5</b>	<b>2.9</b>	<b>0.8*</b>	<b>656</b>	<b>2.4</b>	<b>2.2</b>	<b>2.6</b>	<b>0.5*</b>	<b>1,291</b>	<b>2.6</b>	<b>2.4</b>	<b>2.7</b>	<b>0.6*</b>
<b>Total Other<sup>(i)</sup></b>	<b>25,168</b>	<b>3.4</b>	<b>3.4</b>	<b>3.5</b>		<b>37,576</b>	<b>5.2</b>	<b>5.1</b>	<b>5.3</b>		<b>62,744</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	
<b>Non-ambulatory equivalent</b>															
With specialised psychiatric care															
Indigenous	2,400	8.9	8.5	9.3	1.6*	1,960	7.2	6.9	7.6	1.1*	4,361	8.0	7.8	8.3	1.3*
Other <sup>(i)</sup>	40,832	5.7	5.6	5.7		46,487	6.4	6.3	6.4		87,321	6.1	6.0	6.1	
Without specialised psychiatric care															
Indigenous	2,731	12.7	12.1	13.3	3.9*	2,877	11.6	11.1	12.1	3.3*	5,608	12.1	11.7	12.5	3.6*
Other <sup>(i)</sup>	22,728	3.3	3.2	3.3		26,329	3.6	3.5	3.6		49,057	3.4	3.4	3.4	
<b>Total Indigenous</b>	<b>5,131</b>	<b>21.6</b>	<b>20.9</b>	<b>22.2</b>	<b>2.4*</b>	<b>4,837</b>	<b>18.8</b>	<b>18.2</b>	<b>19.4</b>	<b>1.9*</b>	<b>9,969</b>	<b>20.1</b>	<b>19.7</b>	<b>20.6</b>	<b>2.1*</b>
<b>Total Other<sup>(i)</sup></b>	<b>63,560</b>	<b>8.9</b>	<b>8.9</b>	<b>9.0</b>		<b>72,816</b>	<b>9.9</b>	<b>9.9</b>	<b>10.0</b>		<b>136,378</b>	<b>9.5</b>	<b>9.4</b>	<b>9.5</b>	

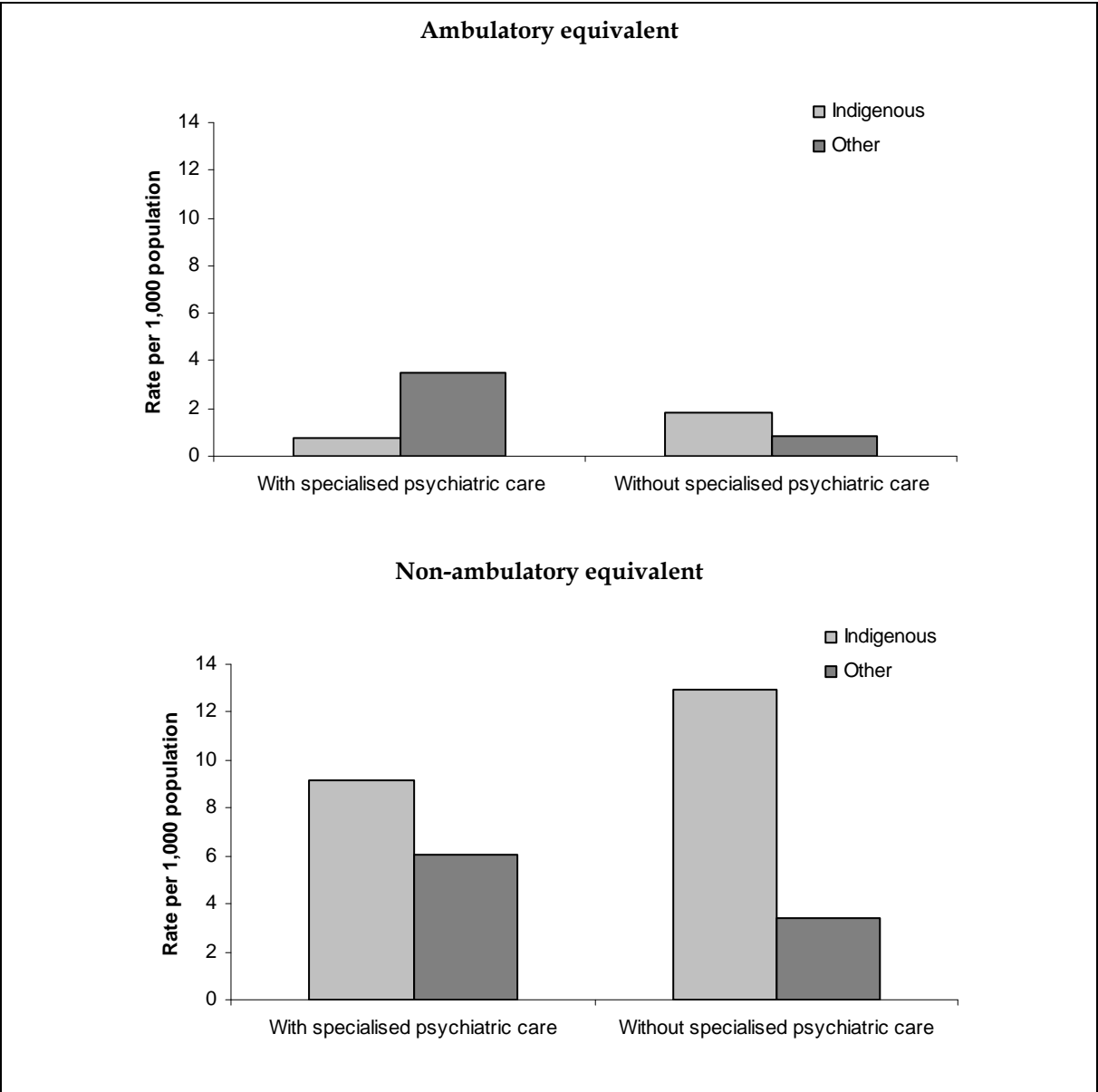
(continued)

**Table 3.08.4 (continued): Ambulatory-equivalent and non-ambulatory-equivalent mental health related hospitalisations, by Indigenous status and sex, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the  $p < .05$  level.

- (a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.
- (b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004); ICD-10-AM codes: Chapter IX Diseases of Mental, Behavioural Disorders (F00–F99) and other mental health related conditions: ICD-10-AM codes: G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.
- (c) Financial year reporting.
- (d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.
- (e) Directly age standardised using the Australian 2001 Standard population.
- (f) LCL = lower confidence limit.
- (g) UCL = upper confidence limit.
- (h) Rate ratio Indigenous:other.
- (i) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.08.1: Ambulatory-equivalent and non-ambulatory-equivalent mental health related hospitalisation rates, by Indigenous status, Qld, WA, SA and NT, July 2002 to June 2004**

### **Average length of stay**

Table 3.08.5 presents the average length of stay and total number of bed days for non-ambulatory-equivalent mental health related hospitalisations for Indigenous and other Australians in Queensland, Western Australia, South Australia and the Northern Territory combined.

- In the period July 2002 to June 2004, the average length of stay in hospital for non-ambulatory-equivalent mental health related hospitalisations was similar for Indigenous Australians and other Australians (2.2 days compared to 2.1 days).
- The average length of stay for non-ambulatory-equivalent mental health related hospitalisations with specialised psychiatric care was 2.4 days for Indigenous Australians and 2.2 for other Australians, and without specialised psychiatric care was 1.8 days for both Indigenous and other Australians.
- For both Indigenous and other Australians, the total number of bed days was higher for ambulatory-equivalent separations with specialised psychiatric care than without specialised psychiatric care.

**Table 3.08.5: Average length of stay for non-ambulatory-equivalent mental health related hospitalisations, by Indigenous status and sex, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Indigenous			Other <sup>(e)</sup>			Total		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
<b>Patient days</b>									
With specialised psychiatric care	52,393	29,509	81,902	745,028	688,534	1,433,562	797,421	718,043	1,515,464
Without specialised psychiatric care	8,936	9,011	17,947	113,134	147,497	260,631	122,070	156,508	278,578
<b>Total</b>	<b>61,329</b>	<b>38,520</b>	<b>99,849</b>	<b>858,162</b>	<b>836,031</b>	<b>1,694,193</b>	<b>919,491</b>	<b>874,551</b>	<b>1,794,042</b>
<b>Average length of stay (overnight)</b>									
With specialised psychiatric care	2.3	2.5	2.4	2.3	2.1	2.2	2.3	2.1	2.2
Without specialised psychiatric care	2.1	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
<b>Total</b>	<b>2.2</b>	<b>2.3</b>	<b>2.2</b>	<b>2.2</b>	<b>2.0</b>	<b>2.1</b>	<b>2.2</b>	<b>2.0</b>	<b>2.1</b>

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Data are from public and most private hospitals. Data exclude private hospitals in the Northern Territory.

(b) Categories are based on the ICD-10-AM (National Centre for Classification in Health 2004); ICD-10-AM codes: Chapter IX Diseases of Mental, Behavioural Disorders (F00–F99) and other mental health related conditions; ICD-10-AM codes: G30, G47.0, G47.1, G47.2, G47.8, G47.9, O99.3, R44, R45.0, R45.1, R45.4, R48, Z00.4, Z03.2, Z04.6, Z09.3, Z13.3, Z50.2, Z50.3, Z54.3, Z61.9, Z63.1, Z63.8, Z63.9, Z65.8, Z65.9, Z71.4, Z71.5, Z76.0.

(c) Financial year reporting.

(d) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(e) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

Source: AIHW analysis of National Hospital Morbidity Database and AIHW Admitted Patient Mental Health Care Database.



## Time series analyses

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians for mental health related conditions over the five-year period 1998–99 to 2003–04 are presented in Table 3.08.6 and Figure 3.08.2.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates for mental health related conditions among Indigenous females during the period 1998–99 to 2003–04. The fitted trend implies an average yearly increase in the rate of around 0.7 per 1,000.
- There were significant declines in hospitalisation rates for mental health related conditions among other Australians over the same period with an average yearly decline in the rate of around 0.1 per 1,000. The declines in hospitalisation rates were significant for males but not for females.
- There were significant increases in both the hospitalisation rate ratios and rate differences between Indigenous and other Australians during the period 1998–99 to 2003–04. This reflects both a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians for mental health related conditions over the period 1998–99 to 2003–04.

It should be noted that changes in the level of accuracy of Indigenous identification in hospital records over this period will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time as it is not possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rates at which Indigenous people are hospitalised. An increase in hospitalisation rates may reflect better hospital access rather than a worsening of health.

**Table 3.08.6: Age-standardised hospitalisation rates, rate ratios and rate differences from mental health related conditions, Qld, WA, SA and NT, 1998–99 to 2003–04**

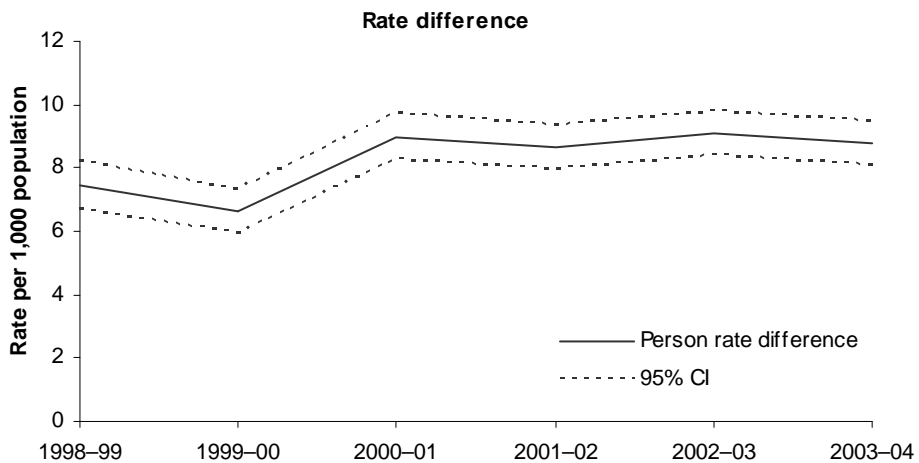
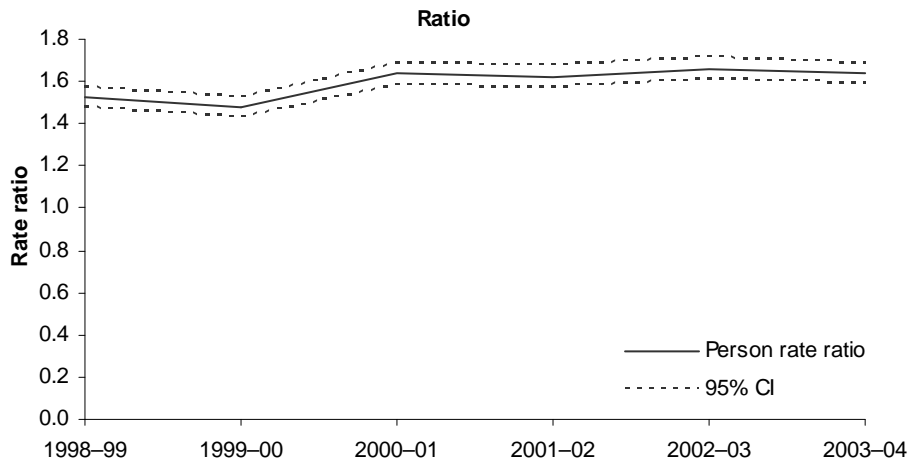
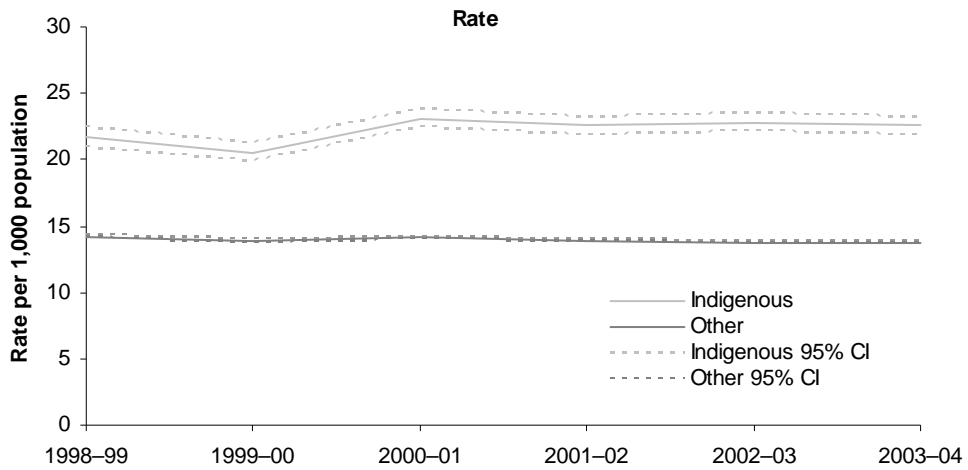
	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>							
Males	24.4	24.4	26.1	24.9	24.5	24.1	–0.1
Females	19.2	17.0	20.5	20.4	21.3	21.2	0.7*
Persons	21.7	20.5	23.1	22.5	22.8	22.6	0.3
<b>Other Australians rate per 1,000<sup>(b)</sup></b>							
Males	13.6	12.9	13.2	13.1	12.4	12.3	–0.2*
Females	14.9	14.8	15.0	14.7	15.1	15.2	0.1
Persons	14.2	13.9	14.1	13.9	13.8	13.8	–0.1*
<b>Rate ratio<sup>(c)</sup></b>							
Males	1.8	1.9	2.0	1.9	2.0	1.9	0.03*
Females	1.3	1.1	1.4	1.4	1.4	1.4	0.04*
Persons	1.5	1.5	1.6	1.6	1.7	1.6	0.03*
<b>Rate difference<sup>(d)</sup></b>							
Males	10.8	11.5	12.8	11.8	12.1	11.7	0.2
Females	4.3	2.1	5.5	5.7	6.2	6.0	0.6*
Persons	7.5	6.6	9.0	8.7	9.1	8.8	0.4*

\* Represents results with statistically significant increases or decreases at the p<.05 level over the period 1998–99 to 2003–04.

- (a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
- (b) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.
- (c) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.
- (d) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other Australians.

*Note:* Rates have been directly age standardised using the Australian 2001 Standard population.

*Source:* AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.08.2: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians from mental health-related conditions, Qld, WA, SA and NT, 1998-99 to 2003-04**

## Community mental health care services

Community mental health care is defined as care that is provided by specialised public mental health services dedicated to the assessment, treatment, rehabilitation and care of non-admitted clients. This excludes specialised mental health care services for admitted patients, support services that are not provided by specialised mental health care organisations, services provided by non-government organisations, and residential care services.

- In 2003–04, there were 4,911,735 clients of community mental health care services, of which 181,706 service contacts (3.7%) were for Aboriginal and/or Torres Strait Islander peoples.

### Contacts by age and sex

- In 2003–04, Aboriginal and Torres Strait Islander people had higher proportions of mental health service contacts for the younger age groups than did other Australians, but lower proportions in the older age groups, reflecting the differences in age distribution in these populations (the mean age of Indigenous Australians is around 21 years compared to 36 years for non-Indigenous Australians). For example, 24% and 22% of service contacts for Indigenous Australian males and females were for clients aged between 15 and 24 years compared with 16% and 17% of service contacts for other Australian males and females (Table 3.08.7).
- In the older age groups, there were lower proportions of service contacts for Indigenous Australian males and females aged 65 years or more (1% and 3% respectively) than for other Australian males (7%) and females (15%). This may partly be a reflection of the younger age structure of the Indigenous population – life expectancy of Indigenous males and females is estimated at only 59 years and 65 years compared to 77 and 82 years for non-Indigenous males and females (ABS and AIHW 2005).
- In 2003–04, Indigenous males and females had higher rates of community mental health care service contacts across all age groups except those aged less than 15 years. Differences were most marked in the 25–34 and 35–44 year age groups where Indigenous males and females were twice as likely to be clients of community mental health care services as other Australians in these age groups.

**Table 3.08.7: Community mental health care service contacts, by Indigenous status, sex and age group, 2003–04<sup>(a)</sup>**

Sex and age group	Indigenous			Other <sup>(b)</sup>			Ratio <sup>(d)</sup>
	No.	%	Rate per 1,000 <sup>(c)</sup>	No.	%	Rate per 1,000 <sup>(c)</sup>	
<b>Males</b>							
Less than 15 yrs	11,285	11.1	121.0	237,474	9.7	121.9	1.0
15–24	24,583	24.2	525.2	398,591	16.4	292.2	1.8*
25–34	35,738	35.2	1,014.7	623,145	25.6	444.4	2.3*
35–44	20,771	20.4	733.7	507,752	20.8	347.1	2.1*
45–54	6,189	6.1	327.0	321,804	13.2	240.1	1.4*
55–64	1,837	1.8	188.5	156,889	6.4	151.8	1.2*
65 and over	1,079	1.1	185.7	178,763	7.3	156.2	1.2*
<b>Total<sup>(e)</sup></b>	<b>101,670</b>	<b>100.0</b>	<b>445.1<sup>(f)</sup></b>	<b>2,435,967</b>	<b>100.0</b>	<b>251.2</b>	<b>1.8<sup>(f)*</sup></b>
<b>Females</b>							
Less than 15 yrs	5,611	7.0	63.5	146,281	6.6	79.0	0.8
15–24	17,528	22.0	383.3	367,157	16.7	281.8	1.4*
25–34	23,588	29.6	623.3	414,740	18.8	295.5	2.1*
35–44	19,981	25.0	636.5	411,937	18.7	279.2	2.3*
45–54	8,671	10.9	429.0	331,956	15.1	245.2	1.7*
55–64	2,308	2.9	218.3	192,597	8.8	190.3	1.1*
65 and over	1,981	2.5	262.7	328,501	14.9	231.7	1.1*
<b>Total<sup>(e)</sup></b>	<b>79,801</b>	<b>100.0</b>	<b>367.5<sup>(f)</sup></b>	<b>2,200,588</b>	<b>100.0</b>	<b>224.2</b>	<b>1.5<sup>(f)*</sup></b>
<b>Total<sup>(e)</sup></b>	<b>181,706</b>		<b>406.0<sup>(f)</sup></b>	<b>4,730,029</b>		<b>236.9</b>	<b>1.7<sup>(f)*</sup></b>

\* Represents results with statistically significant differences in the Indigenous/other Australians comparisons at the p<.05 level.

(a) These data should be interpreted with caution due to likely under-identification of Indigenous Australians.

(b) Other includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(c) Rate per 1,000 population based on the average 2003 and 2004 December populations.

(d) Rate ratio Indigenous:other.

(e) Includes service contacts for clients for whom age or sex was not stated.

(f) Total rates have been directly age standardised using the Australian 2001 Standard population.

Source: 2003–04 National Community Mental Health Care Database, AIHW.

### Contacts by state/territory

- In 2003–04, the proportion of service contacts for clients of community mental health services who identified themselves as being of Aboriginal and/or Torres Strait Islander origin ranged from 1.3% for Victoria to 26.4% for the Northern Territory (Table 3.08.8).
- There were more service contacts per 1,000 population for Aboriginal and Torres Strait Islander peoples than for other Australians (413.9 per 1,000 and 243.6 per 1,000 respectively). This was true in all jurisdictions with the exception of the Northern Territory. These rates should be interpreted with caution as there is likely to be an under estimate of the actual number of service contacts for Indigenous clients.

The number and rate of service contacts per 1,000 population for Aboriginal and Torres Strait Islander peoples varies among the states and territories. This may reflect variations in completeness of Indigenous identification among patients, varying coverage of service contacts for Aboriginal and Torres Strait Islander peoples or for the total population, or different patterns of service use by Indigenous and non-Indigenous persons.

**Table 3.08.8: Community mental health care service contacts per 1,000 population, by Indigenous status and state and territory, 2003–04**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
Indigenous	67,850	20,336	50,699	23,156	8,313	1,164	3,314	6,874	181,706
Non-Indigenous	1,001,817	1,579,464	833,808	389,221	274,797	50,905	121,772	18,535	4,270,319
Not stated	362,062	—	4,504	6,107	28,425	15,512	42,455	645	459,710
<b>Total</b>	<b>1,431,729</b>	<b>1,599,800</b>	<b>889,011</b>	<b>418,484</b>	<b>311,535</b>	<b>67,581</b>	<b>167,541</b>	<b>26,054</b>	<b>4,911,735</b>
<b>Rate per 1,000 population<sup>(a)</sup></b>									
Indigenous	545.6	788.3	382.9	388.7	316.4	262.7	810.5	114.3	413.9
Other Australians <sup>(b)</sup>	209.1	320.8	228.8	209.7	203.1	142.1	502.1	128.7	243.6
Ratio <sup>(c)</sup>	2.6	2.5	1.7	1.9	1.6	1.8	1.6	0.9	1.7
<b>Total</b>	<b>215.3</b>	<b>323.3</b>	<b>234.3</b>	<b>215.0</b>	<b>205.2</b>	<b>140.2</b>	<b>506.0</b>	<b>122.6</b>	<b>247.3</b>

(a) Rates were directly age-standardised using the Australian 2001 Standard population.

(b) Other includes service contacts for non-Indigenous clients and those for whom Indigenous status was not stated.

(c) Rate ratio Indigenous:other.

*Note:* Shading indicates that the Indigenous identification in the National Community Mental Health Care Database (NCMHCD) in these jurisdictions is in need of improvement. This is based on information provided by state and territory health authorities on the quality of their data in the NCMHCD. Data from these states and territories should be interpreted with caution due to likely under identification of Indigenous Australians.

Source: AIHW 2005b.

## General practitioner encounters

Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. Data for the five-year period 2000–01 to 2004–05 are presented in Table 3.08.9.

Mental health-related problems are among the top five most common types of problems managed at GP encounters with Aboriginal and Torres Strait Islander patients. The other four most common types of problems managed at GP encounters with Indigenous patients are respiratory conditions, skin problems, musculoskeletal conditions and circulatory conditions.

- In the period 2000–01 to 2004–05 there were 7,296 GP encounters with Aboriginal and Torres Strait Islander patients recorded in the survey, at which 10,955 problems were managed. Of these, 8.8% (971) were mental health related problems.
- After adjusting for differences in age distribution, mental health related problems were managed at GP encounters with Indigenous patients at a similar rate to encounters among other patients.

**Table 3.08.9: Most frequently reported mental health related problems managed by general practitioners, by Indigenous status of the patient, 2001–01 to 2004–05<sup>(a)(b)(c)</sup>**

Problem managed	Number		% of total problems		Crude rate per 100 encounters					Age-standardised rate per 100 encounters <sup>(d)</sup>			
	Indigenous	Other <sup>(e)</sup>	Indigenous	Other <sup>(e)</sup>	Indigenous	95% LCL <sup>(f)</sup>	95% UCL <sup>(g)</sup>	Other <sup>(e)</sup>	95% LCL <sup>(f)</sup>	95% UCL <sup>(g)</sup>	Indigenous	Other <sup>(e)</sup>	Ratio <sup>(h)</sup>
Mental health related conditions <sup>(i)(j)</sup>	971	56,499	8.8	7.8	13.3	11.0	15.6	12.1	11.8	12.4	12.6	12.1	1.0

(k) These survey results are likely to undercount the number of Indigenous Australians visiting doctors.

(l) Combined financial year data for five years.

(m) Data for Indigenous and other Australians have not been weighted.

(n) Includes non-Indigenous patients and patients for whom Indigenous status was 'not stated'.

(o) LCL = lower confidence interval.

(p) UCL = upper confidence interval.

(q) Directly age-standardised rate per 100 encounters. Figures do not add to 100 as more than one problem can be managed at each encounter.

(r) Rate ratio Indigenous:other.

(s) Includes multiple ICPC–2 or ICPC – 2 PLUS codes.

(t) ICPC–2 codes: P02, P04–P05, P08–P13, P18–P20, P22–P25, P27–P29, P71, P75–P82, P85–P86, P98–P99.

Source: AIHW analysis of BEACH data.

## **Aboriginal and Torres Strait Islander Primary Health Care Services**

Information on client contacts with emotional and social well-being staff or psychiatrists in Aboriginal and Torres Strait Islander Primary Health Care Services is available from the Service Activity Reporting database.

- In 2003–04 there were 97,570 client contacts with emotional and social well-being staff or psychiatrists; this was 3.7% of the estimated total contacts made to Aboriginal and Torres Strait Islander Primary Health Care Services.



## **Data quality issues**

### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

*The NATSIHS uses the standard Indigenous status question. The NATSIHS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians and thus overcomes the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.*

*Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.*

*Non-Indigenous comparisons are available through the National Health Survey (NHS). The NHS was conducted in major cities, regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Survey.*

*In remote communities there were some modifications to the NATSIHS content in order to address language and cultural appropriateness in traditional communities, as well as to assist respondents in understanding the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built in edit checks and sequencing.*

*Further information on NATSIHS data quality issues can be found in the national publication (ABS 2006).*

### **General practitioner data (BEACH)**

*Information about general practitioner encounters is available from the Bettering the Evaluation and Care of Health (BEACH) survey. The BEACH data on Indigenous Australians should be treated with care. First, the sample frame has not been designed to produce statistically significant results for population subgroups such as Indigenous Australians. Second, the identification of Indigenous Australians is not complete. In the BEACH survey 'not stated' responses to the Indigenous identification question are often higher than the 'yes' responses. It can be assumed, therefore, that the survey consistently undercounts the number of Indigenous Australians visiting general practitioners, but the extent of this undercount is not measurable.*

### **Hospital separation data**

#### **Separations**

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery. In terms of mental health service delivery, there are a number of different service delivery models ranging from ambulatory care in community mental health services and hospitals and non-ambulatory care in hospitals and residential services.*

*(continued)*

## **Data quality issues (continued)**

### ***Indigenous status question***

*Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The not stated category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).*

### ***Under-identification***

*The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander people. While the identification of Indigenous people in hospitalisations is incomplete in all states and territories, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2003–04 (AIHW 2005a).*

*It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated data for Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these four jurisdictions is 60%. The following caveats have also been recommended:*

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a degree of Indigenous under-identification in Western Australia and relatively marked Indigenous under-identification in Queensland data).*
- *Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.*
- *Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in other jurisdictions (ABS & AIHW 2005).*

### ***Numerator and denominator***

*Rate and ratio calculations rely on good numerator and denominator data. The changes in the completeness of identification of Indigenous people in hospital records may take place at different rates than changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from the ABS's Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2009 (ABS 2004).*

### **National Community Mental Health Care Database**

*The quality of the Indigenous identification in this database varies by jurisdiction.*

*The number and rate of service contacts per 1,000 population for Aboriginal and Torres Strait Islander peoples varies among the states and territories. This may reflect variations in completeness of Indigenous identification among patients or different patterns of service use by Indigenous and non-Indigenous persons.*

*All states and territories use the standard ABS question of Indigenous status. For a number of jurisdictions, the NCMHCD data reported for the 'both Aboriginal and Torres Strait Islander' category are suspected to be affected by misinterpretation of the category to include non-Aboriginal and Torres Strait Islander peoples (for example, Maoris and South Sea Islanders) and use of the category as an 'Indigenous, not further specified'.*

*All state and territory health authorities provided information on the quality of the data for the NCMHCD 2003–04. Only Western Australia, Tasmania and the Northern Territory reported that the quality of their data was acceptable.*

*(continued)*

## Data quality issues (continued)

### Service Activity Reporting data

*Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05. The SAR collects service-level data on health care and health-related activities by survey questionnaire over a 12-month period. While this data collection provides valuable information, it needs to be recognised that there are limitations that have to be considered when using these data. Particular issues include:*

- *The SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.*
- *The SAR questionnaire collects a broad set of indicators for the services and did not aim to provide a comprehensive set of statistics on the activities of the services or their needs.*
- *These data provide a rough guide to service activity in this area but do not attempt to measure quantity or quality.*
- *These data also do not differentiate between services provided by the service and those facilitated by the service.*

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Zubrick SR, Silburn SR, Lawrence DM, Mitrou FG, Dalby RB, Blair EM, et al. 2005. The Western Australian Aboriginal Child Health Survey: the social and emotional wellbeing of Aboriginal children and young people. Curtin University of Technology and Telethon Institute for Child Health Research, Perth.

## 3.09 Aboriginal and Torres Strait Islander Australians in the health workforce

*Number and proportion of Aboriginal and Torres Strait Islander Australians in the health workforce*

### Data sources

The ABS Census of Population and Housing is conducted by the ABS at five-yearly intervals with 2006 the most recent and is designed to include all Australian households. The Census uses the ABS standard Indigenous status question and it is asked for each household member.

While the Census data are adjusted for undercounts at the person level to arrive at the Estimated Resident Population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.

The 1996 and 2001 Census used the Australian Standard Classification of Occupations however, this was replaced by the Australian and New Zealand Standard Classification of Occupations for the 2006 Census.

### Analyses

#### Aboriginal and Torres Strait Islander health workforce

Data on the number and proportion of Indigenous Australians employed in health-related occupations in 2001 are presented in the tables and figures below.

- In 2001, there were approximately 3,260 Indigenous Australians employed in health-related occupations, which represented 0.9% of the total health workforce.

#### Health workforce by age and sex

- In 2001, the majority of Aboriginal and Torres Strait Islander people employed in the health workforce were aged 35–44 years (1,047 people). The proportion of health workers who were Indigenous was highest among those aged 15–24 years (1.3%) and lowest among those aged 55–64 years (0.5%) (Table 3.09.1; Figure 3.09.1).
- Indigenous females represented a higher proportion of the health workforce than Indigenous males across all age groups.
- In the total health workforce, the majority of people employed in the health workforce were also aged 35–44 years. Females represented over three-quarters (76%) of the total health workforce (Table 3.09.2).

**Table 3.09.1: Aboriginal and Torres Strait Islander health workforce,<sup>(a)</sup> by age and sex, 2001**

	Age group					Total
	15–24	25–34	35–44	45–54	55–64	
	<b>Number</b>					
Male	83	255	250	160	49	797
Female	268	628	797	611	148	2,452
<b>Total</b>	<b>351</b>	<b>883</b>	<b>1,047</b>	<b>771</b>	<b>197</b>	<b>3,249</b>
	<b>Proportion of total health workforce (%)</b>					
Male	0.3	0.3	0.2	0.2	0.1	0.2
Female	1.0	0.7	0.7	0.6	0.4	0.7
<b>Total</b>	<b>1.3</b>	<b>1.0</b>	<b>0.9</b>	<b>0.7</b>	<b>0.5</b>	<b>0.9</b>

(a) Occupation as defined by the Australian Standard Classification of Occupation.

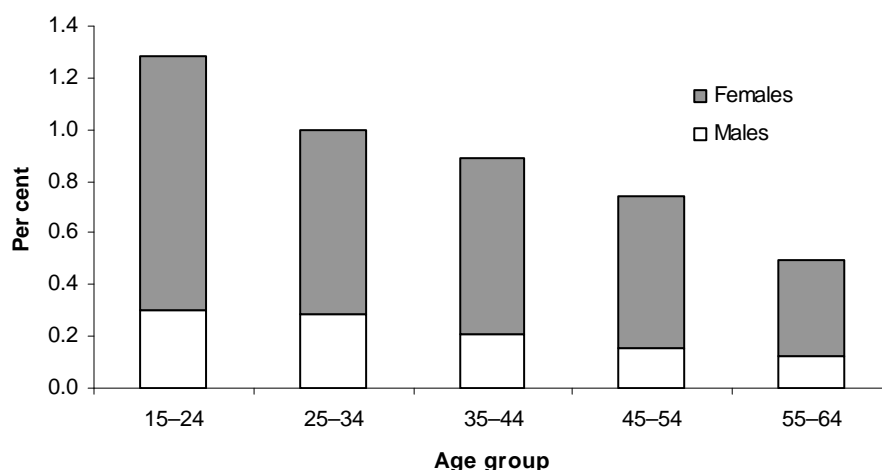
Source: ABS unpublished data (Census of Population and Housing).

**Table 3.09.2: Total health workforce,<sup>(a)</sup> by age and sex, 2001**

	Age group					Total
	15–24	25–34	35–44	45–54	55–64	
	<b>Number</b>					
Male	4,573	21,342	27,233	23,814	12,318	89,280
Female	22,767	67,127	90,468	79,857	27,244	287,463
<b>Total</b>	<b>27,340</b>	<b>88,469</b>	<b>117,701</b>	<b>103,671</b>	<b>39,562</b>	<b>376,743</b>
	<b>Proportion of total health workforce (%)</b>					
Male	16.7	24.1	23.1	23.0	31.1	23.7
Female	83.3	75.9	76.9	77.0	68.9	76.3
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Occupation as defined by the Australian Standard Classification of Occupation.

Source: ABS unpublished data (Census of Population and Housing).



Source: ABS unpublished data (Census of Population and Housing).

**Figure 3.09.1: Indigenous health workforce as a proportion of the total health workforce, by age group and sex, 2001**

### Indigenous health workforce by state/territory

- In 2001, the Northern Territory had the highest proportion of health workers of Aboriginal or Torres Strait Islander origin (9%), and Victoria and the Australian Capital Territory had the lowest (0.3%) (Table 3.09.3; Figure 3.09.2). This was well below the proportion of the state/territory population that was Indigenous in 2001.
- The proportion of Indigenous Australians who were employed in health-related occupations in 2001 ranged from 0.5% in the Northern Territory and the Australian Capital Territory, to 0.9% in Victoria (Figure 3.09.3).

**Table 3.09.3: Indigenous health workforce,<sup>(a)</sup> by state/territory, 2001**

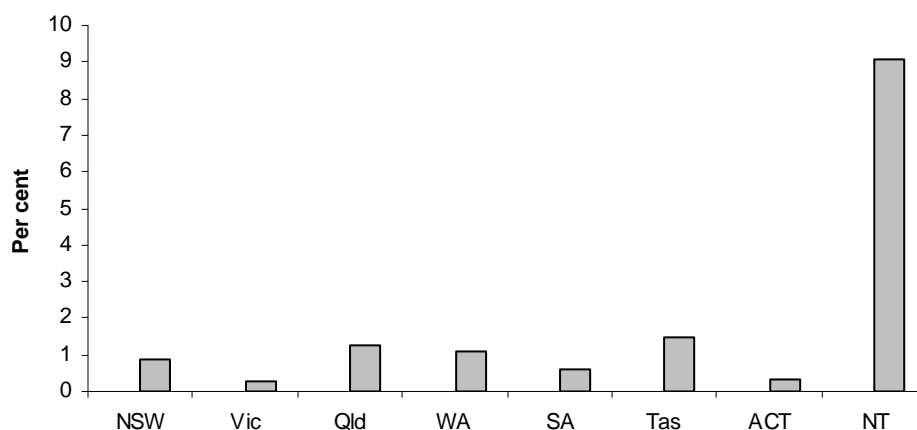
	NSW <sup>(b)</sup>	Vic	Qld	WA <sup>(c)</sup>	SA	Tas	ACT	NT	Australia
Number of Indigenous health workers	1,070	263	863	393	206	139	20	306	3,260
<b>Indigenous health workers as a proportion of total health workforce</b>	<b>0.9</b>	<b>0.3</b>	<b>1.2</b>	<b>1.1</b>	<b>0.6</b>	<b>1.5</b>	<b>0.3</b>	<b>9.1</b>	<b>0.9</b>
Indigenous health workers as a proportion of the Indigenous population	0.8	0.9	0.7	0.6	0.8	0.8	0.5	0.5	0.7
Proportion of state/territory population that is Indigenous	2.1	0.6	3.5	3.5	1.7	3.7	1.2	28.8	2.4

(a) Occupation as defined by the Australian Standard Classification of Occupation.

(b) Includes Territory of Jervis Bay.

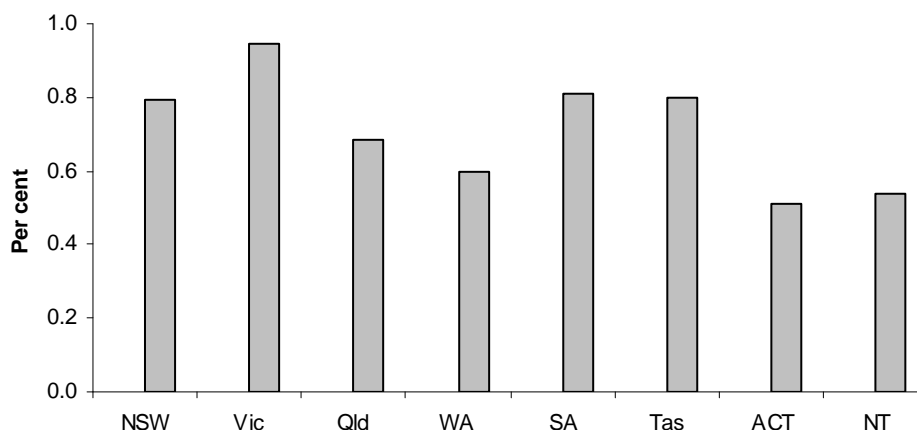
(c) Includes Territories of Christmas Island and Cocos Islands.

Source: ABS unpublished data (Census of Population and Housing).



Source: ABS unpublished data (Census of Population and Housing).

**Figure 3.09.2: Indigenous health workforce as a proportion of total health workforce, by state/territory, 2001**



Source: ABS unpublished data (Census of Population and Housing).

**Figure 3.09.3: Indigenous health workforce as a proportion of the Indigenous population, by state/territory, 2001**

### Health workforce by occupation

- Aboriginal and Torres Strait Islander people comprised 93% of all Aboriginal and Torres Strait Islander health workers, 0.8% of all nurses, 0.6% of all dental workers, 0.5% of all allied health professionals, 0.3% of all medical workers and 0.1% of all pharmacists (Table 3.09.4).
- In 2001, there were 87 Indigenous people working as medical practitioners and 1,899 Indigenous people working as nurses, 982 of whom were registered or enrolled nurses.

After nursing, Indigenous people were most commonly employed as Aboriginal and Torres Strait Islander health workers (844 people). Aboriginal and Torres Strait Islander health workers may be employed as specialists in areas such as alcohol, mental health, diabetes, eye and ear health, sexual health, or they may work as generalist members of primary care teams, or as hospital liaison officers.

**Table 3.09.4: Employment in health-related occupations (health workforce), 2001<sup>(a)</sup>**

	Indigenous	All persons	Proportion who were Indigenous
	No.	No.	%
<b>Aboriginal and Torres Strait Islander health workers</b>	844	906	93.2
<b>Medical workers</b>			
Health service managers	72	6,456	1.1
Medical practitioners	87	45,079	0.2
Medical imaging professionals	17	8,279	0.2
<b>Total</b>	<b>176</b>	<b>59,814</b>	<b>0.3</b>
<b>Dental workers</b>			
Dental practitioners	14	7,811	0.2
Dental associate professionals	17	4,475	0.4
Dental assistants	124	13,053	0.9
<b>Total</b>	<b>155</b>	<b>25,339</b>	<b>0.6</b>
<b>Nursing workers</b>			
Nurse managers	29	7,328	0.4
Registered nurses	782	140,781	0.6
Personal care and nursing assistants	795	50,533	1.6
Enrolled nurses	200	19,405	1.0
Other nurses <sup>(b)</sup>	93	21,877	0.4
<b>Total</b>	<b>1,899</b>	<b>239,924</b>	<b>0.8</b>
Pharmacists	12	13,130	0.1
<b>Allied health professionals</b>			
Ambulance officers and paramedics	82	6,689	1.2
Physiotherapists	29	10,119	0.3
Psychologists	23	9,105	0.3
Dieticians	18	1,982	0.9
Other <sup>(c)</sup>	22	9,735	0.2
<b>Total</b>	<b>174</b>	<b>37,630</b>	<b>0.5</b>
<b>Total</b>	<b>3,260</b>	<b>376,743</b>	<b>0.9</b>

(a) Occupation as defined by the Australian Standard Classification of Occupation.

(b) Includes nursing not further defined, educators and researchers, midwives, mental health, developmental disability.

(c) Includes optometrists, speech pathologists, chiropractors and osteopaths, podiatrists.

Note: Small numbers may be rounded in order to protect the confidentiality of individuals; this may affect proportions.

Source: ABS unpublished data (Census of Population and Housing).



## Time series analyses

The number and proportion of Indigenous Australians in the health workforce from the 1996 Census are presented below to enable comparisons over time with the 2001 data presented earlier.

- In 1996, there were approximately 2,831 Indigenous Australians employed in health-related occupations, which represented 0.8% of the total health workforce. This was slightly lower than that reported in 2001 (0.9%).
- The proportion of the health workforce who were of Aboriginal and Torres Strait Islander origin was similar in 1996 and 2001 for most health-related occupations with the exception of enrolled nurses which had a higher representation in 1996 (2.3%) than in 2001 (1.0%) and dieticians which had a lower representation in 1996 (0.2%) than in 2001 (0.9%) (Table 3.09.5).
- The age and sex structure of the Indigenous and total health workforce was similar in 1996 and 2001 (Tables 3.09.6 and 3.09.7).

**Table 3.09.5: Employment in health-related occupations (health workforce), 1996<sup>(a)</sup>**

	Indigenous	All persons	Proportion who were Indigenous
	No.	No.	%
<b>Aboriginal and Torres Strait Islander health workers</b>	667	704	94.7
<b>Medical workers</b>			
Health service managers	28	4,994	0.6
Medical practitioners	60	41,169	0.1
Medical imaging professionals	8	6,718	0.1
<b>Total</b>	<b>96</b>	<b>52,881</b>	<b>0.2</b>
<b>Dental workers</b>			
Dental practitioners	12	7,153	0.2
Dental associate professionals	17	4,322	0.4
Dental assistants	117	11,239	1.0
<b>Total</b>	<b>146</b>	<b>22,714</b>	<b>0.6</b>
<b>Nursing workers</b>			
Nurse managers	13	6,148	0.2
Registered nurses	608	133,199	0.5
Personal care and nursing assistants	570	42,549	1.3
Enrolled nurses	560	24,493	2.3
Other nurses <sup>(b)</sup>	70	21,391	0.3
<b>Total</b>	<b>1,821</b>	<b>227,780</b>	<b>0.8</b>
Pharmacists	5	11,775	0.0
<b>Allied health professionals</b>			
Ambulance officers and paramedics	48	5,952	0.8
Physiotherapists	16	8,789	0.2
Psychologists	14	6,784	0.2
Dieticians	4	1,695	0.2
Other <sup>(c)</sup>	14	7,782	0.2
<b>Total</b>	<b>96</b>	<b>31,002</b>	<b>0.3</b>
<b>Total</b>	<b>2,831</b>	<b>346,856</b>	<b>0.8</b>

(a) Occupation as defined by the Australian Standard Classification of Occupation.

(b) Includes nursing not further defined, educators and researchers, midwives, mental health, developmental disability.

(c) Includes optometrists, speech pathologists, chiropractors and osteopaths, podiatrists.

*Note:* Small numbers may be rounded in order to protect the confidentiality of individuals; this may affect proportions.

*Source:* ABS unpublished data (Census of Population and Housing).

**Table 3.09.6: Aboriginal and Torres Strait Islander health workforce,<sup>(a)</sup> by age and sex, 1996**

	Age group					Total
	15–24	25–34	35–44	45–54	55–64	
	<b>Number</b>					
Male	119	227	230	90	30	696
Female	283	585	736	422	109	2,135
<b>Total</b>	<b>33,510</b>	<b>93,045</b>	<b>115,400</b>	<b>77,613</b>	<b>27,288</b>	<b>346,856</b>
	<b>Proportion of total health workforce (%)</b>					
Male	0.4	0.2	0.2	0.1	0.1	0.2
Female	0.8	0.6	0.6	0.5	0.4	0.6
<b>Total</b>	<b>1.2</b>	<b>0.9</b>	<b>0.8</b>	<b>0.7</b>	<b>0.5</b>	<b>0.8</b>

(a) Occupation as defined by the Australian Standard Classification of Occupation.

Source: ABS unpublished data (Census of Population and Housing).

**Table 3.09.7: Total health workforce,<sup>(a)</sup> by age and sex, 1996**

	Age group					Total
	15–24	25–34	35–44	45–54	55–64	
	<b>Number</b>					
Male	5,436	21,874	27,102	18,964	9,771	83,147
Female	28,074	71,171	88,298	58,649	17,517	263,709
<b>Total</b>	<b>33,510</b>	<b>93,045</b>	<b>115,400</b>	<b>77,613</b>	<b>27,288</b>	<b>346,856</b>
	<b>Proportion of total health workforce (%)</b>					
Male	16.2	23.5	23.5	24.4	35.8	24.0
Female	83.8	76.5	76.5	75.6	64.2	76.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(a) Occupation as defined by the Australian Standard Classification of Occupation.

Source: ABS unpublished data (Census of Population and Housing).

## **Data quality issues**

### **Census of population and housing**

*The Census uses the National health data dictionary standard Indigenous status question and it is asked for each household member. Measures that are drawn from Census data are subject to broad data concerns relating to the unexplainable growth in the Aboriginal and Torres Strait Islander population since the 1991 Census, and limitations of self-identification. Other Census data issues relate to the accuracy of the Census count itself, for example, whether people are counted more than once, or are undercounted (ABS 1996).*

*For the 2002 NATSISS it was estimated that there were 165,700 Indigenous households compared with 144,700 enumerated in the 2001 Census. While the Census data are adjusted for undercounts at the person level to arrive at the Estimated Resident Population, no such adjustment is done at the household level. This affects the accuracy of the person counts at the household level to provide adjusted household estimates.*

### **Occupation data**

*Census data for health labour force are the counts of people as recorded in the Census (raw counts), without adjustment for non-response or under-enumeration.*

*The ABS routinely rounds up small numbers in its Census data in order to protect the confidentiality of individuals. This leads to small discrepancies in total values between tables. Unfortunately, this process may have altered the accuracy of data regarding Indigenous participation in health and community services occupations – where participation is low, the small estimates reported for many occupations might actually seem to increase participation.*

*The Census is a point in time measure. The health workforce is subject to reductions through retention problems and increases in numbers through training. These changes will need to be considered in any interpretation of changes over time.*

*Error due to the recording (for example, difficult to read) or inaccurate coding (misinterpretation of role) of occupation may also affect results.*

## **References**

ABS (Australian Bureau of Statistics) 1996. Occasional paper: Population issues: Indigenous Australians. ABS cat. no. 4708.0. Canberra: ABS.

## 3.10 Access to services by type of service compared to need

*Access to services by types of service compared to need (for example, primary care, hospital, dental and allied health and post-acute care and palliative care)*

### Data sources

Data for this indicator come from:

- ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey
- ABS 2002 National Aboriginal and Torres Strait Islander Social Survey
- ABS 2001 Community Housing Infrastructure Needs Survey
- AIHW National Hospital Morbidity Database
- DoHA general practitioner and Medicare data
- DoHA Service Activity Reporting database
- AIHW health expenditure data.

#### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians about health-related issues including health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

#### **National Aboriginal and Torres Strait Islander Social Survey (NATSISS)**

The 2002 NATSISS collected information from 9,400 Indigenous Australians across all states and territories of Australia. The sample covered persons aged 15 years or over who were usual residents of private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, as well as law and justice. The 2002 NATSISS is the second national social survey of Indigenous Australians conducted by the ABS. Selected non-Indigenous comparisons are available through the 2002 General Social Survey (GSS). The ABS plans to conduct the NATSISS every 6 years. The next survey is planned for 2008.

#### **Community Housing and Infrastructure Needs Survey (CHINS)**

The CHINS collects data from all Aboriginal and Torres Strait Islander housing organisations and discrete Aboriginal and Torres Strait Islander communities in Australia. The ABS conducted the CHINS on behalf of the Aboriginal and Torres Strait Islander Commission (ATSIC) and the Office for Aboriginal and Torres Strait Islander Health (OATSIH) in 1999 and

2001. The most recent CHINS was conducted by the ABS in 2006 on behalf of the Australian Government Department of Families, Community Services and Indigenous Affairs (FaCSIA) through funding from FaCSIA and OATSIH. Results from this survey were published in April 2007. Data from the CHINS is held by FaCSIA and the ABS.

## **Hospitalisations**

The National Hospital Morbidity Database is a compilation of episode-level records from admitted patient morbidity data collection systems in Australian hospitals in each state and territory. Information on the characteristics, diagnoses and care of admitted patients in public and private hospitals is provided annually to the AIHW by state and territory health departments.

Data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations in 2003–04 – Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2005a). These four jurisdictions represent approximately 60% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period July 2002 to June 2004. An aggregate of two years of data has been used as the number of hospitalisations for some conditions is likely to be small for a single year.

The principal diagnosis is the diagnosis established to be the problem that was chiefly responsible for the patient's episode of care in hospital. The additional diagnosis is a condition or complaint either coexisting with the principal diagnosis or arising during the episode of care. The term 'hospitalisation' has been used to refer to a separation which is the episode of admitted patient care, which can be a total hospital stay (from admission to discharge, transfer or death) or a change in a type of care (for example, from acute to rehabilitation).

## **General practitioner data**

The Department of Health and Ageing (DoHA) holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA).

Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous populations, will be understated as some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system, further understating the full-time equivalent for doctors in areas with high Indigenous populations.

Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall

than a second group of SLAs, there will be a number of SLAs in the first group with far more people per doctor than several SLAs in the second group.

### **Medicare database**

Medicare Enrolment Application forms are lodged by the Medicare offices in each state/territory or by mail. Information from these forms is entered directly into the Medicare database which is held by the Department of Health and Ageing.

In November 2002, the ABS standard question on Indigenous identification was included on this form. Because the Indigenous identifier was only introduced recently, the coverage of Indigenous Australians in this dataset is not complete. Aboriginal and Torres Strait Islanders who had identified as Indigenous in this database as at 1 July 2005 numbered 80,658.

### **Service Activity Reporting (SAR) database**

The SAR database collects data from approximately 140 Australian Government funded Aboriginal and Torres Strait Islander primary health care services and is held at DoHA. It is estimated that these services provide GP services to around 40% of the Indigenous population. Service-level data on health care and health-related activities are collected by survey questionnaire over a 12-month period.

Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05.

It should be noted that the SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

### **Health expenditure data**

The report on expenditures on health services for Aboriginal and Torres Strait Islander peoples is produced every three years. The latest report covers expenditure for the 2001–02 financial year and was published in the AIHW report *Expenditures on health for Aboriginal and Torres Strait Islander people 2001–02* (AIHW 2005b).

There are a number of difficulties in reporting on this measure, including the issue of under-identification of Indigenous Australians in health databases (such as for hospital separations). Although adjustments are made to the data to allow for under-identification, the adjusted estimates may be an overestimate or underestimate of actual health service use and expenditure by Aboriginal and Torres Strait Islander people.

In some areas of expenditure, surveys have been used to estimate service use by Aboriginal and Torres Strait Islander people, which, in turn, have been used in the estimates of expenditure. Consequently, the reliability of the expenditure estimates is affected by sampling error.

There may also be some limitations associated with the scope and definition of health expenditures and there may be inconsistencies in reporting and categorisation of expenditure on health goods and services across data providers.

The attribution of expenditure to Aboriginal and Torres Strait Islander people either on an overall population or per capita basis should be treated with caution as it is an estimate (AIHW 2005b).

Expenditure is a measure of met need. Indigenous Australians have a significantly poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-Indigenous Australians. It could therefore be expected that per capita investment of health resources to achieve equality for Aboriginal and Torres Strait Islanders should be higher than for other Australians.

## Analyses

Indigenous Australians have a significantly poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-Indigenous Australians. Indigenous Australians therefore have a greater need for health care and require a higher level of health care access on average than non-Indigenous Australians.

Age-standardised rates and ratios have been used for this indicator as a measure of the Indigenous population relative to other Australians. Ratios of this type illustrate differences between the rates among Indigenous people and those of other Australians, taking into account differences in age distributions.

### Self-reported data—access to health care

The 2004–05 NATSIS collected information on Indigenous Australians' access to health services. These data are presented in the Tables 3.10.1–3.10.13 below.

- In 2004–05, approximately 42% of Indigenous Australians had accessed health care in the last 12 months.
- After adjusting for differences in age structure, approximately 47% of Indigenous Australians reported they had accessed health care in the last 2 weeks or were admitted to hospital in the last 12 months, compared to 42% of non-Indigenous Australians.
- Approximately 20% of Indigenous Australians reported they had visited a doctor or specialist in the last 2 weeks, 16% had been admitted to hospital in the last 12 months and 17% had consulted with other health professionals in the last 2 weeks.
- Indigenous Australians were twice as likely to have visited casualty or consulted with another health professional than non-Indigenous Australians.

### Access to health care by age group and sex

- Indigenous and non-Indigenous Australians aged 55 years and over were most likely to have accessed health care in the last 2 weeks (66% and 57% respectively) (Table 3.10.1).
- Indigenous and non-Indigenous Australians aged 0–14 years were most likely to have visited a dentist in the last 2 weeks (5% and 7% respectively).
- In 2004–05, a higher proportion of Indigenous females had accessed health care in the last 2 weeks (45%) than Indigenous males (38%) (Table 3.10.2).
- Indigenous females were more likely to have visited hospital in the last 12 months (18%), and visited a doctor or other health professional in the last 2 weeks (22% and 20% respectively) than Indigenous males (14%, 18% and 15% respectively).



**Table 3.10.1: Accessing health care, by Indigenous status and age group, 2004–05**

Accessing health care <sup>(a)</sup>	0–14		15–24		25–34		35–44		45–54		55 and over		Total		Total (age standardised) <sup>(e)</sup>	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	Per cent															
Admitted to hospital	12*	9*	16*	12*	19	18	18*	13*	19*	14*	31*	21*	16	15	20*	15*
Visited casualty/outpatients	3*	2*	5*	2*	6*	2*	4*	2*	7*	2*	9*	4*	5	3	6*	3*
Doctor consultation (GP and/or specialist)	16	15	15	17	19	20	24*	20*	28*	23*	43*	37*	20	23	25*	23*
Dental consultation <sup>(b)</sup>	5*	7*	3*	6*	3	4	3*	5*	4 <sup>(c)</sup>	6	4 <sup>(c)</sup>	6	4	6	4*	6*
Consultation with other health professionals	13*	9*	13	11	23*	15*	22*	14*	23*	14*	25*	17*	17	13	20*	13*
<b>Total accessed health care<sup>(d)</sup></b>	<b>35</b>	<b>33</b>	<b>36</b>	<b>36</b>	<b>47*</b>	<b>42*</b>	<b>45*</b>	<b>39*</b>	<b>50*</b>	<b>43*</b>	<b>66*</b>	<b>57*</b>	<b>42</b>	<b>42</b>	<b>47*</b>	<b>42*</b>
<b>Didn't access health care</b>	<b>65</b>	<b>67</b>	<b>64</b>	<b>64</b>	<b>53*</b>	<b>58*</b>	<b>55*</b>	<b>61*</b>	<b>50*</b>	<b>57*</b>	<b>34*</b>	<b>43*</b>	<b>58</b>	<b>58</b>	<b>53*</b>	<b>58*</b>
Total number of persons ('000)	180.7	3,760.0	92.1	2,636.2	69.8	2,761.4	59.1	2,899.6	39.6	2,705.6	33.2	4,529.7	474.3	19,292.4	474.3	19,292.4

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(c) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(d) Persons aged 2 years and over.

(e) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(f) Components may not add to total as persons may have reported more than one type of action.

(g) Totals are directly age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

**Table 3.10.2: Accessing health care, by sex, Indigenous Australians, 2004–05**

Accessing health care <sup>(a)</sup>	Males	Females	Persons
	per cent		
Admitted to hospital	14	18	16
Visited casualty/outpatients	4	5	5
Doctor consultation (GP and/or specialist)	18	22	20
Dental consultation <sup>(b)</sup>	4	4	4
Consultation with other health professional	15	20	17
<b>Total accessing health care<sup>(c)</sup></b>	<b>38</b>	<b>45</b>	<b>42</b>
<b>Did not access health care</b>	<b>62</b>	<b>55</b>	<b>58</b>
Total number	232,362	241,948	474,310

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Persons aged 2 years and over.

(c) Components may not add to total as persons may have reported more than one type of action.

Source: ABS and AIHW Analysis of 2004–05 NATSIHS.

### Access to health care by state/territory and remoteness

- In 2004–05, approximately 42% of Indigenous Australians reported they had accessed some type of health care in the last 2 weeks. The proportion who had accessed health care ranged from 35% in the Australian Capital Territory to 52% in the Northern Territory (Table 3.10.3).
- Indigenous Australians living in very remote areas of Australia were more likely to have accessed health services than Indigenous Australians in major cities (55% compared to 44%) (Table 3.10.4).
- In non-remote areas of Australia, Indigenous Australians accessed health care at similar rates to non-Indigenous Australians (46% compared to 43%) (Table 3.10.5).

**Table 3.10.3: Accessing health care, Indigenous Australians, by state/territory, 2004–05**

Accessing health care <sup>(a)</sup>	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	per cent								
Admitted to hospital	15.2	14.1	14.6	18.6	17.6	14.1	13.5	22.4	16.4
Visited casualty/ outpatients	4.0	3.4	5.6	7.0	4.6	2.8	2.3 <sup>(b)</sup>	4.0	4.8
Doctor consultation (GP and/or specialist)	19.7	28.0	19.2	19.0	18.4	22.3	13.1	20.6	20.1
Dental consultation <sup>(c)</sup>	2.9	3.4	5.0	3.0	3.7	3.6 <sup>(d)</sup>	4.6	4.1	3.8
Consultation with other health professional	13.7	14.7	16.0	16.0	17.4	11.2	16.0	33.5	17.3
<b>Total accessing health care<sup>(e)</sup></b>	<b>38.6</b>	<b>45.1</b>	<b>40.7</b>	<b>43.4</b>	<b>40.0</b>	<b>38.3</b>	<b>34.7</b>	<b>51.6</b>	<b>41.9</b>
<b>Did not access health care</b>	<b>61.4</b>	<b>54.9</b>	<b>59.3</b>	<b>56.6</b>	<b>60.0</b>	<b>61.7</b>	<b>65.3</b>	<b>48.4</b>	<b>58.1</b>
Total number	139,570	29,334	130,856	67,548	26,534	18,072	4,162	58,234	474,310

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Persons aged 2 years and over.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Components may not add to total as persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS

**Table 3.10.4: Accessing health care, by Indigenous status and remoteness, 2004–05**

Accessing health care <sup>(a)</sup>	Major cities			Inner regional			Outer regional			Remote			Very remote <sup>(d)</sup>			Australia		
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio
	per cent																	
Admitted to hospital	17.1	14.3	1.2	21.3	15.7	1.4*	17.9	15.4	1.2	20.4	13.1	1.6*	23.6	n.a.	n.a.	19.6	14.7	1.3*
Visited casualty/outpatients	3.1	2.4	1.3	4.9	2.3	2.1*	7.6	3.5	2.2*	9.6	3.4	2.8*	6.7	n.a.	n.a.	5.7	2.5	2.3*
Doctor consultation (GP and/or specialist)	25.6	23.7	1.1	25.1	19.8	1.3*	26.1	20.8	1.3*	20.5	17.3	1.2	24.8	n.a.	n.a.	25.0	22.5	1.1*
Dental consultation <sup>(c)</sup>	4.0	6.2	0.7*	3.8	6.1	0.6*	3.6	5.0	0.7	3.2 <sup>(d)</sup>	6.3 <sup>(d)</sup>	0.5	3.3	n.a.	n.a.	3.7	6.0	0.6*
Consultation with other health professional	14.1	12.9	1.1	19.5	14.1	1.4*	16.1	14.8	1.1	19.0	13.0	1.5	35.0	n.a.	n.a.	19.9	13.4	1.5*
<b>Total accessing health care<sup>(e)</sup></b>	<b>43.8</b>	<b>42.7</b>	<b>1.0</b>	<b>48.2</b>	<b>41.0</b>	<b>1.2*</b>	<b>45.2</b>	<b>40.6</b>	<b>1.1</b>	<b>48.3</b>	<b>39.2</b>	<b>1.2*</b>	<b>55.1</b>	<b>n.a.</b>	<b>n.a.</b>	<b>47.5</b>	<b>42.1</b>	<b>1.1*</b>
<b>Not accessing/not stated</b>	<b>56.2</b>	<b>57.3</b>	<b>1.0</b>	<b>51.8</b>	<b>59.0</b>	<b>0.9*</b>	<b>54.8</b>	<b>59.4</b>	<b>0.9</b>	<b>51.7</b>	<b>60.8</b>	<b>0.9</b>	<b>44.9</b>	<b>n.a.</b>	<b>n.a.</b>	<b>52.5</b>	<b>57.9</b>	<b>0.9*</b>
Total number ('000)	144.2	13,095.4	..	95.6	3,904.4	..	108.5	2,061.8	..	41.3	n.a.	..	84.7	n.a.	..	474.3	19,292.4	..

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) The 2004–05 National Health Survey did not collect data in very remote areas.

(b) Health-related actions in last 2 weeks except hospital admissions (in last 12 months).

(c) Persons aged 2 years and over.

(d) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(e) Components may not add to total as persons may have reported more than one type of action.

Note: Data have been age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

**Table 3.10.5: Accessing health care, by Indigenous status (non-remote only), 2004–05**

Accessing health care <sup>(a)</sup>	Indigenous	Non-Indigenous	Ratio
	%	%	
Admitted to hospital	18.5	14.7	1.3*
Visited casualty	1.7	0.9	1.9*
Visited outpatients	4.0	1.8	2.2*
Visited day clinic	2.4	2.5	1.0
Doctor consultation (GP)	23.5	19.6	1.2*
Specialist consultation	5.2	5.3	1.0
Dental consultation <sup>(b)</sup>	3.9	6.0	0.6*
Consultation with other health professional	16.2	13.4	1.2*
<b>Total accessing health care<sup>(c)</sup></b>	<b>45.6</b>	<b>42.5</b>	<b>1.1*</b>
<b>Not accessing/not stated</b>	<b>54.4</b>	<b>57.5</b>	<b>0.9*</b>
Total number	348,315	19,061,481	-

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Health-related actions in last 2 weeks except hospital admissions (in last 12 months).

(b) Persons aged 2 years and over.

(c) Components may not add to total as persons may have reported more than one type of action.

Note: Data have been age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

### Access to health care over time

- Between 2001 and 2004–05, there was little change in the proportion of Indigenous and non-Indigenous Australians accessing health care (Table 3.10.6).

**Table 3.10.6: Accessing health care, by Indigenous status, 2001 and 2004–05**

Accessing health care <sup>(a)</sup>	2001			2004–05		
	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio
			<b>per cent</b>			
Admitted to hospital	19	12	1.6*	20	15	1.3*
Visited casualty/outpatients	6	3	2.2*	6	3	2.3*
Doctor consultation (GP and/or specialist)	26	25	1.1	25	23	1.1*
Dental consultation <sup>(b)</sup>	5	6	0.7*	4	6	0.6*
Consultation with other health professional	15	13	1.2	20	13	1.5*
<b>Total accessing health care<sup>(c)</sup></b>	<b>46</b>	<b>42</b>	<b>1.1*</b>	<b>47</b>	<b>42</b>	<b>1.1*</b>
<b>Did not access health care</b>	<b>54</b>	<b>58</b>	<b>0.9*</b>	<b>53</b>	<b>58</b>	<b>0.9*</b>
Total number	374,354	1,8545,583	..	474,310	1,9292,387	..

\* Differences between Indigenous and non-Indigenous data are statistically significant.

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Persons aged 2 years and over.

(c) Components may not add to total as persons may have reported more than one type of action.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2001 National Health Survey (Indigenous supplement), 2004–05 NATSIHS and 2004–05 National Health Survey.

### Access to services by selected population characteristics

- In 2004–05, approximately 62% of Indigenous Australians who spoke a language other than English at home accessed health services compared to 51% of Indigenous Australians who spoke English at home (Table 3.10.7).
- Indigenous Australians in the lowest quintile of equivalent household income were more likely to have accessed health care than those in the highest quintile (48% compared to 41%). These proportions were similar for non-Indigenous Australians.
- A higher proportion of Indigenous Australians with private health insurance accessed health services than Indigenous Australians without private health cover (54% compared to 48%). This was particularly the case with consulting a dentist (9% compared to 3%), and consulting other health professionals (24% compared to 17%).
- A higher proportion of Indigenous Australians who accessed health care felt they were treated worse than non-Indigenous people (67%) than those who felt they were treated the same or better than non-Indigenous people (50%).

Table 3.10.7: Accessing health care, by selected population characteristics and Indigenous status, 2004–05

Accessing health care <sup>(d)</sup>	Language spoken at home <sup>(a)</sup>		Equivalent income of household		Index of disparity		Location		Private health insurance <sup>(b)</sup>		Treatment when seeking health care <sup>(c)</sup>			Total
	English	Other than English	1st quintile	5th quintile	1st quintile	5th quintile	Remote	Non-remote	With private cover	Without private cover	Worse	The same or better	Other <sup>(e)</sup>	
per cent														
<b>Indigenous</b>														
Admitted to hospital	22*	28*	24*	14	22*	18 <sup>(f)</sup>	23*	19*	19	21*	40	21	14	20*
Casualty, outpatients	7*	6 <sup>(f)</sup>	8*	3	6*	4 <sup>(g)</sup>	8*	5*	3 <sup>(f)</sup>	6*	13 <sup>(f)</sup>	6	3 <sup>(f)</sup>	6*
Consulted GP/specialist	29*	30*	22*	21	25	25 <sup>(f)</sup>	23*	26*	28	28	31	26	18	25
Consulted dentist <sup>(h)</sup>	4*	3*	2 <sup>(f)</sup>	4*	3	10 <sup>(g)</sup>	3	4*	9 <sup>(f)</sup>	3	3 <sup>(g)</sup>	3	3 <sup>(f)</sup>	4*
Consulted OHP <sup>(i)</sup>	19*	42*	19*	17	22*	21 <sup>(f)</sup>	30*	16*	24	17*	40	22	17	20*
Total accessing services <sup>(i)</sup>	51*	62*	48	41	50*	51	53*	45*	54	48*	67	50	37	47*
Did not access services	49*	38*	52	59	50*	49	47*	55*	46*	52*	33	50	63	53*
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
<b>Total number</b>	<b>220,036</b>	<b>36,829</b>	<b>78,799</b>	<b>81,026</b>	<b>222,215</b>	<b>15,657</b>	<b>125,995</b>	<b>348,315</b>	<b>28,843</b>	<b>180,376</b>	<b>9,515</b>	<b>211,312</b>	<b>37,470</b>	<b>474,310</b>
<b>Non-Indigenous</b>														
Admitted to hospital	17*	14*	17*	15	15*	15	13*	n.a.	16	17*	n.a.	n.a.	n.a.	15*
Casualty, outpatients	3*	3*	4*	2	3*	2	3 <sup>(f)*</sup>	n.a.	2	3*	n.a.	n.a.	n.a.	3*
Consulted GP/specialist	25*	29*	28*	19	26	21	17*	n.a.	23	26	n.a.	n.a.	n.a.	23*
Consulted dentist <sup>(h)</sup>	6*	6*	5*	8*	5	8	6 <sup>(f)</sup>	n.a.	7	4	n.a.	n.a.	n.a.	6*
Consulted OHP <sup>(i)</sup>	15*	9*	13*	14	12*	15	13*	n.a.	16	13*	n.a.	n.a.	n.a.	13*
Total accessing services <sup>(i)</sup>	45*	45*	46	41	43*	43	39*	n.a.	46	43*	n.a.	n.a.	n.a.	42*
Did not access services	55*	55*	54	59	57*	57	61*	n.a.	54*	57*	n.a.	n.a.	n.a.	58*
Total	100	100	100	100	100	100	100	n.a.	100	100	n.a.	n.a.	n.a.	100
<b>Total number</b>	<b>1,3329,097</b>	<b>1,419,989</b>	<b>3,137,639</b>	<b>3,290,095</b>	<b>3,450,462</b>	<b>4,132,149</b>	<b>230,906</b>	<b>n.a.</b>	<b>7,847,957</b>	<b>7,432,057</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>1,9292,387</b>

(continued)

\* Differences between Indigenous and non-Indigenous are statistically significant.

- (a) Persons aged 18 years and over.
- (b) Persons aged 15 years and over in non-remote areas.
- (c) Includes 'not stated' responses.
- (d) Health-related actions in last 2 weeks except hospital admissions (in last 12 months).
- (e) Includes 'only encountered Indigenous people', 'Did not seek health care in the last 12 months', refusal, not stated, don't know/not sure.
- (f) Estimate has a relative standard error of between 25% and 50% and should be used with caution.
- (g) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.
- (h) Persons aged 2 years and over.
- (i) OHP: other health professional.
- (j) Components may not add to total as persons may have reported more than one type of action.

*Note:* Data are age standardised.

*Source:* ABS and AIHW analysis of 2004–05 NATSIHS.



### **Access to health care by selected health characteristics**

- A higher proportion of Indigenous Australians aged 15 years and over with reported fair/poor health status accessed health care in the last 12 months than Indigenous Australians with excellent/very good or good health status (64% compared to 44%) (Table 3.10.8a).
- Indigenous Australians aged 15 years and over with fair/poor health status were twice as likely to have visited casualty in the last 12 months than non-Indigenous Australians.
- Approximately 47% of Indigenous Australians and 42% of non-Indigenous Australians with three long-term health conditions reported they accessed health care in the last 12 months (Table 3.10.8b).

Table 3.10.8a: Accessing health care, by self-assessed health status, and Indigenous status, persons aged 15 years and over, 2004–05

Accessing health care <sup>(a)</sup>	Excellent/very good/good			Fair/poor			Total			
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	
				per cent						
Admitted to hospital	17	14	1.2*	30	27	1.1	22	16	1.3*	
Visited casualty/outpatients	4	2	2.1*	11	6	2.0*	6	3	2.5*	
Doctor consultation (GP and/or specialist)	22	21	1.0	40	42	0.9	27	24	1.1*	
Dental consultation	3	6	0.6*	4 <sup>(b)</sup>	6	0.7	3	6	0.6*	
Consultation with other health professional	20	13	1.5*	28	22	1.3*	22	15	1.5*	
<b>Total accessing health care<sup>(c)</sup></b>	<b>44</b>	<b>41</b>	<b>1.1</b>	<b>64</b>	<b>62</b>	<b>1.0</b>	<b>51</b>	<b>45</b>	<b>1.1*</b>	
<b>Did not access health care</b>	<b>56</b>	<b>59</b>	<b>0.9</b>	<b>36</b>	<b>38</b>	<b>1.0</b>	<b>49</b>	<b>55</b>	<b>0.9*</b>	
Total number	229,335	1,3079,626	..	64,236	2,452,751	..	293,641	1,5532,377	..	

\* Differences between Indigenous and non-Indigenous data are statistically significant.

(a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Components may not add to total as persons may have reported more than one type of action.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

Table 3.10.8b: Accessing health care, by number of long-term conditions and Indigenous status, 2004–05

Accessing health care <sup>(a)</sup>	Number of long-term health conditions																
	0			1			2			3 or more			Total with a long-term condition (age standardised)			Total with a long-term condition	
	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.	Rate ratio	Indig.	Non-Indig.
	per cent																
Admitted to hospital	10 <sup>(b)</sup>	9	1.2	17	10	1.7*	17	14	1.2	26	20	1.3*	20	15	1.3*	16*	15*
Visited casualty/outpatients	2 <sup>(b)</sup>	1 <sup>(b)</sup>	2.3	5 <sup>(b)</sup>	2	2.7*	5	2	2.1*	8	4	2.0*	6	3	2.3*	5*	3*
Doctor consultation (GP and/or specialist)	11 <sup>(b)</sup>	10	1.0	16	15	1.1	25	21	1.2	34	31	1.1	25	23	1.1*	20*	23*
Dental consultation <sup>(c)</sup>	3 <sup>(b)</sup>	6	0.5	3 <sup>(b)</sup>	6	0.4*	3	5	0.5*	4	7	0.6*	4	6	0.6*	4*	6*
Consultation with other health professional	13 <sup>(b)</sup>	5	2.5*	18	9	1.9*	19	13	1.4*	28	23	1.2*	20	13	1.5*	17*	13*
<b>Total accessing health care<sup>(d)</sup></b>	<b>29</b>	<b>26</b>	<b>1.1</b>	<b>40</b>	<b>33</b>	<b>1.2*</b>	<b>46</b>	<b>41</b>	<b>1.1</b>	<b>60</b>	<b>56</b>	<b>1.1*</b>	<b>47</b>	<b>42</b>	<b>1.1*</b>	<b>42</b>	<b>42</b>
<b>Did not access health care</b>	<b>71</b>	<b>74</b>	<b>1.0</b>	<b>60</b>	<b>67</b>	<b>0.9*</b>	<b>54</b>	<b>59</b>	<b>0.9</b>	<b>40</b>	<b>44</b>	<b>0.9*</b>	<b>53</b>	<b>58</b>	<b>0.9*</b>	<b>58</b>	<b>58</b>
Total number ('000)	167.7	4,441.8	..	100.6	3,951.0	..	68.2	3,101.6	..	137.8	7,797.9	..	474.3	19,292.4	..	100.6	3,951.0

\* Differences between Indigenous and non-Indigenous data are statistically significant.

- (a) Total who took at least one health-related action—those who were admitted to hospital in last 12 months, dental consultation in last 2 weeks, doctor consultation in last 2 weeks, visited casualty/outpatient in last 2 weeks or consulted with other health professional in last 2 weeks.
- (b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.
- (c) Persons aged 2 years and over.
- (d) Components may not add to total as persons may have reported more than one type of action.

Note: Data are age standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

## Time since last consulted a doctor or dentist

- In 2004–05, after adjusting for differences in age structure, approximately 36% of Indigenous people reported that it had been 2 years or more since their last dental consultation. This compared to 29% of non-Indigenous people (Table 3.10.9).
- Approximately 25% of Indigenous people reported it had been 2 weeks or less since their last visit to a doctor compared to 23% of non-Indigenous people, and for 26% of Indigenous people, it had been 2 weeks to 3 months since their last doctor consultation compared to 28% of non-Indigenous people.
- There was little change in the time since last dentist and doctor consultation for Indigenous and non-Indigenous Australians between 2001 and 2004–05.

**Table 3.10.9: Time since last consulted a dentist or doctor, by Indigenous status, 2001 and 2004–05**

	2001			2004–05		
	Indigenous	Non-Indigenous	Rate ratio	Indigenous	Non-Indigenous	Rate ratio
	per cent					
<b>Dentist/dental professional</b>						
Less than 6 months	22	30	0.7	20	29	0.7
6 months to less than 2 years	26	34	0.8	29	37	0.8
2 years or more	43	31	1.4	36	29	1.2
Never	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>
<b>GP/specialist</b>						
2 weeks or less	27	25	1.1	25	23	1.1
2 weeks to 3 months	26	29	0.9	26	28	0.9
3 months to 6 months	13	16	0.8	14	17	0.8
6 months to 12 months	12	14	0.8	14	16	0.9
12 months to 2 years	19	16	1.2	19	16	1.2
Never	2	—	6.5	1	—	—
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>..</b>	<b>100</b>	<b>100</b>	<b>..</b>

n.p. Not available for publication.

(a) Includes 'time since last consultation' not known.

Note: Data are age standardised.

Source: ABS 2006.

## Whether needed to access health care and reasons why didn't

- Table 3.10.10 presents data on whether Indigenous Australians needed to access a dentist, doctor, other health professional or hospital in the last 12 months but didn't and reasons why they didn't access these health services.
- In 2004–05, approximately 21% of Indigenous Australians reported they needed to go to a dentist in the last 12 months but didn't, 15% needed to go to a doctor, 8% needed to go to another health professional and 7% needed to go to hospital but didn't.
- Indigenous people in non-remote areas were more likely to report that they needed to access a dentist, doctor or other health professional but didn't than people in remote areas of Australia.
- Indigenous females were more likely to report they needed to go to a dentist or doctor (23% and 17% respectively) compared to Indigenous males (19% and 13% respectively).
- Indigenous people aged 15–44 and 45 years and over were more likely to report they needed access to these services but didn't go than Indigenous people aged 0–14 years.
- The most common reasons why Indigenous people did not go to a dentist when needed were cost (29%), waiting time was too long or not available at the time required (22%) and feeling afraid, embarrassed or a dislike of the service (21%).
- The most common reasons why Indigenous people did not go to a doctor when needed were that they decided not to seek care (26%), too busy (24%), transport/distance difficulties (14%) and waiting time too long or not available at time required (14%).
- The most common reasons why Indigenous people did not go to another health professional when needed was cost (28%) and too busy (26%).
- The most common reasons why Indigenous people did not visit a hospital when needed was that they decided not to seek care for their health problem (25%) and transport/distance issues (19%).
- A higher proportion of Indigenous people living in remote areas reported transport/distance as a reason for not accessing health services than Indigenous people in non-remote areas.

**Table 3.10.10: Whether needed to go to a dentist, doctor, other health professional or hospital and reasons didn't go, by remoteness, sex and age, Indigenous Australians, 2004–05<sup>(a)</sup>**

	Remoteness		Sex		Age group			Total
	Non-remote	Remote	Male	Female	0–14	15–44	45+	
	per cent							
<b>Whether needed to go to dentist in last 12 months but didn't</b>								
Yes	23	16	19	23	7	29	26	21
No	77	84	81	77	93	71	74	79
Total persons <sup>(b)</sup>	331,272	121,086	222,020	230,338	158,717	220,896	72,745	452,358
<b>Reasons didn't go to a dentist</b>								
Cost	32	15	27	30	22	30	30	29
Too busy (including work, personal or family responsibilities)	15	11	15	13	6 <sup>(c)</sup>	16	13	14
Dislikes (service/professional/ afraid /embarrassed)	21	20	19	22	13 <sup>(c)</sup>	23	19	21
Waiting time too long or not available at time required	21	23	18	24	28	20	22	22
Decided not to seek care	14	8	16	10	10 <sup>(c)</sup>	13	15	13
Transport/distance	7	28	11	11	18	10	11	11
Not available in area	3	28	9	8	10 <sup>(c)</sup>	8	9	8
Felt it would be inadequate	2 <sup>(c)</sup>	2 <sup>(d)</sup>	3 <sup>(c)</sup>	2 <sup>(c)</sup>	3 <sup>(d)</sup>	1 <sup>(c)</sup>	4 <sup>(c)</sup>	2 <sup>(c)</sup>
Discrimination/ not culturally appropriate/ language problems	— <sup>(d)</sup>	1 <sup>(d)</sup>	1 <sup>(d)</sup>	— <sup>(d)</sup>	—	— <sup>(d)</sup>	1 <sup>(c)</sup>	— <sup>(c)</sup>
Other	9	7 <sup>(c)</sup>	9	7	23	7	5	8
<b>Total who needed to visit dentist but didn't<sup>(b)</sup></b>	<b>74,062</b>	<b>18,871</b>	<b>40,501</b>	<b>52,432</b>	<b>10,495</b>	<b>63,729</b>	<b>18,709</b>	<b>92,933</b>
<b>Whether needed to visit doctor in last 12 months but didn't</b>								
Yes	17	10	13	17	4	22	22	15
No	83	90	87	83	96	78	78	85
Total persons <sup>(b)</sup>	348,315	125,995	232,362	241,948	180,669	220,896	72,745	474,310
<b>Reasons why didn't visit the doctor when needed to</b>								
Cost	14	4 <sup>(c)</sup>	11	13	12 <sup>(c)</sup>	13	10 <sup>(c)</sup>	12
Too busy (including work, personal or family responsibilities)	26	17	21	26	11 <sup>(c)</sup>	26	24	24
Dislikes (service/professional/ afraid/embarrassed)	10	11	15	6	8 <sup>(c)</sup>	10	9	10
Waiting time too long or not available at time required	14	15	14	14	18 <sup>(c)</sup>	13	14 <sup>(c)</sup>	14
Decided not to seek care	27	22	30	24	24	27	26	26
Transport/distance	11	28 <sup>(c)</sup>	12	15	20	12	17	14
Not available in area	2 <sup>(d)</sup>	13 <sup>(c)</sup>	3 <sup>(c)</sup>	4 <sup>(c)</sup>	8 <sup>(d)</sup>	3	5 <sup>(d)</sup>	4 <sup>(c)</sup>
Felt it would be inadequate	5	7 <sup>(c)</sup>	5	5	3 <sup>(d)</sup>	5	7 <sup>(c)</sup>	5
Discrimination/ not culturally appropriate/ language problems	1	1 <sup>(d)</sup>	— <sup>(d)</sup>	1 <sup>(c)</sup>	n.p.	1 <sup>(c)</sup>	1	1 <sup>(c)</sup>
Other	12	5	10	11	15 <sup>(c)</sup>	10	11	11
<b>Total who needed to visit doctor but didn't<sup>(b)</sup></b>	<b>57,653</b>	<b>12,012</b>	<b>29,428</b>	<b>40,237</b>	<b>7,010</b>	<b>47,054</b>	<b>15,601</b>	<b>69,665</b>

(continued)

**Table 3.10.10 (continued): Whether needed to go to a dentist, doctor, other health professional or hospital and reasons didn't go, by remoteness area, sex and age, Indigenous Australians, 2004-05<sup>(a)</sup>**

	Remoteness		Sex		Age group			Total
	Non-remote	Remote	Male	Female	0-14	15-44	45+	
per cent								
<b>Whether needed to go to other health professional in last 12 months but didn't</b>								
Yes	9	5	7	8	2	11	10	8
No	91	95	93	92	97	89	90	92
Total persons <sup>(b)</sup>	348,315	125,995	232,362	241,948	180,669	220,896	72,745	474,310
<b>Why didn't go to other health professional (OHP)</b>								
Cost	33	5 <sup>(d)</sup>	26	30	22 <sup>(c)</sup>	31	24	28
Too busy (including work, personal or family responsibilities)	27	20	24	26	14 <sup>(c)</sup>	29	21 <sup>(c)</sup>	26
Dislikes (service/professional/afraid/embarrassed)	12	11 <sup>(c)</sup>	14	11	11 <sup>(c)</sup>	14	7 <sup>(c)</sup>	12
Waiting time too long or not available at time required	7 <sup>(c)</sup>	19	9 <sup>(c)</sup>	9	24 <sup>(c)</sup>	6	9	9
Decided not to seek care	18	16	19	16	13 <sup>(c)</sup>	16	23	17
Transport/distance	7 <sup>(c)</sup>	15 <sup>(c)</sup>	7 <sup>(c)</sup>	9	7 <sup>(c)</sup>	8 <sup>(c)</sup>	8 <sup>(c)</sup>	8
Not available in area	2 <sup>(c)</sup>	30	7	7	9 <sup>(c)</sup>	6	10 <sup>(c)</sup>	7
Felt it would be inadequate	5 <sup>(c)</sup>	5 <sup>(d)</sup>	5 <sup>(c)</sup>	5 <sup>(c)</sup>	10 <sup>(d)</sup>	4 <sup>(c)</sup>	7 <sup>(c)</sup>	5
Discrimination/ not culturally appropriate/ language problems	2 <sup>(d)</sup>	2 <sup>(d)</sup>	2 <sup>(d)</sup>	1 <sup>(d)</sup>	0 <sup>(d)</sup>	2 <sup>(c)</sup>	n.p.	*2
Other	11	10 <sup>(c)</sup>	11	10	14 <sup>(c)</sup>	10	11 <sup>(c)</sup>	11
<b>Total who needed to visit OHP but didn't<sup>(b)</sup></b>	<b>29,699</b>	<b>5,971</b>	<b>15,968</b>	<b>19,702</b>	<b>4,200</b>	<b>24,085</b>	<b>7,385</b>	<b>35,670</b>
<b>Whether needed to go to hospital in the last 12 months but didn't</b>								
Yes	7	7	7	7	2	9	12	7
No	93	93	93	93	98	91	88	93
Total persons <sup>(b)</sup>	348,315	125,995	232,362	241,948	180,669	220,896	72,745	474,310
<b>Why didn't visit hospital</b>								
Cost	5 <sup>(c)</sup>	3 <sup>(c)</sup>	4 <sup>(c)</sup>	5 <sup>(c)</sup>	4 <sup>(d)</sup>	4 <sup>(c)</sup>	5 <sup>(c)</sup>	4
Too busy (including work, personal or family responsibilities)	17	16	12 <sup>(c)</sup>	20	8 <sup>(d)</sup>	20	12	16
Dislikes (service/professional/afraid/embarrassed)	18	9 <sup>(c)</sup>	20	11	6 <sup>(d)</sup>	17	17	16
Waiting time too long or not available at time required	18	10 <sup>(c)</sup>	17	15	16 <sup>(c)</sup>	16	15 <sup>(c)</sup>	16
Decided not to seek care	25	26	28	23	22 <sup>(c)</sup>	22	34	25
Transport/distance	13	34	14	23	27	17	20	19
Not available in area	2 <sup>(c)</sup>	8 <sup>(c)</sup>	3 <sup>(c)</sup>	4 <sup>(c)</sup>	4 <sup>(d)</sup>	3 <sup>(c)</sup>	6 <sup>(c)</sup>	4 <sup>(c)</sup>
Felt it would be inadequate	6	7 <sup>(c)</sup>	6 <sup>(c)</sup>	7 <sup>(c)</sup>	14 <sup>(c)</sup>	4 <sup>(c)</sup>	8 <sup>(c)</sup>	6
Discrimination/ not culturally appropriate/ language problems	2 <sup>(c)</sup>	2 <sup>(d)</sup>	1 <sup>(d)</sup>	2 <sup>(c)</sup>	1 <sup>(d)</sup>	2 <sup>(c)</sup>	1 <sup>(d)</sup>	2 <sup>(c)</sup>
Other	15	9	15 <sup>(c)</sup>	12	17 <sup>(c)</sup>	15	8 <sup>(c)</sup>	14
<b>Total who needed to visit hospital and didn't<sup>(b)</sup></b>	<b>22,982</b>	<b>8,840</b>	<b>15,430</b>	<b>16,392</b>	<b>3,873</b>	<b>19,382</b>	<b>8,567</b>	<b>31,822</b>

(continued)

**Table 3.10.10 (continued): Whether needed to go to a dentist, doctor, other health professional or hospital and reasons didn't go, by remoteness area, sex and age, Indigenous Australians, 2004–05<sup>(a)</sup>**

- (a) Persons aged 2 years and over.
- (b) Total includes 'not stated'.
- (c) Estimate has a relative standard error between 25% and 50% and should be used with caution.
- (d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

*Note:* Components may not add to total as persons may have reported more than one type of action.

*Source:* ABS and AIHW analysis of 2004–05 NATSIHS.

## **Co-payment and private health insurance**

Information on co-payment and private health insurance was collected in non-remote areas of Australia only, and is presented in Tables 3.10.11 and 3.10.12 below.

- In 2004–05, approximately 15% of Indigenous persons in non-remote areas required co-payment for their last visit to the doctor, 37% required co-payment for their last visit to a specialist and 17% required co-payment for their last visit to other health professionals (Table 3.10.11).
- In 2004–05, a much higher proportion of Indigenous Australians in non-remote areas reported they were not currently covered by private health insurance than non-Indigenous Australians (83% compared to 49%) (Table 3.10.12).
- The most common reasons for why Indigenous Australians had private health insurance were security, protection or peace of mind (43%), a shorter wait for treatment or concern over public hospital waiting lists (20%), and provision of benefits for ancillary services or extras (18%). Similar proportions of non-Indigenous Australians reported these reasons for also having private health insurance.
- The most common reasons for Indigenous Australians to not get private health insurance were that they could not afford it (65%), and that they felt that Medicare cover was sufficient (19%).



**Table 3.10.11: Indigenous persons requiring co-payment for last visit to GP/specialist or other health professional, non-remote areas, 2004-05**

Whether co-payment required at last consultation for those who had consulted this type of health professional in the last 2 weeks <sup>(a)</sup>	Proportion (%)
<b>GP<sup>(b)</sup></b>	
Yes	15
No	82
Not stated/not known	3 <sup>(c)</sup>
Total	100
<b>Total number</b>	<b>72,801</b>
<b>Specialist<sup>(b)</sup></b>	
Yes	37
No	62
Not stated/not known	1 <sup>(c)</sup>
Total	100
<b>Total number</b>	<b>13,724</b>
<b>Other health professional<sup>(d)</sup></b>	
Yes	17
No	80
Not stated/not known	2 <sup>(c)</sup>
<b>Total<sup>(e)</sup></b>	<b>100</b>
<b>Total number</b>	<b>54,327</b>

(a) Last consultation in the 2 weeks prior to interview.

(b) Consultations information is essentially as reported by respondents. In some cases respondents may have reported consultations with health practitioners other than doctors because they consider them to be doctors. Conversely, some consultations reported as being with other health professionals should have been reported as being a GP/specialist consultation (regardless of the type of treatment provided at the consultation).

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Excludes dentists. For the full list of other health professionals, refer to *National Aboriginal and Torres Strait Islander Health Survey: Users Guide* (ABS cat. no. 4715.0.55.004).

(e) Yes, No and Not stated/Don't know may not add up to 100% due to rounding effects.

Source: ABS and AIHW analysis of 2004-05 NATSIHS.

**Table 3.10.12: Private health insurance, by Indigenous status, (non-remote areas only), 2004–05**

	Indigenous	Non-Indigenous	Ratio
	%	%	%
<b>Whether currently covered by private health insurance</b>			
With private health insurance	15	51	0.3*
Without private health insurance	83	49	1.7*
Not stated/not known	2 <sup>(a)</sup>	—	—
Total <sup>(b)</sup>	100	100	1.0
<b>Total number</b>	<b>213,422</b>	<b>15,344,756</b>	<b>..</b>
<b>Reasons for private health insurance</b>			
Security or protection or peace of mind	43	42	1.0
Shorter wait for treatment or concerned over public hospital waiting lists	20	22	0.9
Provides benefits for ancillary services or extras	18	22	0.8
Allows treatment as private patient in hospital	16	21	0.8
Always had it or parents pay it or condition of job	16	23	0.7*
Choice of doctor	14	20	0.7*
Has condition that requires treatment	11	8	1.4
Elderly or getting older or likely to need treatment	8 <sup>(a)</sup>	6	1.3*
To gain government benefits or avoid extra Medicare levy	7	10	0.7
Lifetime cover or avoid age surcharge	6 <sup>(a)</sup>	5	1.2
Other financial reasons	4 <sup>(a)</sup>	4	1.0
Other reason	7 <sup>(a)</sup>	6	1.2
Total <sup>(b)</sup>	100	100	1.0
<b>Total number</b>	<b>28,843</b>	<b>7,847,957</b>	<b>..</b>
<b>Reasons not covered by private health insurance</b>			
Cannot afford it/too expensive	65	64	1.0
Medicare cover sufficient	19	14	1.4*
Pensioner/Veteran's Affairs/health concession card	8	6	1.3
Not high priority/previously included in parents' cover	6	7	0.9
Lack of value for money/not worth it	6	11	0.5*
Do not need medical care/in good health/have no dependants	5	12	0.4
Disillusionment about having to pay out-of-pocket costs/gap fees	2	4	0.5*
Prepared to pay cost of private treatment from own resources	— <sup>(a)</sup>	1	—
Will not pay Medicare levy and private health insurance premium	1 <sup>(a)</sup>	3	0.3*
High risk category	— <sup>(a)</sup>	—	—
Other	7	7	1.0
Total <sup>(b)</sup>	100	100	1.0
<b>Total numbers</b>	<b>180,376</b>	<b>7,432,057</b>	<b>..</b>

\* Represents statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(b) The sum of the components may add to more than 100% as persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 National Health Survey.

### **Treatment when seeking health care**

- In 2004–05, approximately 4% of Indigenous people reported that when they sought health care in the last 12 months they were treated worse than non-Indigenous people, 77% reported they were treated the same as non-Indigenous people, and 5% reported they were treated better than non-Indigenous people (Table 3.10.13).
- A higher proportion of Indigenous people in remote areas reported they were treated better than non-Indigenous people (11% compared to 3%).
- Approximately 16% of Indigenous people felt that they were treated badly when they sought health care because they were Aboriginal and Torres Strait Islander.
- The most common feeling felt when Indigenous people thought they had been treated badly when seeking health care was anger (67%). Approximately 31% of Indigenous people reported they felt sorry for the persons who had treated them badly and 28% of Indigenous people felt sad as a result of being treated badly.
- Approximately 38% of Indigenous people who had been treated badly when seeking health care reported that they talked to friends or family about the situation, 33% reported they try to avoid the situation or person involved and 30% try to do something about the people involved.

**Table 3.10.13: Treatment when seeking health care in the last 12 months, by remoteness, Indigenous Australians, 2004–05**

	Remote	Non-remote	Total
	per cent		
<b>Treatment when seeking health care</b>			
Worse than non-Indigenous people	5	3	4
The same as non-Indigenous people	71	79	77
Better than non-Indigenous people	11	3	5
Only encountered Indigenous people	2	1 <sup>(b)</sup>	2
Did not seek health care in last 12 months	4	6	5
Don't know/not sure	7	7	7
<b>Total persons<sup>(a)</sup></b>	<b>185,515</b>	<b>72,782</b>	<b>258,297</b>
<b>Whether felt treated badly because Aboriginal or Torres Strait Islander</b>			
Yes	16	15	16
No	83	84	84
<b>Total persons<sup>(a)</sup></b>	<b>185,515</b>	<b>72,782</b>	<b>258,297</b>
<b>How usually feel when treated badly</b>			
Feel angry	71	66	67
Feel sorry for the person who did it	28	32	31
Feel sad	35	25	28
Feel ashamed or worried about it	32	10	17
Feel sick	15	10	12
Other feeling	15	11	12
No feeling	6 <sup>(b)</sup>	6 <sup>(b)</sup>	6
<b>Total persons<sup>(a)</sup></b>	<b>28,723</b>	<b>11,650</b>	<b>40,373</b>
<b>What usually do when treated badly</b>			
Talk to family or friends about it	49	33	38
Try to avoid the person/situation	34	32	33
Try to do something about the people who did it	36	27	30
Just forget about it	27	28	28
Keep it to yourself	15	19	18
Try to change the way you are or things that you do	12	8	9
Do anything else	5 <sup>(b)</sup>	6	5
No action	3 <sup>(b)</sup>	5 <sup>(b)</sup>	4
<b>Total persons<sup>(a)</sup></b>	<b>28,723</b>	<b>11,650</b>	<b>40,373</b>

(a) Total includes 'not stated' and refusal to answer.

(b) Estimate has a relative standard error between 25% and 50% and is subject to sampling variability too high for most practical purposes.

Note: Components may not add to total as persons may have reported more than one type of action.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

## Community housing

The 2001 CHINS collected information on health services from 1,216 discrete Indigenous communities. Information on distance to the nearest health facility, health professionals working within communities and access to medical emergency air services is presented below.

### Distance to nearest health facility

- Of the 1,216 discrete Indigenous communities in 2001, over two-thirds (841 communities or 69%) were located 100 kilometres or more from the nearest hospital. These communities represented 53% of the reported population living in these communities (Table 3.10.14).
- Community health centres were more likely to be located near or within Indigenous communities than were hospitals. In addition to the 10% of communities located within 10 kilometres of a hospital, 23% of communities were located less than 10 kilometres from a community health centre. These communities represented 58% of the reported population living in these communities.
- Overall, 85% of Indigenous people in communities were located within 10 kilometres of either a hospital or a community health centre.

**Table 3.10.14: Distance to nearest health facility, discrete Indigenous communities, 2001**

Distance to nearest health facility	Hospital				Community health centre			
	Communities		Reported usual population		Communities <sup>(a)</sup>		Reported usual population	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Located within community	9	0.7	15,800	14.6	183	15.0	59,902	55.4
Less than 10 km	118	9.7	13,894	12.9	98	8.1	2,616	2.4
10–24 km	76	6.3	6,232	5.8	200	16.4	4,283	4.0
25–49 km	68	5.6	5,019	4.6	207	17.0	4,095	3.8
50–99 km	102	8.4	9,909	9.2	225	18.5	4,231	3.9
100–249 km	298	24.5	19,464	18.0	135	11.1	2,657	2.5
250 km or more	543	44.7	37,758	34.9	39	3.2	598	0.6
<b>Total<sup>(b)</sup></b>	<b>1,216</b>	<b>100.0</b>	<b>108,085</b>	<b>100.0</b>	<b>1,216<sup>(c)</sup></b>	<b>100.0<sup>(c)</sup></b>	<b>108,085<sup>(c)</sup></b>	<b>100.0<sup>(c)</sup></b>

(a) Communities located more than 10 kilometres from the nearest hospital.

(b) Includes 'distance to nearest health facility' not stated.

(c) Totals include communities located within 10 kilometres of the nearest hospital.

Source: ABS 2002—2001 Community Housing and Infrastructure Needs Survey.

## Health professionals within communities

- Approximately half (49%) of all communities with a population of 50 or more had a male Indigenous health worker working in the community, and three-quarters (76%) had a female Indigenous health worker working in the community (Table 3.10.15).
- About 25% of communities had male Indigenous health workers working on a daily basis and about 52% had female Indigenous health workers working on a daily basis.
- Approximately 88% of communities had a registered nurse working in the community and 87% had a doctor working in the community.
- Around half of communities had a registered nurse working in the community on a daily basis and only 11% had a doctor working on a daily basis.

**Table 3.10.15: Selected health professionals working in the community, discrete Indigenous communities with a population of 50 or more located 10 kilometres or more from the nearest hospital, 2001**

Work in the community	Male Indigenous health worker		Female Indigenous health worker		Registered nurse		Doctor	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Daily	60	24.8	125	51.7	118	48.8	26	10.7
Weekly or fortnightly	24	9.9	32	13.2	62	25.6	140	57.9
Monthly	13	5.4	16	6.6	19	7.9	34	14.0
Three monthly	5	2.1	6	2.5	4	1.7	4	1.7
Less than three monthly	16	6.6	5	2.1	9	3.7	7	2.9
<i>Total with health prof. working in community</i>	<i>118</i>	<i>48.8</i>	<i>184</i>	<i>76.0</i>	<i>212</i>	<i>87.6</i>	<i>211</i>	<i>87.2</i>
Do not work in community	117	48.3	52	21.5	30	12.4	31	12.8
<b>Total communities<sup>(a)</sup></b>	<b>242</b>	<b>100.0</b>	<b>242</b>	<b>100.0</b>	<b>242</b>	<b>100.0</b>	<b>242</b>	<b>100.0</b>

(a) Includes 'Whether selected health professionals work in community' not stated.

Source: ABS 2002—2001 Community Housing and Infrastructure Needs Survey.

### Access to medical emergency air service

- In 2001, 525 (43%) of discrete Indigenous communities had access to a medical emergency air service accounting for 64,721 (60%) people living in these communities (Table 3.10.16).
- Over half (55%) of communities with access to a medical emergency air service were located 250 kilometres or more from the nearest hospital.

**Table 3.10.16: Discrete Indigenous communities: access to medical emergency air services, all communities and reported usual population, 2001**

Distance to nearest hospital	Access to medical emergency air service		No access to medical emergency air service		Total	
	No. of communities	Usual population	No. of communities	Usual population	No. of communities	Usual population
10–24 km	28	2,656	48	3,576	76	6,232
25–49 km	26	3,273	42	1,746	68	5,019
50–99 km	40	8,514	62	1,395	102	9,909
100–249 km	144	16,004	154	3,460	298	19,464
250 km or more	287	34,274	256	3,484	543	37,758
All communities 10 km or more from nearest hospital	525	64,721	562	13,661	1,087	78,382
<b>All communities<sup>(a)</sup></b>	<b>525</b>	<b>64,721</b>	<b>564</b>	<b>13,670</b>	<b>1,216</b>	<b>108,085</b>

(a) Includes communities located less than 10 kilometres from nearest hospital. Includes 'Distance to nearest hospital' not stated.

Source: SCRGSP 2003—ABS 2001 Community Housing and Infrastructure Needs Survey.

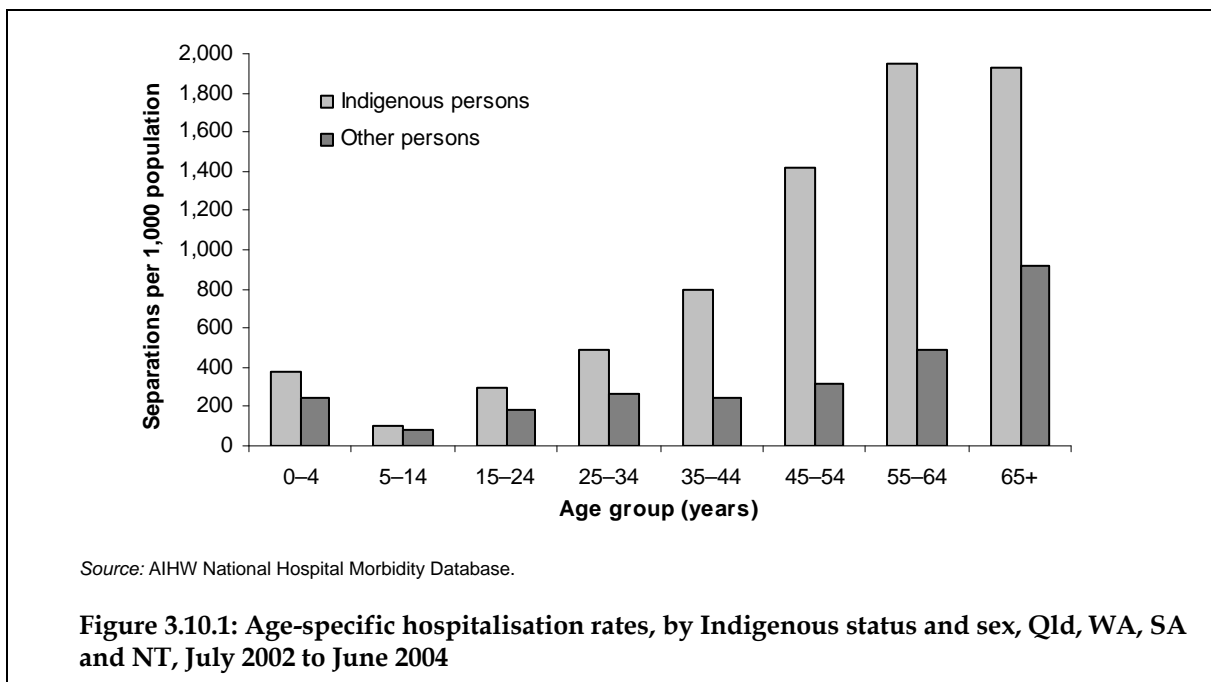
## Hospitalisations

- In the two-year period July 2002 to June 2004 there were a total of 5,193,610 hospitalisations in Queensland, Western Australia, South Australia and the Northern Territory. Of these, 312,292 or 6% were hospitalisations of Indigenous Australians. For 6.7% of hospitalisations, Indigenous status was not stated.

An analysis of hospitalisations excluding those for routine dialysis are presented in Measure 1.02.

### Hospitalisations by age group

- For the period 2002-03 to 2003-04, Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined had higher hospitalisation rates than other Australians across all age groups (Figure 3.10.1).
- The greatest difference in rates occurred in the 45-54 and 55-64 year age groups where Indigenous Australians were hospitalised at around four times the rate of other Australians in these age groups.



### Hospitalisations by state/territory

- In the period July 2002 to June 2004, Indigenous Australians in Queensland were hospitalised at around twice the rate of other Australians. In Western Australia and South Australia, Indigenous Australians were hospitalised at around three times the rate of other Australians, while in the Northern Territory, Indigenous Australians were hospitalised at five times the rate of other Australians (Table 3.10.17).



**Table 3.10.17: Hospitalisations, by Indigenous status, sex and state/territory, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)(c)(d)</sup>**

	Indigenous				Other <sup>(e)</sup>				Ratio <sup>(i)</sup>
	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	Number	Rate per 1,000 <sup>(f)</sup>	LCL 95% <sup>(g)</sup>	UCL 95% <sup>(h)</sup>	
<b>Qld</b>									
Males	49,432	704.2	696.0	712.4	1,167,904	329.2	328.6	329.8	2.1*
Females	62,259	757.8	750.5	765.1	1,328,510	354.3	353.7	354.9	2.1*
Persons	111,691	732.3	726.8	737.7	2,496,414	340.0	339.6	340.4	2.2*
<b>WA</b>									
Males	34,845	774.9	764.8	785.1	575,294	323.0	322.2	323.8	2.4*
Females	52,392	1,083.0	1,072.3	1,093.7	642,675	337.1	336.2	337.9	3.2*
Persons	87,237	935.4	928.0	942.8	1,217,969	327.6	327.0	328.2	2.9*
<b>SA</b>									
Males	13,428	885.1	866.1	904.0	521,610	935.1	922.9	947.3	2.6*
Females	16,505	910.4	893.9	926.9	593,127	362.9	362.0	363.8	2.5*
Persons <sup>(j)</sup>	29,933	897.5	885.1	909.9	1,114,738	349.2	348.5	349.8	2.6*
<b>NT</b>									
Males	33,894	935.1	922.9	947.3	26,131	223.8	220.6	227.0	4.2*
Females	49,440	1,344.5	1,330.9	1,358.1	26,042	238.3	235.0	241.7	5.6*
Persons <sup>(j)</sup>	83,431	1,157.8	1,148.5	1,167.2	52,197	231.3	229.0	233.7	5.0*
<b>Qld, WA, SA and NT<sup>(d)</sup></b>									
<b>Males</b>	<b>131,599</b>	<b>785.2</b>	<b>779.7</b>	<b>790.6</b>	<b>2,290,939</b>	<b>327.7</b>	<b>327.3</b>	<b>328.2</b>	<b>2.4*</b>
<b>Females</b>	<b>180,596</b>	<b>968.1</b>	<b>962.8</b>	<b>973.4</b>	<b>2,590,354</b>	<b>349.3</b>	<b>348.8</b>	<b>349.7</b>	<b>2.8*</b>
<b>Persons<sup>(j)</sup></b>	<b>312,292</b>	<b>882.2</b>	<b>878.5</b>	<b>886.0</b>	<b>4,881,318</b>	<b>336.4</b>	<b>336.1</b>	<b>336.7</b>	<b>2.6*</b>

\* Represents results with statistically significant differences in the Indigenous/other comparisons at the p<.05 level.

(j) Data are from public and most private hospitals. Data exclude private hospitals from the Northern Territory.

(k) Categories are based on the (ICD-10-AM) (National Centre for Classification in Health 2004); ICD-10-AM codes J12–J18.

(l) Financial year reporting.

(m) Data are reported by state/territory of usual residence of the patient hospitalised and are for Queensland, Western Australia, South Australia, and the Northern Territory only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(n) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was 'not stated'.

(o) Directly age standardised using the Australian 2001 Standard population.

(p) LCL = lower confidence limit.

(q) UCL = upper confidence limit.

(r) Rate ratio Indigenous:other.

(s) Includes hospitalisations for which sex was 'indeterminate' or 'not stated'.

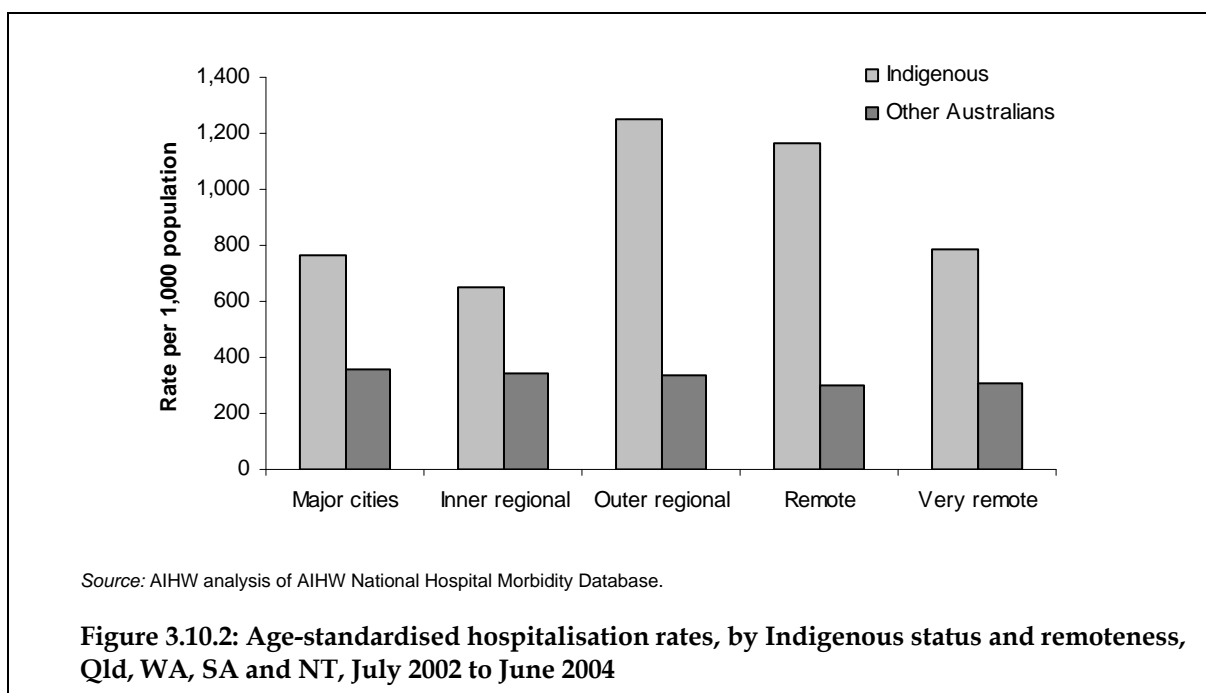
Source: AIHW analysis of AIHW National Hospital Morbidity Database.

## Hospitalisations by remoteness

- In the period July 2002 to June 2004, in Queensland, Western Australia, South Australia and the Northern Territory, hospitalisation rates among Indigenous Australians were

highest among those living in outer regional and remote areas. For other Australians, hospitalisation rates were highest among those living in cities and inner regional areas.

- Indigenous Australians living in major cities and inner regional areas were hospitalised at twice the rate of other Australians and Indigenous Australians living in outer regional and remote areas were hospitalised at around three times the rate of other Australians (Figure 3.10.2).



## Time series analyses

Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians over the period 1998–99 to 2003–04 are presented in Table 3.10.18 and Figure 3.10.3.

- In Queensland, Western Australia, South Australia and the Northern Territory combined, there were significant increases in hospitalisation rates among Indigenous Australians during the period 1998–99 to 2003–04. The fitted trend implies an average yearly increase in the rate of around 45 per 1,000.
- There were also significant increases in hospitalisation rates among other Australians for the same period, with an average yearly increase in the rate of 5 per 1,000 population.
- There were significant increases in the hospitalisation rate ratios and rate differences between Indigenous and other Australians for the period 1998–99 to 2003–04. The fitted trend implies an average yearly increase of 0.1 in the hospitalisation rate ratio and 40 per 1,000 in the hospitalisation rate difference. This indicates a relative and absolute increase in the gap between hospitalisation rates for Indigenous and other Australians.

It should be noted that changes in the level of accuracy of Indigenous identification in hospital records will result in changes in the level of reported hospital separations for Indigenous Australians. Also, changes in access, hospital policies and practices all impact on the level of hospitalisation over time. Caution should be used in interpreting changes over time as it is not

possible to ascertain whether a change in reported hospitalisation is due to changes in the accuracy of Indigenous identification or real changes in the rate at which Indigenous Australians are hospitalised. An increase in hospitalisation rates may also reflect better access to hospitals rather than a worsening of health.

**Table 3.10.18: Age-standardised hospitalisation rates, rate ratios and rate differences, Qld, WA, SA and NT, 1998–99 to 2003–04**

	1998–99	1999–00	2000–01	2001–02	2002–03	2003–04	Annual change <sup>(a)</sup>
<b>Indigenous rate per 1,000</b>							
Persons	726.0	778.1	790.3	854.9	896.5	957.3	45.0*
<b>Other Australian<sup>(b)</sup> rate per 1,000</b>							
Persons	326.7	333.9	343.4	349.8	350.5	353.2	5.4*
<b>Rate ratio<sup>(c)</sup></b>							
Persons	2.2	2.3	2.3	2.4	2.6	2.7	0.1*
<b>Rate difference<sup>(d)</sup></b>							
Persons	399.3	444.2	446.9	505.2	546.1	604.1	39.7*

\* Represents results with statistically significant increases or declines at the p<.05 level over the period 1998–99 to 2003–04.

(a) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.

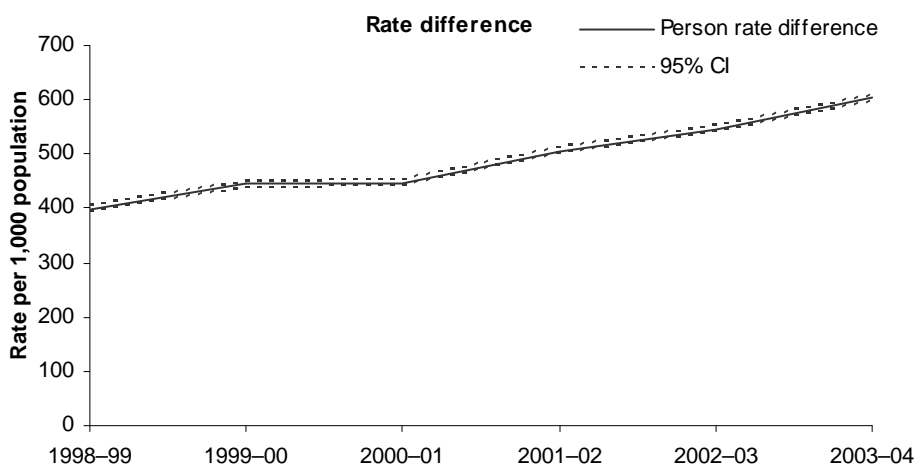
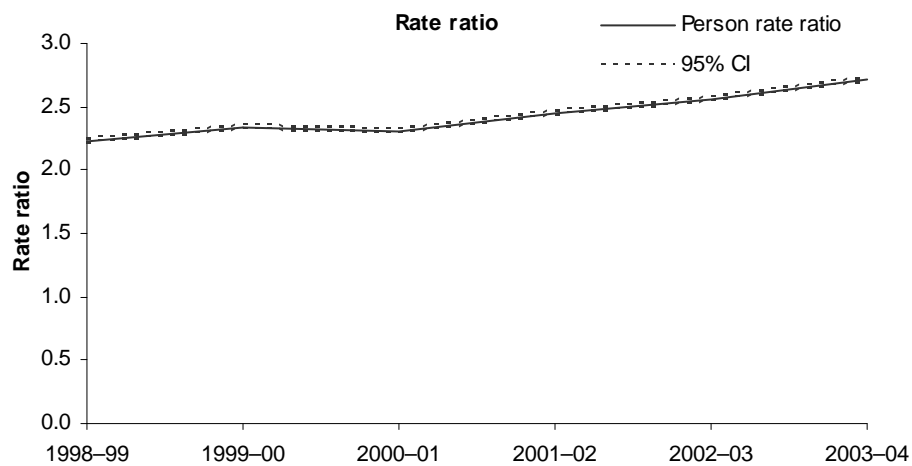
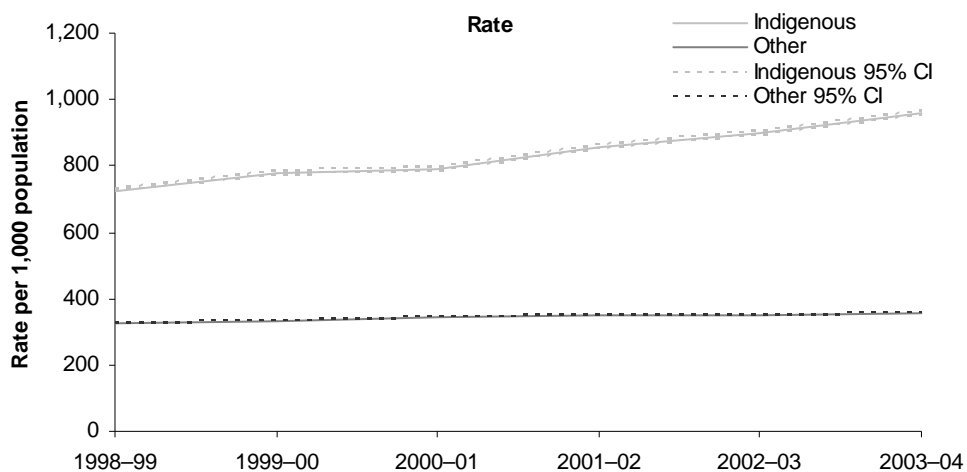
(b) 'Other' includes hospitalisations of non-Indigenous people and those for whom Indigenous status was not stated.

(c) Hospitalisation rates for Indigenous Australians divided by the hospitalisation rates for other Australians.

(d) Hospitalisation rates for Indigenous Australians minus the hospitalisation rates for other Australians.

Note: Rates have been directly age standardised using the Australian 2001 Standard population.

Source: AIHW analysis of AIHW National Hospital Morbidity Database.



Source: AIHW analysis of AIHW National Hospital Morbidity Database.

**Figure 3.10.3: Hospitalisation rates, rate ratios and rate differences between Indigenous and other Australians, Qld, WA, SA and NT, 1998-99 to 2003-04**

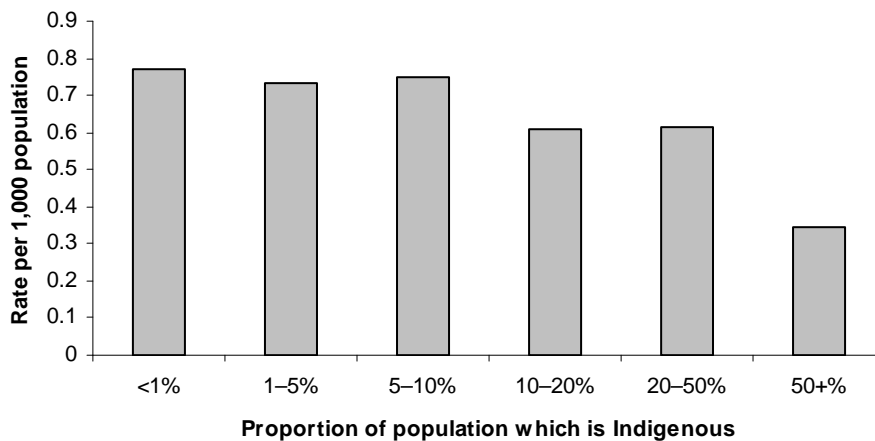
## General practitioners

Information on the number of GPs working in Australia is available from DoHA. Data in Figure 3.10.4 present the number of full-time equivalent GPs per 1,000 by areas of low through to high proportions of Indigenous populations. Using population data from the 2001 Census, Statistical Local Areas (SLAs) were grouped according to the percentage of the population living in these areas that was Indigenous.

- In 2004–05, there were approximately 14,509 full-time equivalent GPs working in Australia. Approximately 47% of GPs were working in areas where less than 1% of the population was Indigenous, at a rate of 0.8 per 1,000 population and only 0.2% of GPs were working in areas where more than 50% of the population was Indigenous, at a rate of 0.3 per 1,000 population.

Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated as some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system, further understating the full-time equivalent for doctors in areas with high Indigenous populations.

Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of SLAs in the first group with far more people per doctor than several SLAs in the second group.



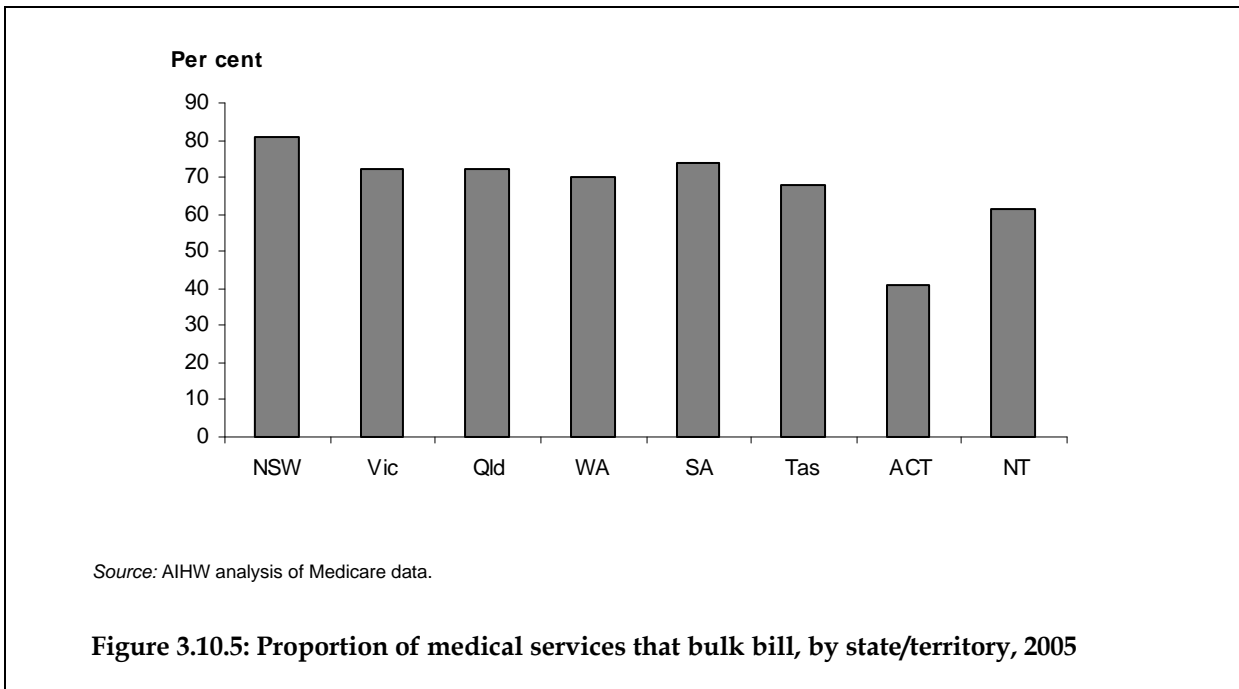
Source: Department of Health and Ageing.

**Figure 3.10.4: Number of full-time equivalent GPs per 1,000 population, by areas of low through to high proportions of Indigenous populations, 2004–05**

## GPs who bulk bill

No data are currently available on the number of GPs who bulk bill by areas of low through to high proportions of Indigenous populations, or by remoteness category. Data on the proportion of medical services that bulk bill are available by electoral role and state and territory. State and territory data are presented below.

- In 2005, approximately 75% of medical services bulk billed. This ranged from 41% in the Australian Capital Territory to 81% in New South Wales (Figure 3.10.5).



## Aboriginal and Torres Strait Islander primary health care services

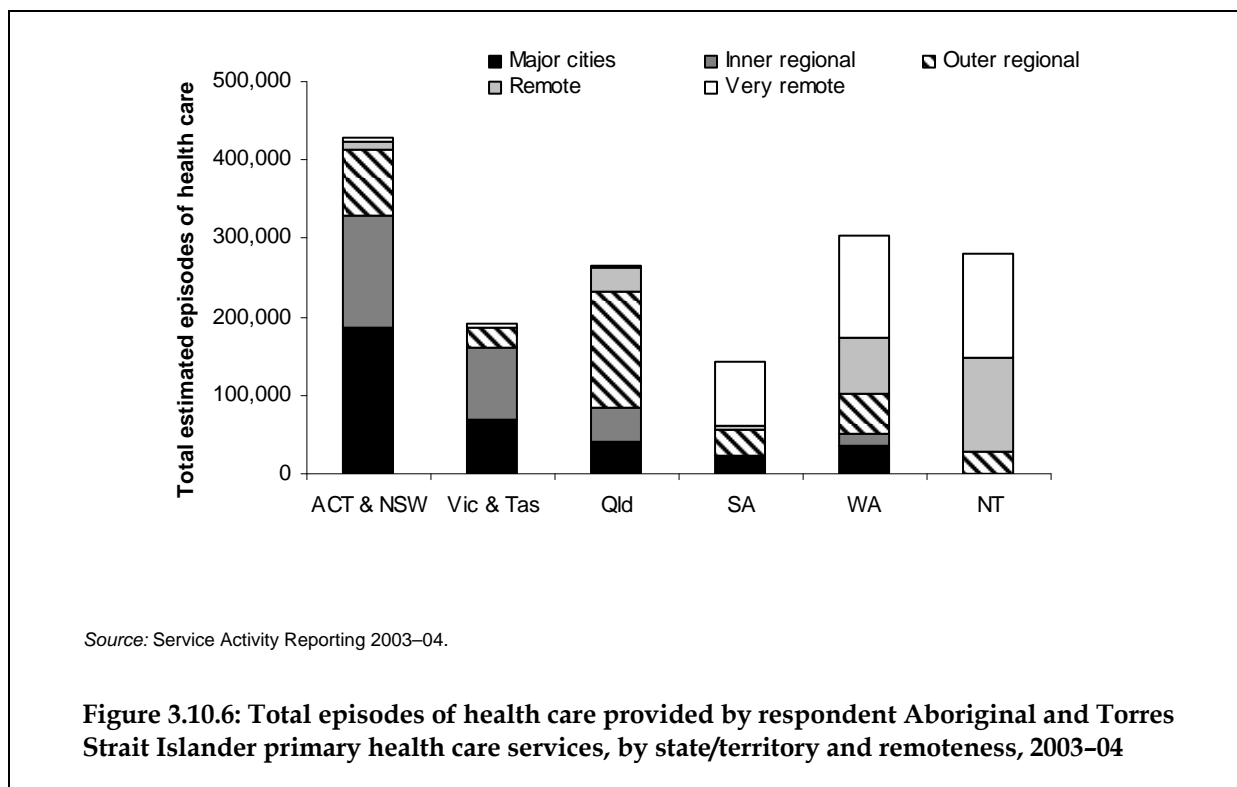
Data on Aboriginal and Torres Strait Islander primary health care services are available from the Service Activity Reporting data collection which is a joint project of the National Aboriginal Community Controlled Health Organisation and the Office of Aboriginal and Torres Strait Islander Health (OATSIH). Data presented here are for the 2003–04 financial year.

### Episodes of health care by state/territory and remoteness area

Figure 3.10.6 shows the total estimated number of episodes of health care provided by respondent Aboriginal and Torres Strait Islander primary health care services by remoteness area in each state and territory.

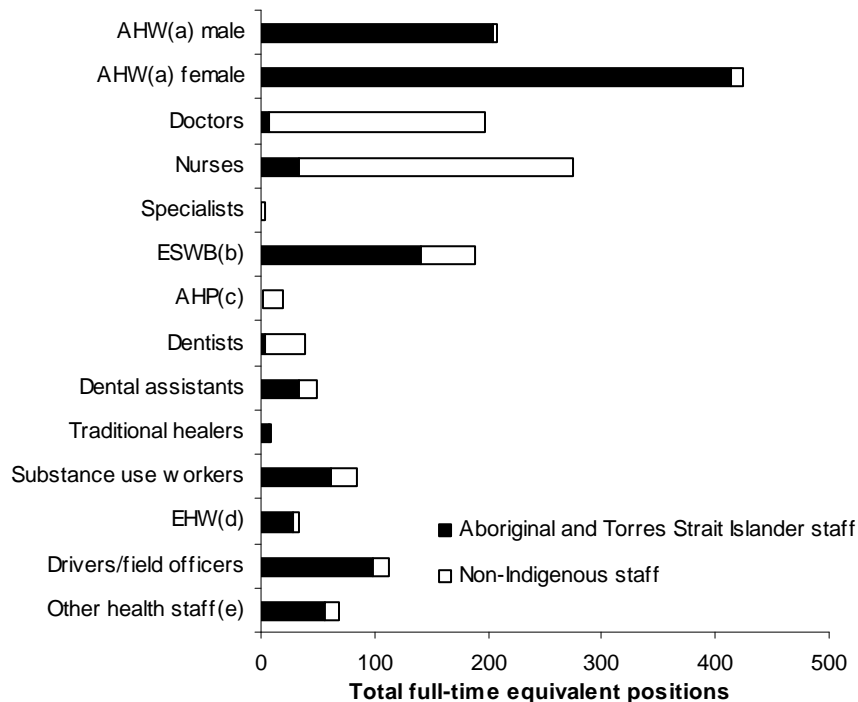
- In 2003–04, the number of episodes of health care provided across each state and territory varied considerably by remoteness area. The majority of the estimated episodes of health care reported for Western Australia, South Australia and the Northern Territory were provided in remote and very remote areas of Australia, while for the other jurisdictions

the majority of episodes of health care were provided in major cities, inner regional and outer regional areas. This reflects the geographic nature of these jurisdictions.



### Health staff

- In 2003-04, a total of 197 full-time equivalent doctors and 275 full-time equivalent nurses were employed by Aboriginal and Torres Strait Islander primary health care services. The majority of doctors, nurses, allied health professionals and dentists were non-Indigenous (97%, 88%, 90% and 92% respectively). The majority of Aboriginal and Torres Strait Islander health workers, traditional healers, environmental health workers, substance use workers and drivers/field officers were Aboriginal and Torres Strait Islander Australians (Figure 3.10.7).



- (a) AHW — Aboriginal Health Worker
- (b) ESWB — emotional and social wellbeing staff, includes counsellors, social workers, psychologists.
- (c) AHP — allied health professionals.
- (d) EHW — environmental health workers.
- (e) Other health staff — includes eye health coordinators, hearing program coordinators, nutrition workers, antenatal support, family health workers, sobering up unit, life skills support workers.

Source: Service Activity Reporting 2003–04.

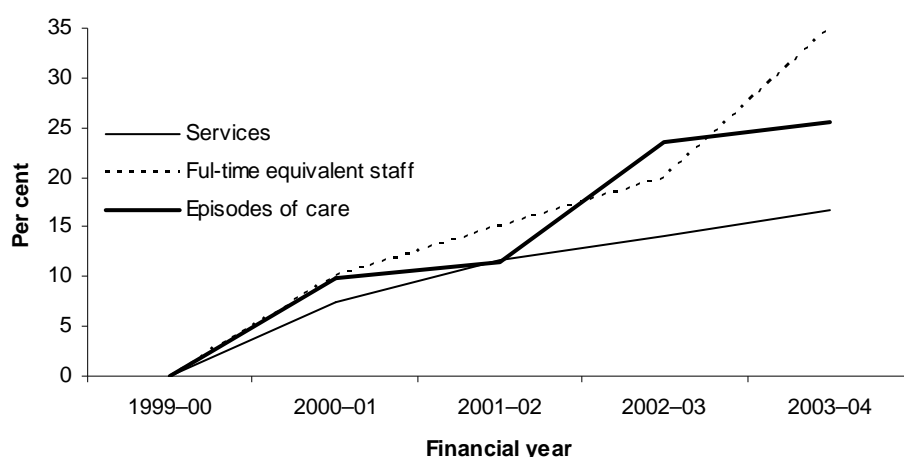
**Figure 3.10.7: Number of full-time equivalent health staff employed by respondent Aboriginal and Torres Strait Islander primary health care services, by Indigenous status, as at June 2004**

### Time series analyses

Data presented below include only those services that have been included in the SAR every year in the period 1999–00 to 2003–04.

- Over the period 1999–00 to 2003–04, there has been a steady rise in the number of Aboriginal and Torres Strait Islander primary health care services, from 120 services in 1999–00 to 140 services in 2003–04 (a rise of 17%) (Figure 3.10.8).
- Over the same period there was a steady increase in the total estimated episodes of health care provided to Indigenous and non-Indigenous clients. It has risen nationally from 1,004,000 in 1999–00 to 1,260,000 in 2003–04 (a rise of 26%) (85 services).
- There was a 35% rise in full-time equivalent staff employed by Aboriginal and Torres Strait Islander primary health care services between 1999–00 to 2003–04 (from 2,000 to 2,700) (107 services).





Note: Eighty five services provided valid episodes of health care data for the five years and 107 services provided data on full-time equivalent staff for the five years presented here.

Source: Service Activity Reporting 2003-04.

**Figure 3.10.8: Cumulative per cent changes to Aboriginal and Torres Strait Islander primary health care services, 1999-00 to 2003-04**

## Expenditure on health services

- Expenditure on health goods and services for Aboriginal and Torres Strait Islander peoples during 2001-02 was estimated at \$1,788.6 million (Table 3.10.19). About 62.7% of this was directed to two areas of expenditure – services provided to admitted patients in acute care hospitals (\$682.5 million) and community health services (\$439.9 million).
- On a per person basis, estimated expenditure on health for Aboriginal and Torres Strait Islander peoples averaged \$3,900.83, compared with \$3,308.35 for non-Indigenous people – a ratio of 1.18:1.
- Four major areas of expenditure had above parity Indigenous to non-Indigenous per capita expenditure ratios. These were community health services, public health activities, non-admitted patient services and admitted patient services. Expenditure on Aboriginal and Torres Strait Islander peoples was substantially lower than for other Australians for medical services, services for older people and pharmaceuticals.

**Table 3.10.19: Total expenditure<sup>(a)</sup> on health, Indigenous and non-Indigenous people, by type of health good or service, current prices, 2001–02**

Health good or service type	Total expenditure (\$ million)			Expenditure per person (\$)		
	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Hospitals	849.5	21,456.9	3.8	1,852.75	1,132.01	1.64
Admitted patient services	682.5	17,927.4	3.7	1,488.38	945.80	1.57
Private hospitals	11.5	5,057.1	0.2	25.08	266.80	0.09
Public hospitals	671.0	12,870.2	5.0	1,463.30	679.00	2.16
Non-admitted patient services	142.4	3,116.5	4.4	310.57	164.42	1.89
Emergency departments	34.6	615.7	5.3	75.51	32.48	2.32
Other services	107.8	2,500.8	4.1	235.06	131.94	1.78
Public (psychiatric) hospitals	24.7	413.0	5.6	53.80	21.79	2.47
Medical services	99.6	11,112.5	0.9	217.19	586.27	0.37
Medicare benefit items	75.9	9,185.4	0.8	165.47	484.60	0.34
Other	23.7	1,927.2	1.2	51.72	101.67	0.51
Community health services <sup>(b)(c)</sup>	439.9	2,810.5	13.5	959.30	148.27	6.47
Dental services <sup>(b)</sup>	21.8	3,734.2	0.6	47.59	197.01	0.24
Other professional services	16.9	2,252.4	0.7	36.76	118.83	0.31
Pharmaceuticals	66.2	9,011.6	0.7	144.36	475.43	0.30
Benefit-paid <sup>(d)</sup>	42.3	5,471.8	0.8	92.20	288.68	0.32
Other pharmaceuticals	23.9	3,539.8	0.7	52.16	186.75	0.28
Aids and appliances	15.8	2,474.0	0.6	34.51	130.52	0.26
Services for older people	49.9	4,591.6	1.1	108.83	242.24	0.45
Patient transport	62.8	892.7	6.6	136.95	47.09	2.91
Public health activities	72.5	1,029.9	6.6	158.15	54.33	2.91
Other health services (nec)	50.6	1,458.9	3.4	110.44	76.97	1.43
Health administration (nec)	43.1	1,883.6	2.2	93.99	99.37	0.95
<b>Total</b>	<b>1,788.6</b>	<b>62,708.9</b>	<b>2.8</b>	<b>3,900.83</b>	<b>3,308.35</b>	<b>1.18</b>

(a) Total expenditure by type of health good or service is the same as total funding.

(b) Community health services include state and territory government expenditure on dental services.

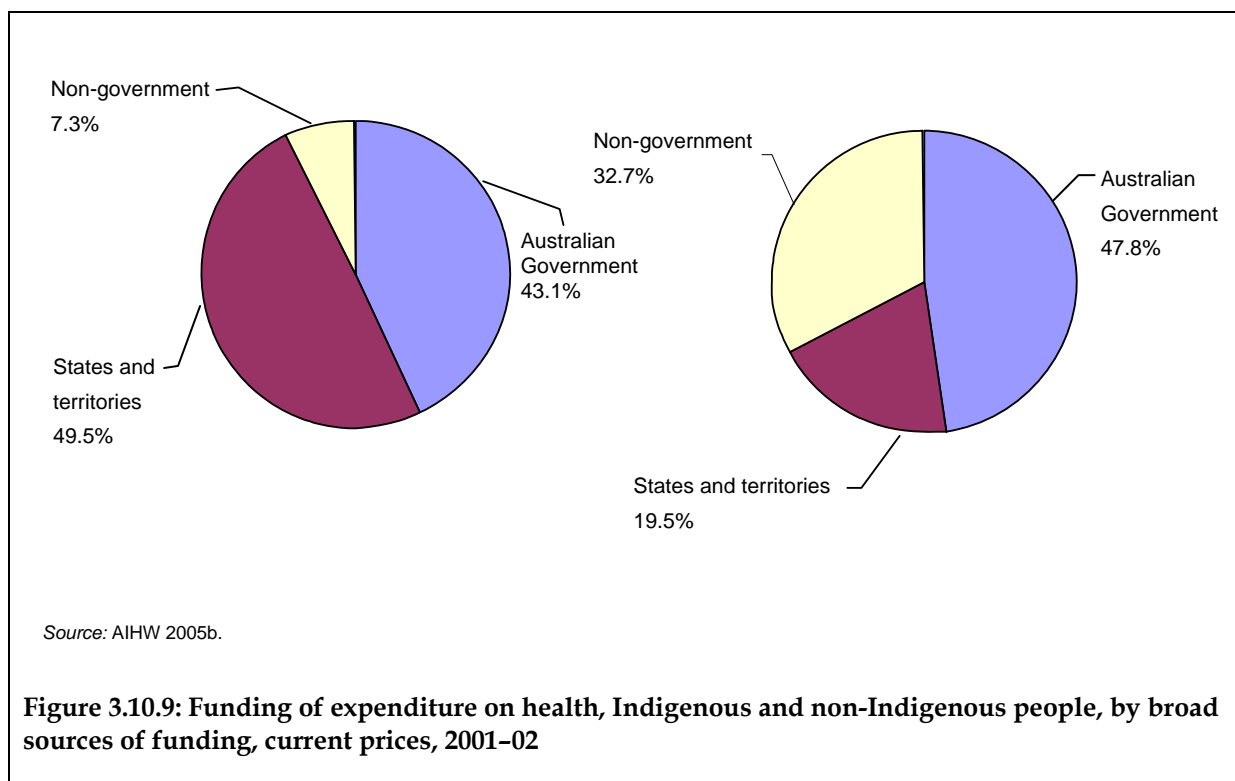
(c) Includes \$186.3 million in OATSIH expenditure through the Aboriginal Community Controlled Health Services (ACCHSs). The Indigenous ratio for the non-ACCHS component of community health is estimated at 4.06:1 and for the non-ACCHS component of total at 1.07:1.

(d) Includes estimates of benefits via the Pharmaceutical Benefits Scheme and Repatriation Pharmaceutical Benefits Scheme.

Source: AIHW 2005b—Health expenditure database.

- Governments provided an estimated 92.7% of the funding used to pay for health goods and services for Aboriginal and Torres Strait Islander peoples during 2001–02 (Figure 3.10.9).
- The shares of funding provided by both the state and territory governments and the non-government sector for Indigenous Australians were quite different from their relative shares in respect to non-Indigenous people. The states and territories provided nearly half (49.5%) of the funding for Aboriginal and Torres Strait Islander peoples, compared with 19.5% for non-Indigenous Australians. Non-government sources, on the other hand, provided a much lower share (7.3%) of the funding for services for Indigenous people

than for non-Indigenous people (32.7%). The Australian Government's funding was similar for both groups – 43.1% for Indigenous Australians and 47.8% for non-Indigenous people.



## Additional information

Aboriginal and Torres Strait Islander people face a number of barriers to accessing services including lack of transport (particularly in remote areas), financial difficulties and proximity of culturally appropriate services. The proportion of Indigenous persons involved in health-related professions can also affect use of health services by Aboriginal and Torres Strait Islander people.

## Transport

While distance to various health services provides one measure of access, lack of transport can often mean that comparatively short distances are an impediment to service use. Data are available from the 2002 National Aboriginal and Torres Strait Islander Social Survey on access to motor vehicles and difficulties with transport.

- In 2002 around 60% of Indigenous persons aged 18 years and over had access to a motor vehicle to drive compared to 85% of other Australians (Table 3.10.20). Around 12% of Indigenous Australians reported that they could not or often had difficulty getting to places needed, compared to only 4% of other Australians.
- Indigenous Australians in every state and territory were much more likely to report not having access to a motor vehicle(s), and to report having difficulty getting to places needed, than other Australians. Indigenous Australians living in the Northern Territory

were five times as likely, and in Western Australia four times as likely, to be without access to a motor vehicle as other Australians in these jurisdictions (ABS 2004a).

**Table 3.10.20: Transport access, by Indigenous status, persons aged 18 years and over, 2002**

	Indigenous			Other
	Remote	Non-remote	Total	Total
	Proportion (%)			
Transport access				
Has access to motor vehicle(s) to drive	47.5	64.4	59.7	85.2
Difficulty with transport <sup>(a)</sup>				
Can easily get to places needed	65.2	73.5	71.2	84.4
Cannot get, or often has difficulty getting, to places needed	16.4	9.8	11.6	3.6
<b>Total number</b>	<b>69,300</b>	<b>182,100</b>	<b>251,400</b>	<b>14,353,800</b>

(a) Not all categories shown for this data item.

Note: The content of this table is restricted to those items that are comparable between the NATSISS and the General Social Survey.

Source: ABS 2004a—2002 NATSISS.

The data on vehicles per household and per person suggest that other Australians have better access to personal transport than Indigenous Australians and would therefore be more readily able to reach a health facility or service. Public transportation may compensate for the lack of personal transport, and clinics may provide a transport service for their patients, but these services are not available everywhere.

For more information on transport see Measure 2.15 – Transport.

## Affordability

Many privately provided health services involve direct out-of-pocket payments by patients. These impact more on people with limited economic means and, given the generally poorer economic position of Aboriginal and Torres Strait Islander peoples, the effect is likely to be greater on Aboriginal and Torres Strait Islander peoples than on other Australians. Examples of this are services provided by dentists, physiotherapists and other health professionals not covered by Medicare, and pharmaceuticals not covered by the Pharmaceutical Benefits Scheme (PBS). These do not attract subsidies from governments and, therefore, patients meet out-of-pocket fees when these services are accessed. Other services such as medical services covered by Medicare and pharmaceuticals covered by the PBS, although subsidised, can also involve out-of-pocket expenditures, which restrict the access of people in lower socioeconomic groups.

In the case of medical services, although they are subsidised under Medicare, if the services are not bulk billed, patients can face co-payments. Patients who are not bulk billed are usually required to pay the full fee at the time of service and can then seek a refund from Medicare. This, however, means that they must first be able to pay for the service. This difficulty is further exacerbated by the fact that some practitioners charge fees above the Medicare Benefits Schedule fee, requiring larger gap payments, which are generally borne by the patients.

Aboriginal Community Controlled Health Services are covered by Medicare and patients of these services are bulk billed.

People who are prescribed drugs under the PBS are also required to make out-of-pocket co-payments. The amount that a patient needs to find is adjusted to some extent in accordance with the patient's ability to pay. Different co-payments apply to concession card holders, pensioners and general patients. The PBS also has safety net provisions that protect individuals and families from large overall expenses for PBS medicines.

Data on the financial stress of Indigenous Australians were collected in the 2002 NATSISS.

- In 2002, Indigenous Australians aged 18 years and over were four times more likely to be unable to raise \$2,000 within a week for something important than other Australians.
- Indigenous Australians living in remote areas of Australia were more likely to have financial difficulties, with 73% unable to raise \$2,000 compared to 47% in non-remote areas. An estimated 45% of Aboriginal and Torres Strait Islander peoples in non-remote areas of Australia reported having had at least one cash flow problem in the last year, compared to 19% of other Australians in those areas.

This information suggests that many Indigenous people suffer financial difficulties of some kind, especially those living in remote areas of Australia. Financial difficulties are an important barrier to accessing services where costs are involved.

## **Cultural barriers**

Measurement of the accessibility of health services involves factors other than the distance people must travel and the financial costs incurred (Ivers et al. 1997). Many Indigenous persons or communities do not have adequate access to either culturally appropriate services or to other suitable arrangements, and where culturally appropriate services exist they are often under-resourced or unable to meet community needs (Bell et al. 2000). The perception of cultural barriers may cause Aboriginal and Torres Strait Islander peoples to travel substantial distances in order to access health services delivered in a more appropriate manner than those available locally (Ivers et al. 1997). The willingness of Indigenous peoples to access health services may be affected by such factors as community control of the service, the gender of health service staff, and the availability of Aboriginal and Torres Strait Islander staff, particularly where the patient's proficiency in spoken and written English is limited (Ivers et al. 1997). Some Indigenous people do not feel comfortable attending services such as a private general practice because of educational, cultural, linguistic and lifestyle factors, and will do so only when there is no alternative or their health problem has worsened (Bell et al. 2000).

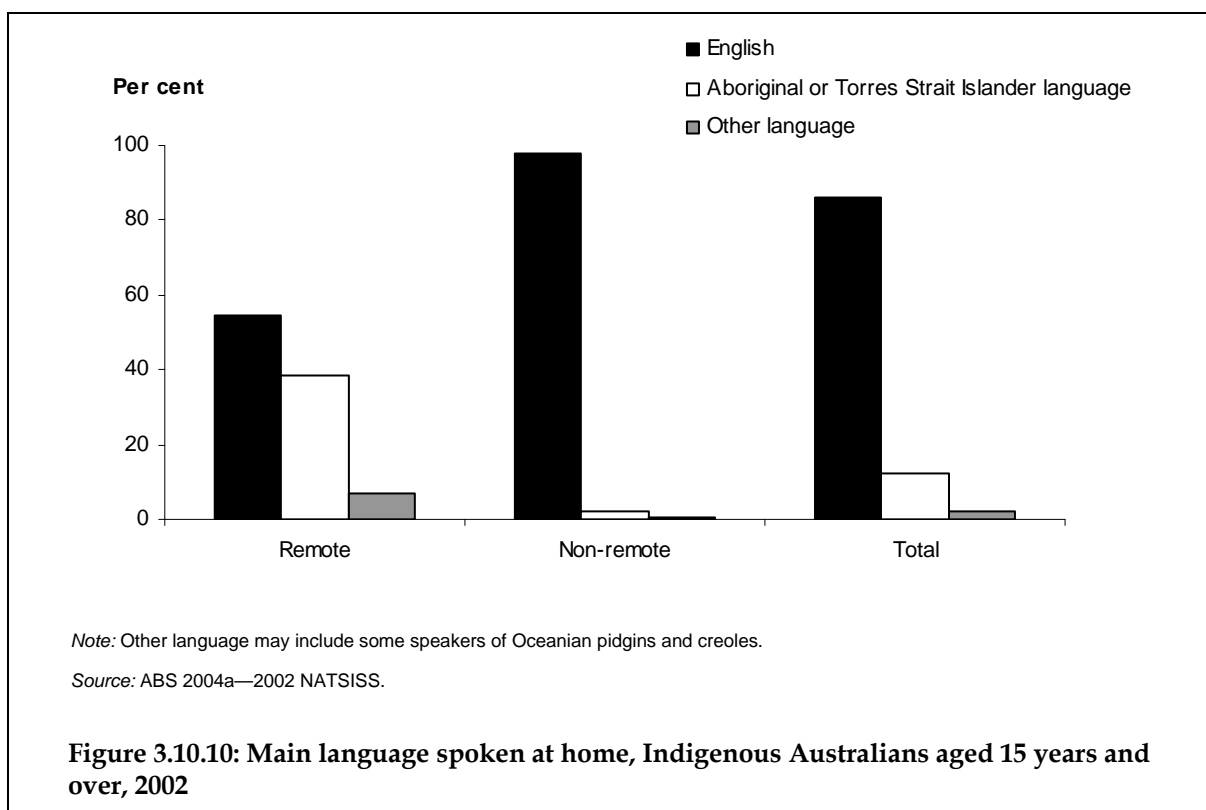
Information on language and other cultural barriers comes from the 2002 NATSISS.

## **Language**

- In 2002, about 14% of Indigenous peoples reported that they spoke a language other than English at home. This figure includes 12% who said they spoke an Indigenous language at home and 2% who said they spoke another language or for whom the language was not adequately described. Indigenous persons living in remote areas of Australia were much more likely to report speaking an Aboriginal or Torres Strait Islander language at home (39%) than those living in non-remote areas (2%) (Figure 3.10.10).

Not being able to speak, read and write English proficiently can mean that some Indigenous Australians find it difficult to approach services such as health and welfare services. They may

therefore miss out on important information and entitlements and may have difficulty reading and completing forms (House of Representatives Standing Committee on Aboriginal and Torres Strait Islander Affairs 1993).



### Communicating with service providers

The 2002 NATSISS collected information on whether Indigenous Australians had difficulty communicating with service providers.

- Approximately 11% of males and females aged 18 years and over reported that they had difficulty understanding service providers, being understood by service providers or both (Table 3.10.21).
- Indigenous persons living in remote areas were more likely to report experiencing difficulty (19%) than those in non-remote areas of Australia (8%) (Table 3.10.21).
- Indigenous Australians aged 55 years and over had the most difficulty understanding or being understood by service providers (14%).
- The proportion of Indigenous Australians who reported difficulty communicating with service providers varied by state and territory. Indigenous Australians in Western Australia, South Australia and the Northern Territory were approximately twice as likely to experience difficulty communicating with service providers (18%, 17% and 15% respectively) than Indigenous Australians in New South Wales, Victoria and Queensland (8%, 9% and 9% respectively).

**Table 3.10.21: Communication with service providers, by sex and remoteness, Indigenous persons aged 18 years and over, 2002**

	Non-remote		Remote		Total	
	Males	Females	Males	Females	Males	Females
	Proportion (%)					
Has difficulty understanding service providers	2.6	3.7	3.9	4.2	3.0	3.8
Has difficulty being understood by service providers	3.0	1.8	4.6	3.8	3.5	2.4
Has difficulty understanding and being understood by service providers	2.2	2.3	9.7	11.3	4.3	4.8
<i>Total experiencing difficulty</i>	<i>7.8</i>	<i>7.8</i>	<i>18.2</i>	<i>19.3</i>	<i>10.7</i>	<i>10.9</i>
<i>No difficulties</i>	<i>92.2</i>	<i>92.2</i>	<i>81.5</i>	<i>80.1</i>	<i>89.2</i>	<i>88.9</i>
<b>Total<sup>(a)</sup></b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Total number<sup>(a)</sup></b>	<b>85,800</b>	<b>96,200</b>	<b>33,400</b>	<b>35,900</b>	<b>119,200</b>	<b>132,200</b>

(a) Includes not stated responses.

Source: ABS and AIHW 2005—2002 NATSISS, unpublished data.

## Telephone

A working telephone in the home is often considered a necessity in cases of emergency so that health services such as hospitals, ambulances and doctors can be contacted quickly. People without a working telephone in the home are less equipped to seek medical help when required.

The 2002 NATSISS also collected information on whether Indigenous Australians had access to a working telephone.

- In 2002, of those surveyed, 71% of Indigenous Australians aged 18 years and over reported having a working telephone in the home. Those living in non-remote areas were more likely to have a working telephone (82%) compared to those living in remote areas (43%).
- The proportion who had a working telephone varied by state and territory. The Northern Territory had the lowest proportion of Indigenous Australians with a working telephone (37%) which probably reflects the high proportion of Indigenous people in the Northern Territory who live in remote areas. Approximately 61% of persons in Western Australia and 71% in South Australia were without a working telephone.

## **Data quality issues**

### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and National Aboriginal and Torres Strait Islander Social Survey (NATSISS)**

*The NATSIHS and NATSISS both use the standard Indigenous status question. The survey samples were specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians and thus overcome the problem inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSIHS and NATSISS are subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.*

*Information recorded in these surveys are essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions.*

*Non-Indigenous comparisons are available through the National Health Survey (NHS) and the 2002 General Social Survey. The NHS was conducted in major cities, regional and remote areas, but very remote areas were excluded from the sample. Time series comparisons are available through the 1995 and 2001 National Health Surveys and the 1994 National Aboriginal and Torres Strait Islander Survey.*

*In remote communities there were some modifications to the NATSIHS and NATSISS content in order to address language and cultural appropriateness in traditional communities, as well as to assist respondents in understanding the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments were used in non-remote areas. The CAI process included built in edit checks and sequencing.*

*Further information on NATSIHS and NATSISS data quality issues can be found in the national publications (ABS 2004a and ABS 2006).*

### **Community Housing and Infrastructure Needs Survey (CHINS)**

*The 2001 CHINS collected data on dwelling conditions for permanent dwellings in discrete Indigenous communities that were managed by Indigenous housing organisations. In 2001 CHINS information was collected on 616 Indigenous organisations which managed a total of 21,287 permanent dwellings. The majority of those dwellings were located in the Northern Territory (6,715), Queensland (5,673), New South Wales (4,079) and Western Australia (3,273) (ABS 2002).*

*The CHINS survey only covers discrete Indigenous communities, including approximately 108,000 Aboriginal and Torres Strait Islanders or 24% of the total Indigenous population. CHINS data is collected every five years. The data are collected from key personnel in Indigenous communities and housing organisations knowledgeable about housing and infrastructure issues.*

*The estimates are not subject to sampling error as the CHINS was designed as a complete enumeration of discrete Indigenous communities. However, data could not be obtained from a small number of communities. In addition, the community population was often estimated by community representatives without reference to records.*

*Further information on the CHINS can be found in the national publication (ABS 2002).*

*(continued)*



## **Data quality issues (continued)**

### **Hospital separation data**

#### ***Separations***

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery. In terms of mental health service delivery, there are a number of different service delivery models ranging from ambulatory care in community mental health services and hospitals and non-ambulatory care in hospitals and residential services.*

#### ***Indigenous status question***

*Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The not stated category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).*

#### ***Under-identification***

*The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander people. While the identification of Indigenous people in hospitalisations is incomplete in all states and territories, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2003–04 (AIHW 2005a). It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated information from Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these four jurisdictions is 60%. The following caveats have also been recommended:*

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a degree of Indigenous under-identification in Western Australia and relatively marked Indigenous under-identification in Queensland data).*
- *Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations.*
- *Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in other jurisdictions (ABS & AIHW 2005).*

#### ***Numerator and denominator***

*Rate and ratio calculations rely on good numerator and denominator data. The changes in the completeness of identification of Indigenous people in hospital records may take place at different rates than changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are sourced from the ABS Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2009 (ABS 2004b).*

#### ***GP data***

*Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated as some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system, further understating the full-time equivalent for doctors in areas with high Indigenous populations.*

*(continued)*

### **Data quality issues (continued)**

*Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of SLAs in the first group with far more people per doctor than several SLAs in the second group.*

### **Service Activity Reporting (SAR) data collection**

*Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05. The SAR collects service-level data on health care and health-related activities by survey questionnaire over a 12-month period. While this data collection provides valuable information, it needs to be recognised that there are limitations that have to be considered when using these data. Particular issues include:*

- *The SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.*
- *The SAR questionnaire collects a broad set of indicators for the services and did not aim to provide a comprehensive set of statistics on the activities of the services or their needs.*
- *Data provided are often estimates and while these are thought to be reasonable, there has been no audit to check the accuracy of these figures.*

### **Expenditure data**

#### ***Quality of data on Indigenous service use***

*For many publicly funded health services there are few details available about service users and, in particular, about their Indigenous status. For privately funded services, this information is frequently unavailable. For those services that do collect this information, recording Indigenous status accurately for all people does not always occur. The result is that there is some margin of error in the estimations of health expenditure for Aboriginal and Torres Strait Islander people and their corresponding service use.*

#### ***Expenditure estimates***

*There may be some limitations associated with the scope and definition of health expenditures included in this measure. Other (non-health) agency contributions to health expenditure, such as 'health' expenditures incurred within education departments and prisons, are not included.*

*Furthermore, while every effort has been made to ensure consistent reporting and categorisation of expenditure on health goods and services, in some cases there may be inconsistencies across data providers. These may result from limitations of financial reporting systems and/or different reporting mechanisms. Reporting of health administration (nec) is one such example; in some cases, all the associated administration costs have been included in the estimates of expenditure on a particular health service category (for example, acute care services), whereas in other cases they have been separately reported.*

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## 3.11 Access to prescription medicines

*This measure has two components:*

- *Pharmaceutical Benefits Scheme expenditure per capita for Indigenous Australians*
- *not filling prescriptions due to cost.*

### Data sources

Data for this measure come from Indigenous Pharmaceutical Benefits Scheme (PBS) expenditure estimates based on the national, continuing survey of general practitioner activity entitled Bettering the Evaluation and Care of Health, or BEACH. Two years of survey data, collected between April 2001 and March 2003, have been used in this analysis to estimate PBS expenditure. This information has been published in the report *Expenditures on health for Aboriginal and Torres Strait Islander peoples, 2001–02* (AIHW 2005).

Given the small sample of Indigenous Australians in BEACH and the problems with accurately identifying Indigenous status in this collection, these estimates need to be used with caution.

Since November 2002, Aboriginal and Torres Strait Islander people have been able to voluntarily identify through the Medicare system, however, limited numbers of Indigenous Australians are currently identified within Medicare data. Future reports may be able to use the voluntarily identified Medicare data.

There is currently no data source for statistics on not filling prescriptions due to cost for Indigenous Australians. This will be recommended for inclusion in the next National Aboriginal and Torres Strait Islander Health Survey.

### Analyses

#### Pharmaceuticals expenditure

- Expenditure on pharmaceuticals for Aboriginal and Torres Strait Islander peoples in 2001–02 was estimated at \$66.2 million which represented 0.7% of total expenditure on pharmaceuticals in Australia (Table 3.11.1).
- The majority of expenditure on pharmaceuticals (\$42.3 million) was for benefit-paid pharmaceuticals.
- Per person expenditure for 2001–02 was estimated at \$144 for Indigenous people and \$475 for non-Indigenous people, which was a ratio of 0.3:1.

**Table 3.11.1: Total and per person pharmaceuticals expenditure, by Indigenous status, current prices, 2001-02**

PBS	Total expenditure (\$ million)			Expenditure per person (\$)		
	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Benefit-paid <sup>(a)</sup>	42.3	5,471.8	0.8	92.20	288.68	0.32*
Other pharmaceuticals	23.9	3,539.8	0.7	52.16	186.75	0.28*
<b>Total pharmaceuticals</b>	<b>66.2</b>	<b>9,011.6</b>	<b>0.7</b>	<b>144.36</b>	<b>475.43</b>	<b>0.30*</b>

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Includes estimates of benefits via the Pharmaceutical Benefits Scheme (PBS) and Repatriation Pharmaceutical Benefits Scheme (RPBS).

Source: AIHW 2005.

## PBS expenditure

- In 2001-02, benefits to Indigenous Australians through the Pharmaceutical Benefits Scheme were estimated at \$34.3 million. Pharmaceutical benefits expenditures per person for Indigenous Australians were 37% of the non-Indigenous average (Table 3.11.2). The average shares of expenditure on mainstream pharmaceutical benefits were lower still, with a ratio of 0.22:1.
- In 1999 special provisions were introduced under section 100 of the *National Health Act 1953* for Indigenous Australians in remote areas where access to private pharmacies was poor. Clients of approved remote area Aboriginal Health Services (AHS) were able to receive PBS medicines directly from the AHS at the time of medical consultation, without the need for a normal prescription form, and without charge. Estimated expenditure on Indigenous Australians in 2001-02 on drugs dispensed under this Act was \$11.6 million. The estimated ratio of Indigenous to non-Indigenous expenditure per person was 5.24:1.

**Table 3.11.2: Total and per person expenditure incurred by the Health and Ageing portfolio on the Pharmaceutical Benefits Scheme, by Indigenous status, 2001–02**

Pharmaceutical benefits	Total expenditure (\$ million)			Expenditure per person (\$)		
	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
<b>Mainstream PBS<sup>(a)</sup></b>						
GP prescribed	19.4	3,452.7	0.6	42.36	182.15	0.23
Specialist prescribed	3.1	712.0	0.4	6.64	37.56	0.18
Doctor's bag	0.1	9.7	1.2	0.26	0.51	0.50
<i>Total mainstream PBS</i>	<i>22.7</i>	<i>4,174.3</i>	<i>0.5</i>	<i>49.46</i>	<i>220.23</i>	<i>0.22</i>
<b>Drugs dispensed under Section 100 of the <i>National Health Act</i></b>						
Remote area AHS	10.9	1.2	90.0	23.77	0.06	373.95
Other Section 100 drugs <sup>(b)</sup>	0.7	90.5	0.8	1.59	4.77	0.33
<i>Total</i>	<i>11.6</i>	<i>91.7</i>	<i>11.3</i>	<i>25.36</i>	<i>4.84</i>	<i>5.24</i>
<b>Total pharmaceutical benefits</b>	<b>34.3</b>	<b>4,266.0</b>	<b>0.9</b>	<b>234.63</b>	<b>634.26</b>	<b>0.37</b>

\* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

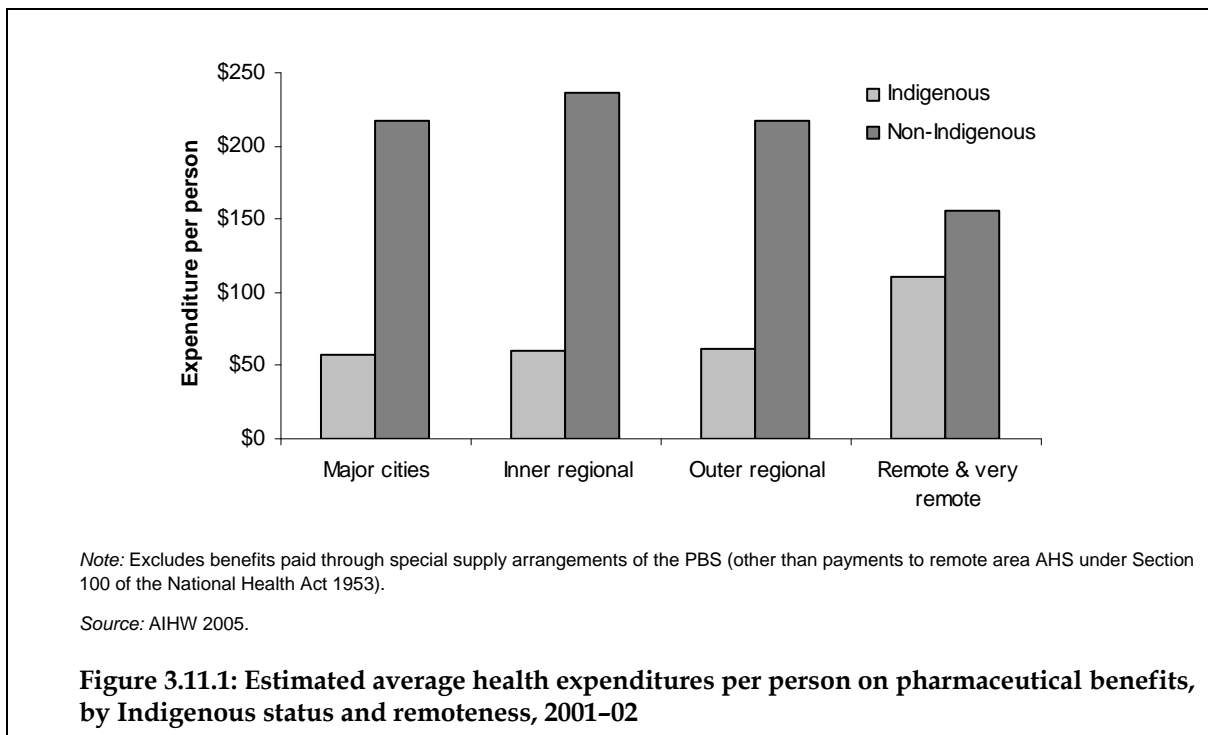
(a) Excludes expenditure through RPBS.

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

Source: AIHW 2005.

### **PBS expenditure by remoteness**

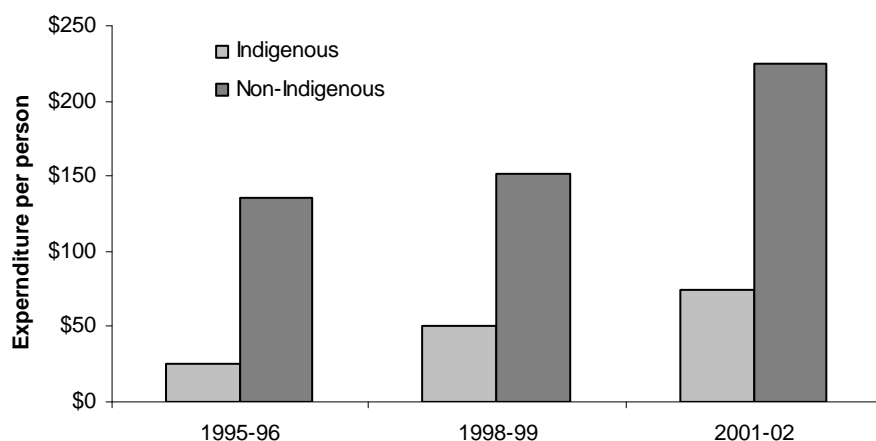
- In 2001–02, PBS expenditures on Aboriginal and Torres Strait Islander people were greater in more remote areas where the section 100 arrangements apply (\$111 per person) than in major cities (\$57 per person) (Figure 3.11.1).
- Average PBS expenditures for Indigenous Australians were lower than non-Indigenous people across all remoteness categories. The differences were most marked in the major cities, inner regions and outer regions where rate ratios were around 0.3:1.



### PBS expenditure over time

Changes in expenditure over time should be interpreted with caution due to differences in methodology used to calculate some Indigenous expenditure estimates for the different time periods.

- The estimates of average expenditure per person for the Indigenous population by the Australian Government on the PBS between 1995-96 and 1998-99 almost doubled from an estimated \$25.64 in 1995-96 to \$50.46 in 1998-99.
- Expenditure increased by another 48% between 1998-99 and 2001-02 from \$50.46 to \$74.82.
- The Indigenous to non-Indigenous expenditure ratios were higher in 2001-02 than in 1995-96 (0.33 compared to 0.19) (Figure 3.11.2).



**Notes**

1. Does not include RPBS benefits for veterans.
2. The 1995-96 estimate for Indigenous Australians is based on the revised price estimate of \$9.3 million for PBS benefits for Indigenous Australians in 1995-96 (AIHW 2001: 42), down from \$9.8 million (Deeble et al. 1998:21). That revision reduced the current price per person estimate from \$26.64 to \$25.28.

Source: AIHW 2005.

**Figure 3.11.2: Average health expenditure per person by the Australian Government, on PBS, constant prices, 1995-96, 1998-99, 2001-02**

## Data quality issues

### Expenditure data

#### BEACH estimates

*Indigenous PBS expenditure estimates are calculated for the expenditure report using BEACH data by Indigenous status. Given the small sample of Indigenous Australians in BEACH and the problems with accurately identifying Indigenous status in this collection, these estimates need to be used with caution.*

*Per capita estimates indicate average PBS expenditure per head for the whole of the reference population. They do not indicate average expenditure for those who have accessed PBS.*

#### Medicare data

*A voluntary Indigenous identifier was introduced into the Medicare database from November 2002. As at 1 July 2005, 84,867 people had identified as Aboriginal, Torres Strait Islander or both in the Medicare database. As these data improve, it will be possible to utilise this identifier to undertake PBS expenditure calculations using the PBS database.*

## References

AIHW (Australian Institute of Health and Welfare) 2001. Expenditures on health services for Aboriginal and Torres Strait Islander peoples, 1998-99. AIHW cat. no. IHW 7. Canberra: AIHW.



AIHW 2005. Expenditures on health for Aboriginal and Torres Strait Islander peoples, 2001–02. Health and Welfare Expenditure Series no. 23. AIHW cat. no. HWE 30. Canberra: AIHW.

Deeble J, Mathers C, Smith L, Goss J, Webb R and Smith V 1998. Expenditures on health services for Aboriginal and Torres Strait Islander peoples. AIHW cat. no. HWE 6. Canberra: AIHW, Department of Health and Family Services and National Centre for Epidemiology and Population Health.

## 3.12 Extent to which individuals have a regular GP or health service

*Number and proportion of individuals who have a regular general practitioner (GP) or health service*

### Data sources

Data for this indicator come from the ABS 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS).

The 2004–05 NATSIHS collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians about health-related issues including health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. It is planned to repeat the NATSIHS at six-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

### Analyses

#### Self-reported data

##### Whether visited same doctor/health service

- In 2004–05, approximately 89% of Indigenous persons aged 15 years and over and 91% of all Aboriginal and Torres Strait Islander peoples surveyed reported that they usually went to the same GP or medical service.
- The majority of Indigenous Australians went to a doctor if they had a problem with their health (60%) followed by an Aboriginal medical service (30%). Approximately 7% of Aboriginal and Torres Strait Islander people reported that they went to hospital for their regular health care.

##### Whether visited same doctor/health service by age and sex

- A slightly higher proportion of Indigenous Australians aged 0–14 years and 55 years and over reported they usually went to the same GP or medical service than those of other ages (93% and 94% respectively) (Table 3.12.1; Figure 3.12.1).
- Similar proportions of Indigenous males and females reported they usually went to the same GP or medical service (90% and 91% respectively) and visited a doctor or Aboriginal medical service if they had a problem with their health. Approximately 3% of Indigenous males reported they did not seek health care if they had a problem with their health compared to 1% of Indigenous females (Table 3.12.2).

**Table 3.12.1: Regular health care, by age, Indigenous persons, 2004–05**

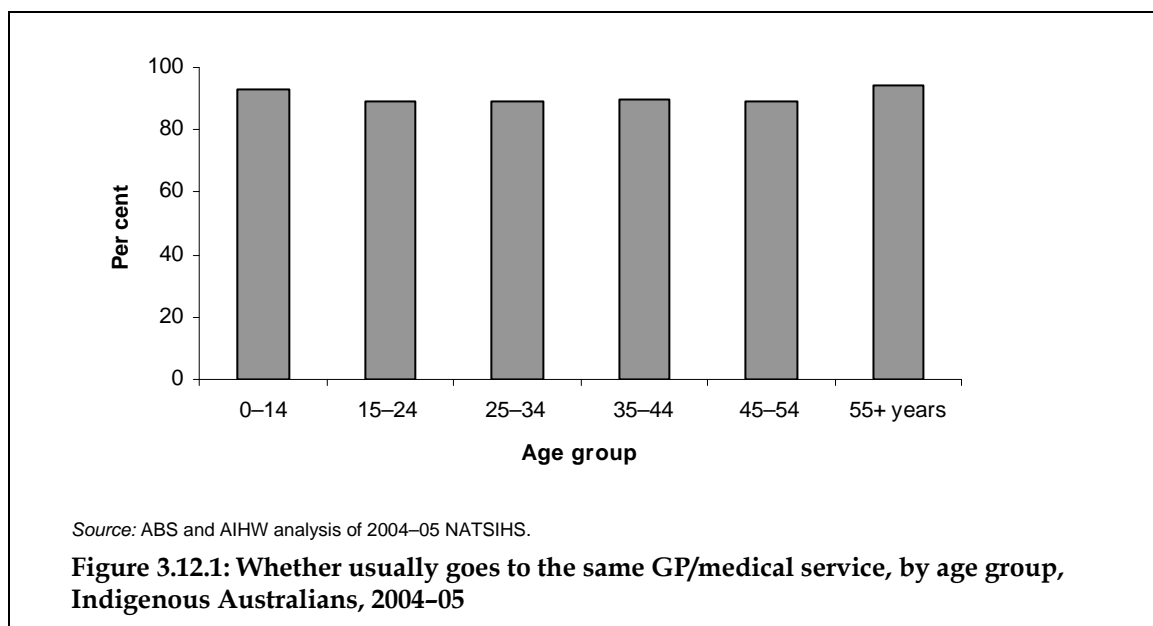
	0–14 years	15–24 years	25–34 years	35–44 years	44–54 years	55 years and over	Total
	per cent						
<b>Where usually go if problem with health</b>							
Doctor	62	62	54	56	61	62	60
Aboriginal medical service	30	28	33	31	30	30	30
Hospital	7	6	8	6	7	7	7
Don't seek health care	1 <sup>(a)</sup>	2	3	3 <sup>(a)</sup>	2 <sup>(a)</sup>	— <sup>(b)</sup>	2
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Whether usually go to same GP/medical service</b>							
Yes	93	89	89	90	89	94	91
No	7	11	11	10	11	6	9
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number	180,669	82,067	69,772	59,057	39,578	33,167	474,310

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Includes traditional healer, other health care and not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.



**Table 3.12.2: Regular health care, by sex, Indigenous persons, 2004-05**

	Indigenous		Persons
	Male	Female	
	per cent		
<b>Where usually go if problem with health</b>			
Doctor	60	59	60
Aboriginal medical service	29	31	30
Hospital	6	7	7
Don't seek health care	3	1	2
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Whether usually go to same GP/medical service</b>			
Yes	90	91	91
No	10	8	9
<b>Total<sup>(a)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number	232,362	241,948	474,310

(a) Includes traditional healer, other health care and not stated.

Source: ABS and AIHW analysis of 2004-05 NATSIHS.

### **Whether visited same doctor/health service by state/territory and remoteness**

- The overall pattern of a higher proportion of Indigenous people using a doctor for their regular health care was true across jurisdictions with the exception of the Northern Territory where 82% reported using an Aboriginal medical service and only 14% reported using a doctor. Nevertheless, significant differences existed between jurisdictions with regard to the type of service Indigenous people used for regular health care with the majority of Indigenous people (about two-thirds and over) in the Australian Capital Territory, South Australia, Victoria, New South Wales and Tasmania using a doctor for their regular health care. A higher use of hospitals for regular health care was reported in Queensland and Western Australia compared to other jurisdictions at 12% and 14% respectively (Table 3.12.3).
- The proportion of Indigenous Australians using Aboriginal medical services for their regular health care increased with remoteness from 15% in major cities to 76% in very remote areas. The proportion of Indigenous Australians using a doctor for their regular health care decreased with remoteness from 80% in major cities to 6% in very remote areas. Likewise hospital use was higher in remote and very remote areas (Table 3.12.4; Figure 3.12.2).

**Table 3.12.3: Regular health care, by state/territory, Indigenous persons, 2004–05**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	per cent								
<b>Where usually go if problem with health</b>									
Doctor	80	75	56	48	68	89	64	14	60
Aboriginal medical service	13	19	30	34	26	6	32	82	30
Hospital	3 <sup>(a)</sup>	3 <sup>(a)</sup>	12	14	3 <sup>(a)</sup>	3 <sup>(a)</sup>	1 <sup>(b)</sup>	2 <sup>(a)</sup>	7
Don't seek health care	3	2 <sup>(a)</sup>	2 <sup>(a)</sup>	1 <sup>(a)</sup>	2 <sup>(a)</sup>	— <sup>(a)</sup>	2 <sup>(a)</sup>	2 <sup>(a)</sup>	2
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number	139,570	29,334	130,856	67,548	26,534	18,072	4,162	58,234	474,310
<b>Whether usually go to same GP/medical service</b>									
Yes	88	92	90	90	96	96	95	94	91
No	11	8 <sup>(a)</sup>	10	10	4	4	5 <sup>(a)</sup>	6 <sup>(a)</sup>	9
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number	139,570	29,334	130,856	67,548	26,534	18,072	4,162	58,234	474,310

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Includes traditional healer, other health care and not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

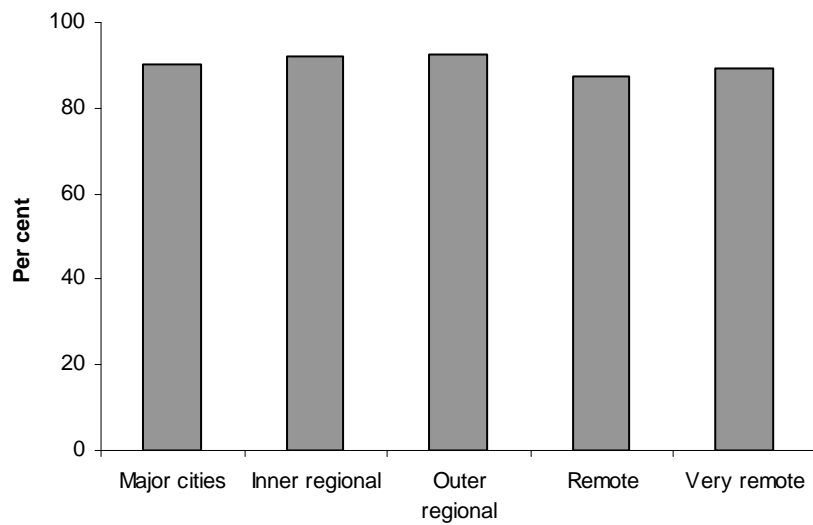
**Table 3.12.4: Regular health care, by remoteness, Indigenous persons, 2004–05**

	Major cities	Inner regional	Outer regional	Remote	Very remote	Australia
	per cent					
<b>Where usually go if problem with health</b>						
Doctor	80	80	67	34	6 <sup>(a)</sup>	60
Aboriginal medical service	15	11	26	45	76	30
Hospital	1	6	5 <sup>(a)</sup>	15 <sup>(a)</sup>	16	7
Don't seek health care	3	2 <sup>(a)</sup>	1 <sup>(a)</sup>	1 <sup>(a)</sup>	34 <sup>(a)</sup>	2
<b>Total<sup>(b)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total Number	144,157	95,609	108,549	41,306	84,689	474,310
<b>Whether usually go to same GP/medical service</b>						
Yes	90	92	93	87	89	91
No	9	8	7	12	10	9
<b>Total<sup>(b)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total Number	144,157	95,609	108,549	41,306	84,689	474,310

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Includes traditional healer, regular health care and not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.



Source: ABS and AIHW analysis of 2004–05 NATSIHS.

**Figure 3.12.2: Whether usually goes to the same GP/medical service, by remoteness, Indigenous Australians, 2004–05**

### Whether visited same doctor/health service by selected population and health characteristics

- The proportion of Indigenous Australians who reported they usually went to the same GP or medical service was similar irrespective of language spoken at home or household income but was slightly higher among those in the 5th quintile (95%) of the Socioeconomic Indexes of Areas index of disadvantage (95%), those in non-remote areas (92%) and those with private health cover (93%) (Table 3.12.5).
- The proportion of Indigenous Australians who reported they usually went to the same GP or medical service was similar for those with reported excellent/very good/good health and those with fair/poor health, and for those with any number of long-term conditions (Table 3.12.6).



**Table 3.12.5: Whether usually goes to the same GP/medical service, by selected population characteristics, Indigenous Australians, 2004–05**

	Yes	No	Total
	per cent		
<b>Main Language spoken at home<sup>(a)</sup></b>			
English	89	11	100
Language other than English	90	9	100
Total <sup>(b)</sup>	89	10	100
<b>Household income</b>			
1st quintile	91	9	100
5th quintile	90	10	100
Total <sup>(c)</sup>	91	9	100
<b>SIEFA Index of disadvantage</b>			
1st quintile	91	9	100
5th quintile	95	5 <sup>(d)</sup>	100
Total <sup>(c)</sup>	91	9	100
<b>Location</b>			
Remote	89	11	100
Non-remote	92	8	100
Total	91	9	100
<b>Private health insurance<sup>(e)</sup></b>			
With private cover	93	7 <sup>(d)</sup>	100
Without private cover	90	10	100
Total <sup>(c)</sup>	90	10	100

(a) Persons aged 18 years and over.

(b) Includes not stated, inadequately described and non-verbal languages.

(c) Includes not stated and not known where applicable.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(e) Persons aged 15 years and over, non-remote areas only.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

**Table 3.12.6: Regular health care, by summary health characteristics, Indigenous Australians, 2004–05**

Regular health care	Self-assessed health status <sup>(a)</sup>			Number of long-term conditions <sup>(b)</sup>				Total
	Excellent/very good/good	Fair/poor	Total <sup>(c)</sup>	0	1	2	3+	
	per cent							
<b>Where usually go if problem with health</b>								
Doctor	59	58	59	58	58	59	65	60
Aboriginal medical service	30	31	30	31	31	33	27	30
Hospital	7	7	7	7	7	6 <sup>(d)</sup>	6	7
Don't seek health care	2	2 <sup>(d)</sup>	2	2	3 <sup>(d)</sup>	1 <sup>(e)</sup>	1 <sup>(d)</sup>	2
<b>Total<sup>(f)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Whether usually go to same GP/ medical service</b>								
Yes	89	90	89	90	91	91	92	91
No	10	9	10	9	9	8	8	9
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Total number	229,335	64,236	293,641	321,338	24,767	27,714	100,386	474,310

(a) Persons aged 15 years and over.

(b) All persons. Includes conditions identified as a National Health Priority Area.

(c) Includes not stated.

(d) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(e) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(f) Includes traditional healer, other health care and not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

### **Discrimination/treatment when visited doctor/health service**

- Those who usually went to the same GP or medical service were more likely to report that they were treated the same as non-Indigenous people when seeking health care over the last 12 months (78% compared with 70% for those without a usual GP or medical service). A similar proportion reported that they were treated worse (4%) or better (5%) than non-Indigenous people (Table 3.12.7).
- While the majority of Indigenous Australians reported that they were not treated badly because they were Aboriginal or Torres Strait Islander, 16% reported that they were treated badly because they were Indigenous.
- Of the people who reported that they were treated badly because they were Indigenous, the majority felt angry (67%). Others reported feeling sad (28%), sorry for the person who treated them badly (31%), ashamed or worried about it (17%) or sick (12%).
- Of the people who reported that they were treated badly because they were Aboriginal or Torres Strait Islander, 33% reported that they tried to avoid the person/situation, 28% just forgot about it, and 38% talked to family or friends about it.

**Table 3.12.7: Whether usually goes to the same GP/medical service, by discrimination, Indigenous Australians, 2004–05**

	Whether usually go to same GP/medical service		
	Yes	No	Total
	per cent		
<b>Treatment when seeking health care in last 12 months compared to non-Indigenous people</b>			
Worse than non-Indigenous people	4	5 <sup>(a)</sup>	4
The same as non-Indigenous people	78	70	77
Better than non-Indigenous people	5	4 <sup>(a)</sup>	5
Only encountered Indigenous people	2	— <sup>(b)</sup>	2
Did not seek health care in last 12 months	4	13	5
Don't know/not sure	7	7	7
<b>Total<sup>(c)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Whether felt treated badly because Aboriginal or Torres Strait Islander in last 12 months</b>			
Yes	16	15	16
No	84	84	84
<b>Total<sup>(d)(e)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>How usually feel when treated badly because Aboriginal/Torres Strait Islander</b>			
Feel angry	68	64	67
Feel sad	26	39	28
Feel sorry for the person who did it	32	25 <sup>(a)</sup>	31
Feel ashamed or worried about it	16	18 <sup>(a)</sup>	17
Feel sick	12	10 <sup>(a)</sup>	12
Other feeling	12	11 <sup>(a)</sup>	12
No feeling	5 <sup>(a)</sup>	14 <sup>(a)</sup>	6
<b>Total<sup>(d)(e)(f)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>What usually do when treated badly because Aboriginal/Torres Strait Islander</b>			
Try to avoid the person/situation	34	24 <sup>(a)</sup>	33
Try to change the way you are or things that you do	9	9 <sup>(a)</sup>	9
Try to do something about the people who did it	30	23 <sup>(a)</sup>	30
Talk to family or friends about it	38	38	38
Keep it to yourself	17	26 <sup>(a)</sup>	18
Just forget about it	27	33 <sup>(a)</sup>	28
Do anything else	5	7 <sup>(a)</sup>	5
No action	4 <sup>(a)</sup>	6 <sup>(a)</sup>	4
<b>Total<sup>(d)(e)(f)</sup></b>	<b>100</b>	<b>100</b>	<b>100</b>

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(c) Total persons aged 18 years and over.

(d) Components may not add to total as persons may have reported more than one type of action.

(e) Persons who answered yes to 'whether treated badly in the last 12 months because Aboriginal/Torres Strait Islander'.

(f) Includes refusal to answer and not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS

## **Data quality issues**

### **National Aboriginal and Torres Strait Islander Health Survey (NATSIHS)**

*The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians and thus overcomes the problems inherent in most national surveys with small and unrepresentative Indigenous samples. As with other surveys, the NATSISS is subject to sampling and non-sampling errors. Calculations of standard errors and significance testing help to identify the accuracy of the estimates and differences.*

*Information recorded in this survey is essentially 'as reported' by respondents. The ABS makes every effort to collect accurate information from respondents, particularly through careful questionnaire design, pre-testing of questionnaires, use of trained interviewers and assistance from Indigenous facilitators. Nevertheless, some responses may be affected by imperfect recall or individual interpretation of survey questions (ABS 2004).*

*Non-Indigenous comparisons are available through the General Social Survey. Time series comparisons are available through the 1994 National Aboriginal and Torres Strait Islander Survey.*

*In remote communities there were some modifications to the NATSIHS content in order to address language and cultural appropriateness in traditional communities, as well as to assist respondents in understanding the concepts. Some questions were excluded and some reworded. Also, paper forms were used in communities in remote areas and computer-assisted interview (CAI) instruments.*

*Further information on NATSIHS data quality issues can be found in the national publication (ABS 2006).*

### **Doctor/health service**

*The NATSIHS does not separately identify whether the person would go to this doctor/health service if they are sick or need advice about their health; if they had new health problems; if they needed preventative health care; or if they needed referrals. In the United States, persons are determined to have a usual primary care provider if they reported that they would usually go the same health professional for all four of these situations.*

## **References**

ABS 2006. National Aboriginal and Torres Strait Islander Health Survey 2004–05. ABS cat. no. 4715.0. Canberra: ABS.

## 3.13 Accreditation across service types

*The proportion of:*

- *accredited public hospital Aboriginal and Torres Strait Islander separations and patient days as a percentage of all Aboriginal and Torres Strait Islander separations and patient days in public hospitals*
- *accredited general medical practice service establishments by proportion of Indigenous populations in Divisions of General Practice*

### Data sources

Data for this measure come from the AIHW National Public Hospitals Establishment Database and general practice data from the Annual Survey of Divisions of General Practice, the Australian General Practice Accreditation Limited (AGPAL) and the General Practice Accreditation Plus (GPA+).

### Hospitalisations

The AIHW National Public Hospitals Establishment Database holds establishment-level data for public hospitals within the jurisdiction of the state and territory health authorities. Private hospitals and public hospitals not administered by the state and territory health authorities are not included. Information is provided annually to the AIHW by state and territory health departments.

Data are presented for the four jurisdictions that have been assessed as having adequate identification of Indigenous hospitalisations in 2003–04 – Queensland, Western Australia, South Australia and the Northern Territory (AIHW 2005). These four jurisdictions represent approximately 60% of the Indigenous population of Australia. Data are presented by state/territory of usual residence of the patient.

Hospitalisations for which the Indigenous status of the patient was not reported have been included with hospitalisations data for non-Indigenous people under the 'other' category. This is to enable consistency across jurisdictions as public hospitals in some states and territories do not have a category for the reporting of 'not stated' or inadequately recorded/reported Indigenous status.

Hospitalisation data are presented for the two-year period July 2002 to June 2004. An aggregate of two years of data has been used as the number of hospitalisations for some conditions is likely to be small for a single year.

### General practice

No data are currently available on the Indigenous status of clients/episodes for general practice data by accreditation status. Therefore a proxy looking at areas of Indigenous populations and accreditation status of practices in these areas has been used. It should be noted that this proxy has some limitations in that people do not necessarily visit GPs in the area in which they live.

A question on numbers of accredited general practices in Divisions of General Practice is included in the Annual Survey of Divisions of General Practice. This survey is managed by the Primary Health Care Research and Information Service, Department of General Practice, Flinders University. This survey collects data on the number of practices in Australia and the number of practices accredited in Australia. It does not collect data on practices that are registered for accreditation but are not yet fully accredited.

AGPAL and GPA+ are the two registered providers of general practice accreditation in Australia. Most general practices are accredited by AGPAL. AGPAL and GPA+ provide information on the total numbers of accredited practices and practices registered for accreditation. They do not collect data on the total number of practices in Australia.

There are no accurate data on the number of practices in Australia. The Annual Survey of Divisions of General Practice reported that in 2004–05 there were 7,479 general practices. This number has been used as the denominator for calculating the proportion of accredited practices.

## Analyses

Accreditation is generally a voluntary process by which a recognised body, usually a non-governmental organisation, assesses and recognises that a health care organisation meets applicable quality standards. The two pre-conditions for accreditation are an explicit definition of quality (that is, standards) and an independent review process aimed at identifying whether practices meet the quality standards (Australian Council on Health Care Standards 2005). Accreditation provides public recognition that a health care organisation has undertaken a process to ensure it meets the requirements of national health care standards. All health care organisations, whether they are in the public or private sector, local community-based care facilities or tertiary level providers, can undergo accreditation.

### Hospital accreditation

Data on the proportion of hospitalisations in accredited hospitals for Indigenous and other Australians in Queensland, Western Australia, South Australia and the Northern Territory combined over the two-year period July 2002 to June 2004 are presented in the tables below.

- Over the two-year period July 2002 to June 2004, there were approximately 272,424 hospitalisations of Indigenous Australians in Queensland, Western Australia, South Australia and the Northern Territory combined in accredited public hospitals. This was 93% of all public hospitalisations of Indigenous Australians in these jurisdictions. Over the same period, 98% of hospitalisations of other Australians in these jurisdictions were in accredited public hospitals (Table 3.13.1).

### Hospital accreditation by state/territory and remoteness

- In the four jurisdictions, the proportion of hospitalisations of Indigenous Australians that were in accredited hospitals ranged from 86.5% in Western Australia to 99.8% in South Australia.
- Over the two-year period July 2002 to June 2004 in the four jurisdictions, approximately 94% of days spent by Indigenous patients and 98% of days spent by other Australians in hospital were in accredited hospitals (Table 3.13.2).

- Over the two-year period July 2002 to June 2004, the proportion of hospitalisations of Indigenous Australians that were in accredited hospitals was highest among those residing in major cities and inner regional areas (almost 100%) and lowest among those living in very remote areas (85%). The same pattern was evident for hospitalisations of other Australians (Table 3.13.3).

**Table 3.13.1: Hospital separations, by Indigenous status and accreditation status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)</sup>**

	Indigenous			Other <sup>(c)</sup>		
	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals
Qld	97,767	6,814	93.5	1,278,710	28,617	97.8
WA	65,708	10,274	86.5	637,034	21,617	96.7
SA	29,302	73	99.8	712,564	414	99.9
NT	79,647	3,784	95.5	51,468	729	98.6
<b>Qld, WA, SA, NT</b>	<b>272,424</b>	<b>20,945</b>	<b>92.9</b>	<b>2,679,776</b>	<b>51,377</b>	<b>98.1</b>

(a) Data are from public hospitals only.

(b) Data are reported for Qld, WA, SA and NT only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Other includes hospitalisations for non-Indigenous people and those for whom Indigenous status was 'not stated'.

*Note:* the per cent is the number of separations in accredited hospitals by Indigenous status and state/territory divided by the total number of separations by Indigenous status and state/territory.

*Source:* AIHW analysis of AIHW National Public Hospitals Establishment Database.



**Table 3.13.2: Hospital patient days, by Indigenous status and accreditation status, Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)</sup>**

	Indigenous			Other <sup>(c)</sup>		
	Number patient days in accredited hospitals	Number patient days in non-accredited hospitals	Per cent patient days in accredited hospitals	Number patient days in accredited hospitals	Number patient days in non-accredited hospitals	Per cent patient days in accredited hospitals
Qld	312,634	16,782	94.9	4,837,302	137,485	97.2
WA	152,029	32,817	82.2	2,690,936	35,721	98.7
SA	172,028	114	99.9	2,730,177	40,634	98.5
NT	244,650	8,348	96.7	174,812	1,712	99.0
<b>Total</b>	<b>881,341</b>	<b>58,061</b>	<b>93.8</b>	<b>10,433,227</b>	<b>215,552</b>	<b>98.0</b>

(a) Data are from public hospitals only.

(b) Data are reported for Qld, WA, SA and NT only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Other includes hospitalisations for non-Indigenous people and those for whom Indigenous status was 'not stated'.

Source: AIHW analysis of AIHW National Public Hospitals Establishment Database.

**Table 3.13.3: Hospital separations, by Indigenous status, accreditation status and remoteness, July 2002 to June 2004<sup>(a)(b)</sup>**

Remoteness category <sup>(d)</sup>	Indigenous			Other <sup>(c)</sup>		
	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals
Major cities	48,334	104	99.8	1,608,658	2,117	99.9
Inner regional	19,383	96	99.5	503,564	1,196	99.8
Outer regional	84,803	4,678	94.8	445,266	28,011	94.1
Remote	45,881	3,292	93.3	86,256	14,392	85.7
Very remote	72,489	12,748	85.0	34,034	5,497	86.1
<b>Total<sup>(b)</sup></b>	<b>272,424</b>	<b>20,945</b>	<b>92.9</b>	<b>2,679,776</b>	<b>51,377</b>	<b>98.1</b>

(a) Data are from public hospitals only.

(b) Data are reported for Qld, WA, SA and NT only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Other includes hospitalisations for non-Indigenous people and those for whom Indigenous status was 'not stated'.

(d) Remoteness category based on residence of patient.

Source: AIHW analysis of AIHW National Public Hospitals Establishment Database.

### **Hospital accreditation by hospital category**

- In Queensland, Western Australia, South Australia and the Northern Territory combined, all hospitalisations of Indigenous and other Australians in principal referral hospitals, large hospitals and psychiatric hospitals were in accredited hospitals (Table 3.13.4). Between 74% and 89% of hospitalisations of Indigenous Australians and 74% and 94% of hospitalisations of other Australians in small hospitals were in accredited hospitals. Only 62% of Indigenous and 66% of other Australian hospitalisations in multi-purpose service hospitals were in accredited hospitals.

**Table 3.13.4: Hospital separations, by Indigenous status, accreditation status and hospital category (peer group), Qld, WA, SA and NT, July 2002 to June 2004<sup>(a)(b)</sup>**

	Indigenous			Other <sup>(c)</sup>		
	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals	Number separations in accredited hospitals	Number separations in non-accredited hospitals	Per cent separations in accredited hospitals
<b>Principal referral</b>						
Principal referral	136,655	2 <sup>(d)</sup>	100.0	1,473,858	38 <sup>(d)</sup>	100.0
Specialist women's and children's	11,115	—	100.0	203,436	—	100.0
<b>Large hospitals</b>						
Large major cities	3,708	—	100.0	161,933	35 <sup>(d)</sup>	100.0
Large regional and remote	37,094	—	100.0	187,344	53 <sup>(d)</sup>	100.0
<b>Medium hospitals</b>						
Medium major cities and regional group 1	14,538	18	99.9	164,705	302	99.8
Medium major cities and regional group 2	5,746	2,016	74.0	155,039	17,177	90.0
<b>Small hospitals</b>						
Small regional acute	3,437	829	80.6	54,645	3,893	93.3
Small non-acute	4,568	562	89.0	72,160	4,262	94.4
Remote acute	38,022	13,472	73.8	36,665	13,212	73.5
<b>Sub- and non-acute hospitals</b>						
Multi-purpose service	4,466	2,706	62.3	20,105	10,566	65.6
Hospice	—	—	100.0	11	—	100.0
Rehabilitation	37	—	100.0	2,423	—	100.0
Mothercraft	87	—	100.0	5,220	7	99.9
Other non-acute	10,753	—	100.0	119,938	6	100.0
<b>Other hospitals</b>						
Psychiatric	791	—	100.0	8,516	—	100.0
Un-peered and other acute	1,407	1,340	51.2	13,778	1,794	88.5
<b>Total</b>	<b>272,424</b>	<b>20,945</b>	<b>92.9</b>	<b>2,679,776</b>	<b>51,345</b>	<b>98.1</b>

(a) Data are from public hospitals only.

(b) Data are reported for Qld, WA, SA and NT only. These four jurisdictions are considered to have adequate levels of Indigenous identification, although the level of accuracy varies by jurisdiction and hospital. Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations. Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in the other jurisdictions.

(c) Other includes hospitalisations of non-Indigenous people and those for whom Indigenous status was 'not stated'.

(d) The number of separations in non-accredited principal referral and large hospitals are small as these numbers represent patients living in Queensland, Western Australia, South Australia and the Northern Territory, but have been referred to non-accredited hospitals in New South Wales. People living in New South Wales are not included in the analyses. All principal referral and large hospitals in these four jurisdictions are accredited.

### Time series analyses

- Between 1998–99 and 2003–04 in Queensland, Western Australia, South Australia and the Northern Territory combined, there were increases in the proportion of hospitalisations of Indigenous and other Australians in accredited hospitals (from 59% to 94% for Indigenous separations and from 78% to 99% for other separations) (Figure 3.13.1).

While the difference between the proportion of Indigenous and non-Indigenous separations in accredited hospitals has appeared to decline between 1998–99 and 2003–04, this is likely to be the result of more hospitals in rural and remote areas obtaining accreditation in recent years, at which a higher proportion of Indigenous Australians are hospitalised than non-Indigenous Australians.



## General practice accreditation

Table 3.13.5 and Figure 3.13.2 present data on the number and proportion of general practices accredited in Australia based on the Annual Survey of Divisions of General Practice.

- In 2004–05, the Annual Survey of Divisions of General Practice estimated that there were 7,479 general practices in Australia, 4,656 (62.3%) of which were accredited.
- Approximately 55% of general practices in areas where less than 1% of the population was Indigenous were accredited. Between 65% and 85% of general practices were accredited in areas where between 1–2% and 4–10% of the population were Indigenous. In areas where more than 10% of the population were Indigenous, only 54% of general practices were accredited (Figure 3.13.2).

**Table 3.13.5: Number and per cent of general practices accredited by Divisions of General Practice, by proportion of the population that are Indigenous, 2004–05**

Proportion of Indigenous <sup>(a)</sup>	Total number of practices	Number accredited	Per cent accredited
<1%	3,162	1,731	54.7
1–2%	2,042	1,323	64.8
2–3%	993	650	65.5
3–4%	386	287	74.4
4–10%	578	495	85.6
>10%	318	170	53.5
<b>Total</b>	<b>7,479</b>	<b>4,656</b>	<b>62.3</b>

(a) Aboriginal and Torres Strait Islander proportions are based on ABS population estimates used in the Annual Survey of Divisions of General Practice.

*Note:* There is double counting of some services where general practices reside on the border of two divisions. In that case two divisions may service the same practice.

*Source:* AIHW analysis of the Annual Survey of Divisions of General Practice.

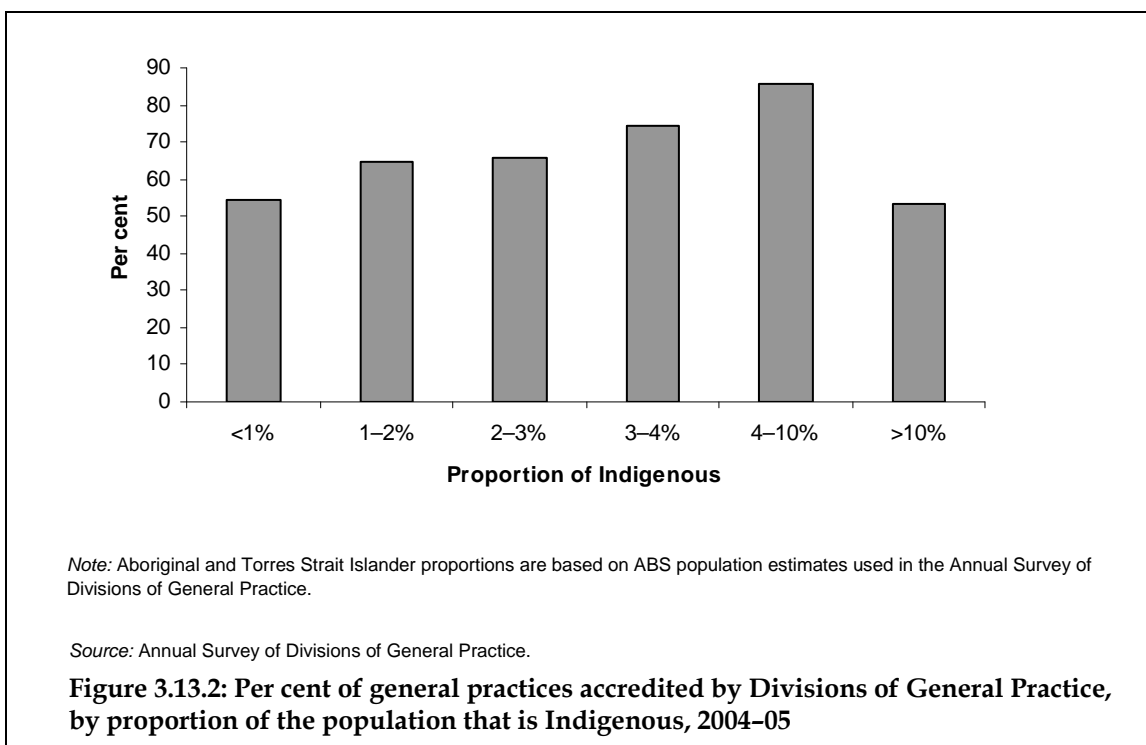


Table 3.13.6 presents data on the number of general practices accredited, and the number of general practices registered for accreditation but not yet accredited, based on data from the two registered providers of general practice accreditation – AGPAL and GPA+.

- As at July 2006, there were 3,877 general practices accredited and 384 general practices registered for accreditation but not yet accredited, through AGPAL and GPA+.
- The majority of general practices accredited through AGPAL and GPA+ were in areas where less than 1% or between 1% and 2% of the population were Indigenous (909 and 1,357 practices respectively).

**Table 3.13.6: Number of general practices accredited through AGPAL and GPA+, by proportion of the population that is Indigenous, as at July 2006**

<b>Proportion of Indigenous<sup>(a)</sup></b>	<b>Accreditation status</b>	<b>Number</b>
<1%	Accredited	1,550
	Registered but not yet accredited	93
1–2%	Accredited	1,357
	Registered but not yet accredited	119
2–3%	Accredited	681
	Registered but not yet accredited	52
3–4%	Accredited	303
	Registered but not yet accredited	24
4–10%	Accredited	443
	Registered but not yet accredited	41
>10%	Accredited	184
	Registered but not yet accredited	33
<b>Total</b>	<b>Accredited</b>	<b>4,518</b>
	<b>Registered but not yet accredited</b>	<b>352</b>

(a) Aboriginal and Torres Strait Islander proportions are based on ABS population estimates used in the Annual Survey of Divisions of General Practice.

*Note:* There is double counting of some services where general practices reside on the border of two divisions. In that case two divisions may service the same practice.

*Source:* AIHW analysis of AGPAL and GPA+ unpublished data.

## Accreditation of Aboriginal and Torres Strait Islander primary health care services

- It is estimated that Aboriginal and Torres Strait Islander specific primary health care services provide GP services to around 40% of the Aboriginal and Torres Strait Islander population (DoHA unpublished data).
- Of the 106 Aboriginal and Torres Strait Islander specific primary health care services that employed a general practitioner, 53 are accredited and 19 are registered for becoming accredited with AGPAL as at May 2006 (AGPAL unpublished data, November 2005).
- GPA+ has eight Aboriginal and Torres Strait Islander specific primary health care services fully accredited and two registered for accreditation as at February 2006. On this basis, 77% of Aboriginal and Torres Strait Islander specific primary health care services that employ a GP in some capacity are either registered for accreditation or fully accredited.
- The Quality Improvement Council accredits health and community organisations that do not employ a GP. Eight Aboriginal and Torres Strait Islander specific primary health care services are currently accredited through the Council.

### Data quality issues

#### Hospital separation data

##### *Separations*

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.*

##### *Indigenous status question*

*Some jurisdictions have slightly different approaches to the collection and storage of the standard Indigenous status question and categories in their hospital collections. The not stated category is missing from several collections. It is recommended that the standard wording and categories be used in all jurisdictions (AIHW 2005).*

##### *Under-identification*

*The incompleteness of Indigenous identification means the number of hospital separations recorded as Indigenous is an underestimate of hospitalisations of Aboriginal and Torres Strait Islander people. While the identification of Indigenous people in hospitalisations is incomplete in all states and territories, four jurisdictions (Queensland, Western Australia, South Australia and the Northern Territory) have been assessed as having adequate identification in 2003–04 (AIHW 2005). It has therefore been recommended that reporting of Indigenous hospital separations be limited to aggregated information from Queensland, Western Australia, South Australia and the Northern Territory. The proportion of the Indigenous population covered by these four jurisdictions is 60%. The following caveats have also been recommended:*

- *Interpretation of results should take into account the relative quality of the data from the jurisdictions included (currently a degree of Indigenous under-identification in Western Australia and relatively marked Indigenous under-identification in Queensland data)*
- *Data for these four jurisdictions over-represent Indigenous populations in less urbanised and more remote locations*

*(continued)*



### **Data quality issues (continued)**

- *Hospitalisation data for four jurisdictions should not be assumed to represent the hospitalisation experience in other jurisdictions (ABS & AIHW 2005).*

### **General practice data**

#### **Numerator**

*There is good evidence on the number of practices accredited in Australia. However, no data are available on the Indigenous status of clients/episodes for general practice by accreditation status. Therefore, a proxy looking at areas of Indigenous populations and accreditation status of practices in these areas is suggested. This proxy is limited in that people do not necessarily visit GPs in the area they live.*

#### **Annual Survey of Divisions of General Practice**

*A question on numbers of accredited general practices in Divisions of General Practice is included in the Annual Survey of Divisions of General Practice. This survey does not collect data on practices that are registered for accreditation but are not yet fully accredited.*

*These data are self-reported, collated at the division level and the survey includes some non-response. The main caveat with these data is that there is double counting of some services where general practices reside on the border of two divisions. In that case two divisions may service the same practice. Therefore these data would be less accurate than data obtained from the accreditation bodies, that is, AGPAL and GPA+.*

*The Annual Survey does not seek information on general practices by Statistical Local Area (SLA). Therefore the analysis of these data in relation to Aboriginal and Torres Strait Islander Australians is limited to division-level population statistics on Indigenous proportions of the population. Divisions are large (for example, two Divisions for the Northern Territory) and therefore only loosely measure areas of high and low Indigenous populations.*

#### **AGPAL**

*AGPAL provides information on the total numbers of accredited practices and practices registered for accreditation. These data are published by Division of General Practice but not SLA.*

#### **GPA+**

*Data on practices accredited by GPA+ have not been routinely reported but may in the future become available.*

## **References**

AIHW (Australian Institute of Health and Welfare) 2005. Improving the quality of Indigenous identification in hospitals separations data. AIHW cat. no. HSE 101. Canberra: AIHW.

Australian Council on Health Care Standards 2005. The ACHCS national report on health services accreditation performance: 2003–2004. Canberra: Australian Council on Health Care Standards.

ABS & AIHW (Australian Bureau of Statistics and Australian Institute of Health and Welfare) 2005. The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples 2005. ABS cat. no. 4704.0; AIHW cat. no. IHW14. Canberra: ABS & AIHW.

## 3.14 Aboriginal and Torres Strait Islander Australians in tertiary education for health-related disciplines

*The proportion of Aboriginal and Torres Strait Islander Australians in tertiary education for health-related disciplines*

### Data sources

Data for this measure come from the Australian Government Department of Education, Science and Training's Higher Education Student Statistics Collection and the National Centre for Vocational Education Research collection.

#### Higher Education Student Statistics Collection

The Higher Education Student Statistics Collection is an annual collection of enrolments and completions. These data are held by the Department of Education, Science and Training. This collection includes data sources from all Australian universities.

#### National Centre for Vocational Education Research (NCVER) collection

The National Centre for Vocational Education Research (NCVER) collection is an annual collection of enrolments and completions by field of education in the vocational education and training sector. These data are held by the NCVER.

### Analyses

#### Higher education sector

Data on Indigenous students enrolled and who have completed health-related courses in the higher education sector are available from Department of Education, Science and Training. Data for 2004 are presented below.

- In 2004, there were approximately 846 Indigenous undergraduate students enrolled in health-related courses and 103 Indigenous undergraduate students who completed a health-related course (Table 3.14.1).
- The most common type of health-related course in which Indigenous undergraduate students were enrolled or had completed in 2004 was nursing (425 enrolled and 38 completed) followed by public health (253 enrolled and 34 completed).
- Approximately 1.3% of all undergraduate students enrolled in health-related courses in 2004 were Indigenous. Only 0.7% of undergraduate students who completed a health-related course in 2004 were of Aboriginal and Torres Strait Islander origin.

- Public health had the highest Indigenous representation of all health-related courses. Approximately 7% of students enrolled in this course were Indigenous and 5% of students who completed this course in 2004 were Indigenous.
- The proportion of university students enrolled in health-related courses who were of Aboriginal and Torres Strait Islander origin was similar in most states and territories (between 1% and 2%) except in the Northern Territory where around 15% of students enrolled in health-related courses were Indigenous (Figure 3.14.1).

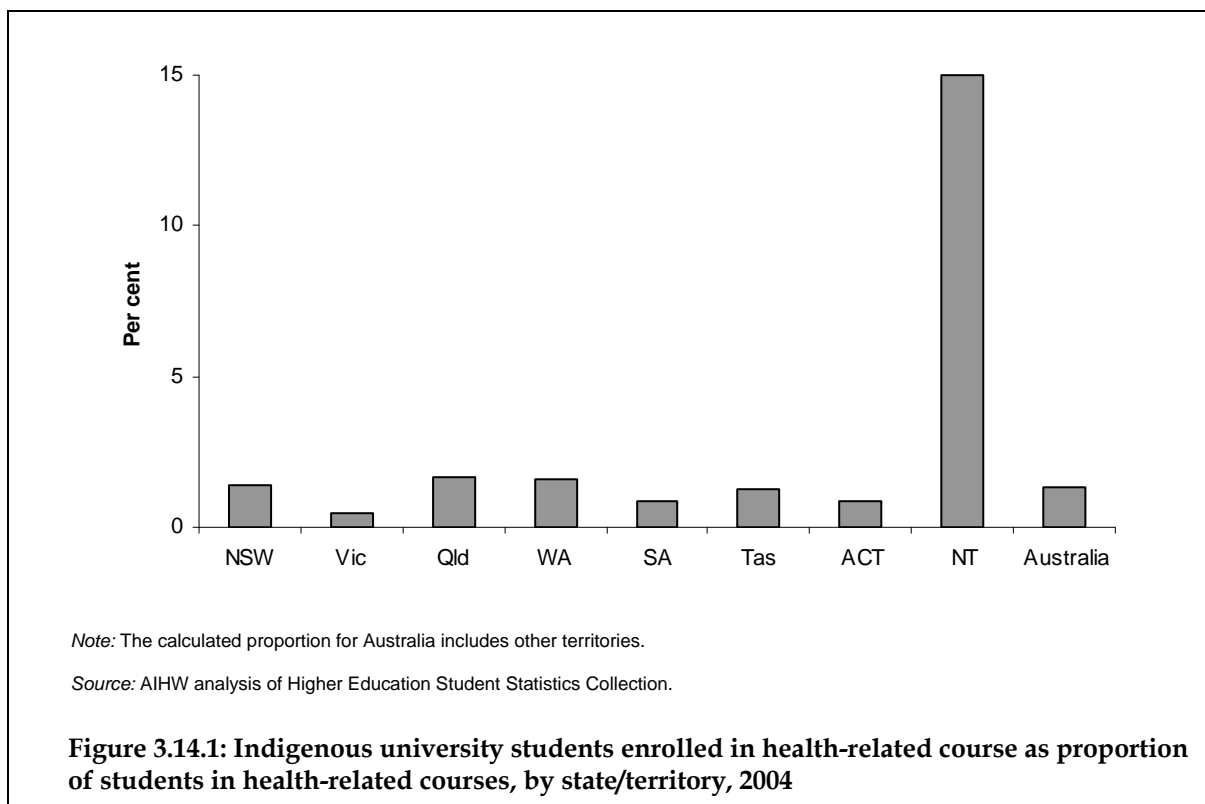
**Table 3.14.1: Undergraduate students enrolled in and completed health-related courses, Indigenous and total students,<sup>(a)</sup> 2004**

	Enrolled			Completed		
	Indigenous	Total	Indigenous as a proportion of total	Indigenous	Total	Indigenous as a proportion of total
	No.	No.	%	No.	No.	%
Nursing	425	30,355	1.4	38	8,110	0.5
Public health	253	3,576	7.1	34	708	4.8
Medical studies	103	9,571	1.1	13	1,730	0.8
Rehabilitation therapies	41	10,838	0.4	9	2,291	0.4
Pharmacy	9	4,575	0.2	3	984	0.3
Radiography	8	1,945	0.4	2	519	0.4
Optical science	5	583	0.9	2	157	1.3
Dental studies	4	1,601	0.2	2	336	0.6
<b>Total<sup>(b)</sup></b>	<b>846</b>	<b>62,773</b>	<b>1.3</b>	<b>103</b>	<b>14,795</b>	<b>0.7</b>

(a) Based on ABS narrow fields of education.

(b) The data take into account the coding of Combined Courses to two fields of education. As a consequence, counting both fields of education for Combined Courses means that the totals may be less than the sum of all fields of education.

Source: AIHW analysis of Higher Education Student Statistics Collection.



## Vocational education and training (VET) sector

Data on Indigenous students enrolled and who have completed health-related courses in the vocational education and training sector are available from NCVET. Data for 2004 are presented below.

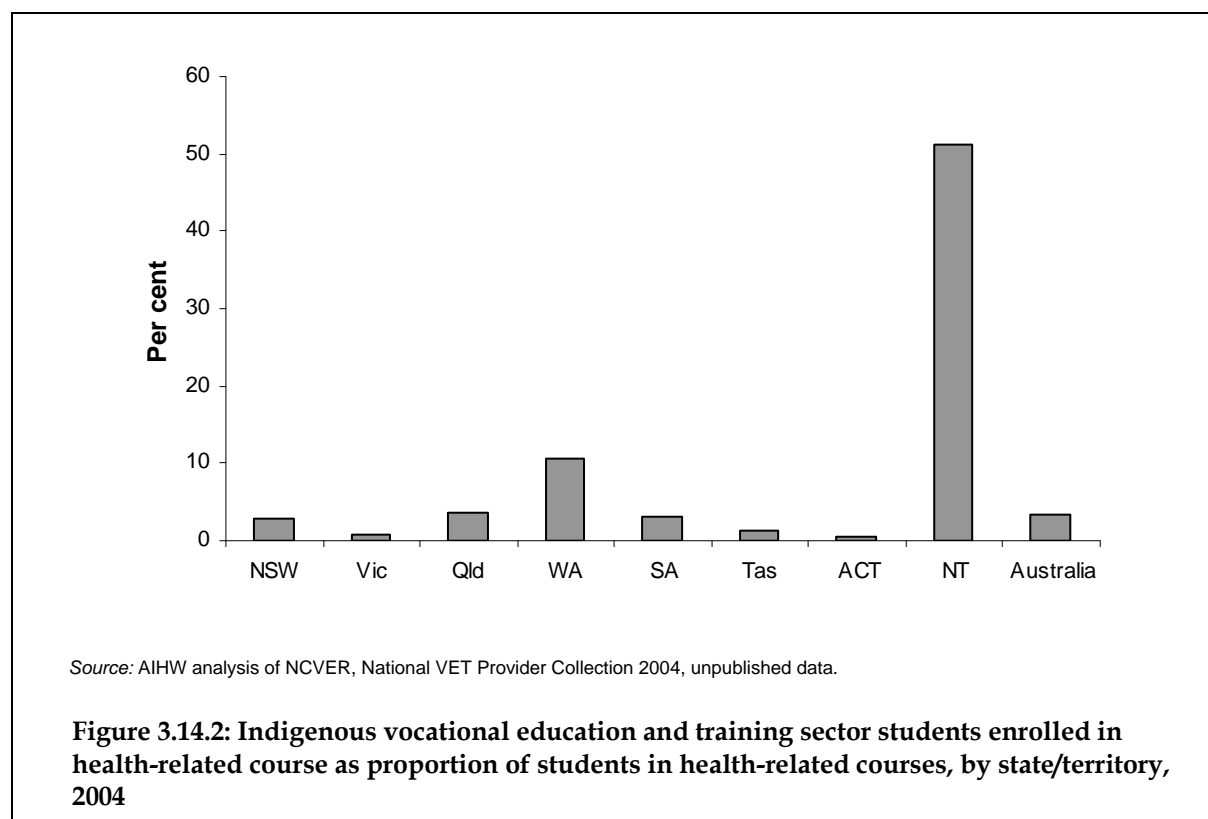
- In 2004, there were approximately 4,039 Indigenous students enrolled in health-related courses in the VET sector and 199 Indigenous students who completed a health-related course in the VET sector (Table 3.14.2).
- The most common type of health-related course in which Indigenous VET students were enrolled or had completed in 2004 was public health (2,123 enrolled and 123 completed) followed by nursing (172 enrolled and 40 completed).
- Approximately 3.9% of all VET sector students enrolled in health-related courses in 2004 were Indigenous and 3.1% of VET sector students who completed a health-related course in 2004 were of Aboriginal and Torres Strait Islander origin.
- Medical studies and public health had the highest Indigenous representation of all health-related courses. Approximately 5% of VET sector students enrolled in these courses were Indigenous. Approximately 2% of VET sector students who had completed a course in medical studies and 9% of students who had completed a course in public health in 2004 were of Aboriginal and Torres Strait Islander origin.
- The proportion of VET sector students enrolled in health-related courses who were of Aboriginal and Torres Strait Islander origin ranged from 0.5% in the Australian Capital Territory to 51% in the Northern Territory (Figure 3.14.2).

**Table 3.14.2: Vocational education and training sector students enrolled and completed health-related courses,<sup>(a)</sup> 2004**

	Enrolled			Completed		
	Indigenous	Total	Indigenous as a proportion of total	Indigenous	Total	Indigenous as a proportion of total
	No.	No.	%	No.	No.	%
Public health	2,123	45,953	4.6	123	1,327	9.3
Nursing	172	13,140	1.3	40	2,182	1.8
Medical studies	62	1,219	5.1	1	45	2.2
Dental studies	54	3,286	1.6	18	1,000	1.8
Complementary therapies	33	3,708	0.9	6	763	0.8
Rehabilitation therapies	18	1,170	1.5	0	161	0.0
Optical science	5	910	0.5	0	106	0.0
Pharmacy	0	23	0.0	0	9	0.0
Other health	1,572	33,213	4.7	11	837	1.3
<b>Total</b>	<b>4,039</b>	<b>102,622</b>	<b>3.9</b>	<b>199</b>	<b>6,430</b>	<b>3.1</b>

(a) Qualification field of education classification.

Source: AIHW analysis of NCVER, National VET Provider Collection 2004, unpublished data.



## Aboriginal and Torres Strait Islander Health Worker occupations

Tables 3.14.3 and 3.14.4 present the number and rate of VET sector students completing a course aimed at Aboriginal and Torres Strait Islander Health Workers in 2004.

- In 2004, approximately 111 VET sector students had completed a course aimed at Aboriginal and Torres Strait Islander Health Worker occupations in Australia. The majority of these course completions were at the certificate III or IV level (99 or 89%) (Table 3.14.3).
- Western Australia had the highest number of students completing a course aimed at Aboriginal and Torres Strait Islander Health Worker occupations (47), followed by Queensland (28).
- Of all VET sector students who had completed a course aimed at Aboriginal and Torres Strait Islander Health Worker occupations in 2004, 72% were female (79 course completions) and 28% were males (31 course completions) (Table 3.14.4).

**Table 3.14.3: Number of vocational education and training sector students completing a program aimed at Aboriginal and Torres Strait Islander Health Worker occupations,<sup>(a)(b)</sup> by qualification type and state/territory, 2004**

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Certificate I	—	—	—	—	—	—	—	—	—
Certificate II	—	—	—	—	—	—	—	—	—
Certificate III	—	—	7	23	11	—	—	8	49
Certificate IV	—	—	10	24	7	—	—	9	50
Diploma or higher	1	—	11	—	—	—	—	—	12
<b>Total</b>	<b>1</b>	<b>—</b>	<b>28</b>	<b>47</b>	<b>18</b>	<b>—</b>	<b>—</b>	<b>17</b>	<b>111</b>

(a) Australian Standard Classification of Occupations code 3493—Aboriginal and Torres Strait Islander Health Workers.

(b) An Australian Standard Classification of Occupations code assigned to the courses indicates the most likely occupation associated with this course. It should also be remembered that students may enrol in more than one course.

Note: Rates per 1,000 population have not been presented as the numbers are too small to produce rates.

Source: NCVET, National VET Provider Collection 2004, unpublished data.

**Table 3.14.4: Number of vocational education and training sector students completing a program aimed at Aboriginal and Torres Strait Islander Health Worker occupations,<sup>(a)(b)</sup> by qualification type and sex, 2004**

	Males	Females	Persons
	No.	No.	No.
Certificate I	0	0	0
Certificate II	0	0	0
Certificate III	16	32	48
Certificate IV	13	37	50
Diploma or higher	2	10	12
<b>Total</b>	<b>31</b>	<b>79</b>	<b>110</b>

(a) Australian Standard Classification of Occupations code 3493—Aboriginal and Torres Strait Islander Health Workers.

(b) An Australian Standard Classification of Occupations code assigned to the courses indicates the most likely occupation associated with this course. It should also be remembered that students may enrol in more than one course.

*Note:* Rates per 1,000 population have not been presented as the numbers are too small to produce rates.

*Source:* NCVET, National VET Provider Collection 2004, unpublished data.

## **Data quality issues**

### **Higher Education Student Statistics Collection**

*The Higher Education Student Statistics Collection only includes information from higher education institutions in Australia as determined under the Higher Education Funding Act 1988. This includes:*

- *institutions that receive block operating grant funding for teaching and research activities*
- *other public higher education institutions that receive some level of operating grant funding*
- *the Australian Film, Television and Radio School, the National Institute of Dramatic Art and the Australian Defence Force Academy*
- *Private institutions are not required to report statistical data to the Department of Education, Science and Training and are therefore outside the scope of the collection (ABS 2003). The collection of data from private higher education institutions is being trialled (ABS 2004).*

*The Department of Education, Science and Training (DEST) has provided institutions with suggested wording for questions relating to Indigenous status (ABS 2003).*

*Approximately 3% of students in this data collection have a 'Not stated' Indigenous status. At the moment these are recorded as non-Indigenous although plans are under way to separately record the 'Not stated' responses.*

### **National Centre for Vocational Education Research**

*This collection gathers information from providers (in receipt of public VET funding) about activity of the VET system in Australia. The collection encompasses all delivery funded wholly or in part from public funds. In-scope activity includes all VET delivered by:*

- *technical and further education organisations*
- *higher education institutions*
- *other government providers (for example, agricultural colleges)*
- *community education providers*
- *government-funded private registered training organisations*
- *schools funded through government allocations for VET*
- *all other Australian Government and state recurrent and specific-purpose funded VET, regardless of the location of the training organisation.*

*Out-of-scope activity includes:*

- *all delivery at overseas campuses other than overseas Australia territories*
- *all fee-for-service delivery by private training organisations*
- *all delivery by private training organisations to full fee-paying overseas clients*
- *all non-VET activity (ABS 2003).*

*The completeness of the Indigenous status of students needs to be considered when interpreting these data. In 2003, 3.9% of government-funded VET students in Australia identified themselves as Indigenous, while 13.8% of students did not report their Indigenous status (SCRGSP 2005).*



## References

ABS (Australian Bureau of Statistics) 2003. Directory of Education and Training AVETMISS Vocational Education and Training (VET) Provider Collection. ABS cat. no. 1136.0. Canberra: ABS.

ABS 2004. Measuring learning in Australia: plan to improve the quality, coverage and use of education and training statistics. ABS cat. no. 4231. Canberra: ABS.

SCRGSP (Steering Committee for the Review of Government Service Provision) 2005. Report on government services 2005. Vol. 2. Canberra: Productivity Commission.

## 3.15 Expenditure on Aboriginal and Torres Strait Islander health

*Expenditure on health for Aboriginal and Torres Strait Islander people.*

*This measure is presented on both a total population basis and per capita basis and disaggregated to reflect expenditure on acute health care, primary health care and population health.*

### Data sources

Data for this measure come from the latest available health expenditure 2005 report – *Expenditures on health for Aboriginal and Torres Strait Islander people 2001–02*, published by the AIHW (AIHW 2005).

There are a number of difficulties in reporting on this measure, including the issue of under-identification of Indigenous Australians in health databases (such as for hospital separations). Although adjustments are made to the data to allow for under-identification, the adjusted estimates may be an overestimate or underestimate of actual health service use and expenditure by Aboriginal and Torres Strait Islander people.

In some areas of expenditure, surveys have been used to estimate service use by Aboriginal and Torres Strait Islander people which, in turn, have been used in the estimates of expenditure. Consequently, the reliability of the expenditure estimates is affected by sampling error.

There may also be some limitations associated with the scope and definition of health expenditures and there may be inconsistencies in reporting and categorisation of expenditure on health goods and services across data providers.

The attribution of expenditure to Aboriginal and Torres Strait Islander people either on a overall population or per capita basis should be treated with caution as it is an estimate (AIHW 2005).

Expenditure is a measure of met need. Indigenous Australians have a significantly poorer health status (measured in terms of life expectancy, mortality rates and morbidity) than non-Indigenous Australians. It could therefore be expected that per capita investment of health resources to achieve equality for Aboriginal and Torres Strait Islanders should be higher than for other Australians.

### Analyses

#### Total government expenditure

#### Expenditure on health goods and services

Total government expenditure on health goods and services for Indigenous Australians is presented in Tables 3.15.1 and 3.15.2 below.

- Expenditure on health goods and services for Aboriginal and Torres Strait Islander peoples during 2001–02 was estimated at \$1,789 million (Table 3.15.1) or 3% of total health expenditure. Almost three-quarters of this expenditure (72%) was related to two major program areas – services provided in hospitals (\$850 million) and community health services (\$440 million).
- On a per person basis, average expenditure on health goods and services for Aboriginal and Torres Strait Islander peoples was \$3,901, which was 18% higher than the expenditure for non-Indigenous Australians (\$3,308).
- In four major program areas, average expenditure on services for Indigenous people was greater than for non-Indigenous Australians (Figure 3.15.1). These were community health services, which had an Indigenous to non-Indigenous expenditure ratio per person of 6:1; public health (which includes services such as alcohol and drug services, cancer screening and environmental health) with a ratio of 3:1; and admitted and non-admitted patient services in acute-care hospitals, both with ratios of 2:1. In contrast, average expenditure on goods and services provided outside public hospitals was often lower for Indigenous people than for non-Indigenous people. For example, average expenditure on medical services, pharmaceuticals and private dental services was less than half that for non-Indigenous Australians.

**Table 3.15.1: Total expenditure on health, Indigenous and non-Indigenous people, by type of health good or service, current prices, 2001-02**

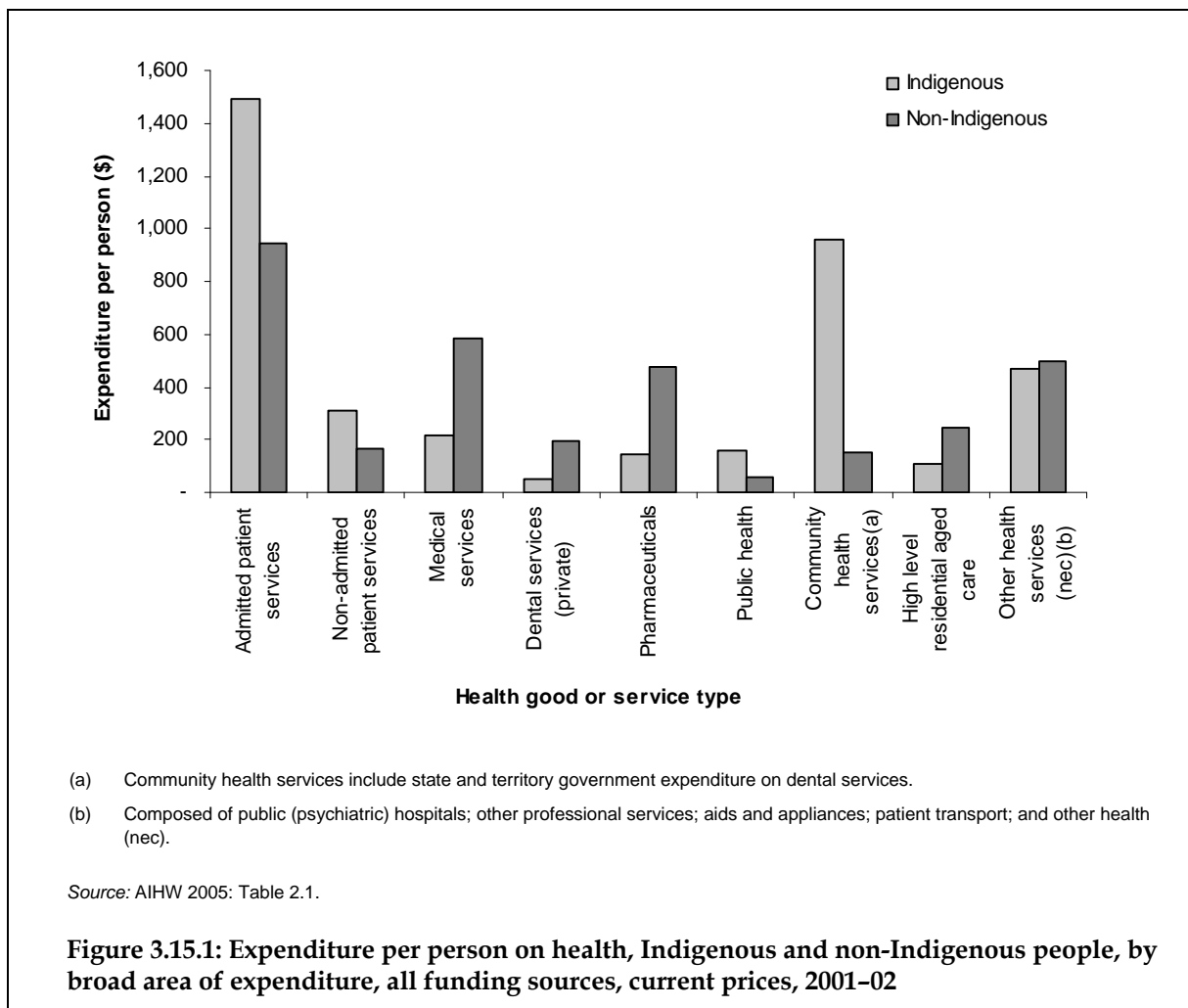
Health good or service type	Total expenditure (\$ million)			Expenditure per person (\$)		
	Indigenous	Non-Indigenous	Indigenous share (%)	Indigenous	Non-Indigenous	Ratio
Hospitals	849.5	21,456.9	3.8	1,852.75	1,132.01	1.64
Admitted patient services	682.5	17,927.4	3.7	1,488.38	945.80	1.57
Private hospitals	11.5	5,057.1	0.2	25.08	266.80	0.09
Public hospitals	671.0	12,870.2	5.0	1,463.30	679.00	2.16
Non-admitted patient services	142.4	3,116.5	4.4	310.57	164.42	1.89
Emergency departments	34.6	615.7	5.3	75.51	32.48	2.32
Other services	107.8	2,500.8	4.1	235.06	131.94	1.78
Public (psychiatric) hospitals	24.7	413.0	5.6	53.80	21.79	2.47
Medical services	99.6	11,112.5	0.9	217.19	586.27	0.37
Medicare benefit items	75.9	9,185.4	0.8	165.47	484.60	0.34
Other	23.7	1,927.2	1.2	51.72	101.67	0.51
Community health services <sup>(a)(b)</sup>	439.9	2,810.5	13.5	959.30	148.27	6.47
Dental services (private) <sup>(a)</sup>	21.8	3,734.2	0.6	47.59	197.01	0.24
Other professional services	16.9	2,252.4	0.7	36.76	118.83	0.31
Pharmaceuticals	66.2	9,011.6	0.7	144.36	475.43	0.30
Benefit-paid <sup>(c)</sup>	42.3	5,471.8	0.8	92.20	288.68	0.32
Other pharmaceuticals	23.9	3,539.8	0.7	52.16	186.75	0.28
Aids and appliances	15.8	2,474.0	0.6	34.51	130.52	0.26
High level residential aged care	49.9	4,591.6	1.1	108.83	242.24	0.45
Patient transport	62.8	892.7	6.6	136.95	47.09	2.91
Public health activities	72.5	1,029.9	6.6	158.15	54.33	2.91
Other health services (nec)	50.6	1,458.9	3.4	110.44	76.97	1.43
Health administration (nec)	43.1	1,883.6	2.2	93.99	99.37	0.95
<b>Total</b>	<b>1,788.6</b>	<b>62,708.9</b>	<b>2.8</b>	<b>3,900.83</b>	<b>3,308.35</b>	<b>1.18</b>

(a) Community health services include state and territory government expenditure on dental services.

(b) Includes \$186.3 million in OATSIH expenditure through the Aboriginal Community Controlled Health Services (ACCHS). The Indigenous ratio for the non-ACCHS component of community health is estimated at 4.06:1 and for the non-ACCHS component of the total at 1.07:1.

(c) Includes estimates of benefits via the PBS and RPBS.

Source: AIHW 2005: Table 2.1.



### Expenditure on primary and secondary/tertiary services

Primary health services are those provided to whole populations (community health services and public health activities or health promotion) and those provided in, or flowing from, a patient-initiated contact with a health service. Secondary/tertiary services are those generated within the system by referral, hospital admission, etc. Because distinctions are not always easy to make, there is some approximation in these estimates.

- In 2001-02, average expenditures per person on both primary and secondary/tertiary care services were higher for Indigenous Australians than for non-Indigenous people, although the ratio was somewhat higher for primary care – 1.23:1 compared with 1.14:1 (Table 3.15.2). Higher spending on primary care services for Indigenous Australians came largely from a much higher use of the community health services sector, including those provided through the Aboriginal Community Controlled Health Services (ACCHS).
- The higher level of spending on secondary/tertiary services for Indigenous people was largely in hospitals. Expenditure on secondary/tertiary hospital services for Indigenous people was \$1,697 per person compared to \$1,050 per person for non-Indigenous people. Expenditure on primary medical services and pharmaceuticals was lower for Indigenous

people (\$181 and \$130 per person respectively) than for non-Indigenous people (\$373 and \$395 per person respectively).

**Table 3.15.2: Estimated expenditure on primary and secondary/tertiary health services, by area of expenditure and Indigenous status, 2001–02**

Health good or service type	Primary				Secondary/tertiary			
	Total (\$ million)		Per person (\$)		Total (\$ million)		Per person (\$)	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Hospitals	71.2	1,558.3	155.29	82.21	778.3	19,898.6	1,697.47	1,049.80
Admitted patient services	n.a.	n.a.	n.a.	n.a.	682.5	17,927.4	1,488.38	945.80
Non-admitted patient services	71.2	1,558.3	155.29	82.21	71.2	1,558.3	155.29	82.21
Public (psychiatric) hospitals	n.a.	n.a.	n.a.	n.a.	24.7	413.0	53.80	21.79
Medical services	82.9	7,071.0	180.79	373.05	16.7	4,041.6	36.40	213.22
MBS services	59.2	5,143.8	129.06	271.37	16.7	4,041.6	36.40	213.22
Other	23.7	1,927.2	51.72	101.67	n.a.	n.a.	n.a.	n.a.
Community health services <sup>(a)(b)</sup>	439.9	2,810.5	959.30	148.27	n.a.	n.a.	n.a.	n.a.
Dental services (private) <sup>(c)</sup>	21.8	3,734.2	47.59	197.01	n.a.	n.a.	n.a.	n.a.
Other professional services	8.4	1,126.2	18.38	59.42	8.4	1,126.2	18.38	59.42
Pharmaceuticals	59.6	7,479.6	129.93	394.61	6.6	1,532.0	14.44	80.82
Aids and appliances	14.2	2,053.4	31.06	108.33	1.6	420.6	3.45	22.19
Services for older people	n.a.	n.a.	n.a.	n.a.	49.9	4,591.6	108.83	242.24
Patient transport	31.4	178.5	68.48	9.42	31.4	714.1	68.48	37.68
Public health activities	72.5	1,029.9	158.15	54.33	n.a.	n.a.	n.a.	n.a.
<b>Total<sup>(d)</sup></b>	<b>801.9</b>	<b>27,041.7</b>	<b>1,748.96</b>	<b>1,426.64</b>	<b>892.9</b>	<b>32,324.7</b>	<b>1,947.45</b>	<b>1,705.36</b>
<i>Ratio Indigenous:non-Indigenous</i>	<i>1.23:1</i>				<i>1.14:1</i>			

(a) Includes expenditure on dental services by state and territory governments.

(b) Includes \$186.3 million in OATSIH expenditure through ACCHS.

(c) Excludes expenditure of dental services by states and territories.

(d) Excludes expenditure on health administration and health services (nec).

Source: AIHW 2005: Table 2.3.

## **Australian Government expenditure**

On a per person basis, the Australian Government spent an estimated \$888.39 per Aboriginal and Torres Strait Islander person in 2001-02, compared with \$1,027.67 for non-Indigenous people. In 2001-02, the total expenditure on Office of Aboriginal and Torres Strait Islander Health (OATSIH) funded ACCHS services for Indigenous Australians was \$166 million. Per person expenditure on OATSIH funded ACCHS services was \$362 for Indigenous Australians compared to \$1 for non-Indigenous Australians. Spending through OATSIH's major Indigenous-specific funding programs also showed substantial increase over the period.

## **State/territory government expenditure**

State/territory government expenditure on health goods and services for Indigenous Australians is presented in Table 3.15.3 below.

- In 2001-02, state and territory governments were estimated to have spent, on average, \$2,749 per Indigenous Australian compared with \$1,141 per non-Indigenous Australian. This represents an Indigenous/non-Indigenous expenditure ratio of 2:1.
- In all the major types of health goods and services, states and territories spent more per person for Aboriginal and Torres Strait Islander peoples than for non-Indigenous people (Table 3.15.3). Expenditure on community health services for Indigenous people was four times that for non-Indigenous people, expenditure on public health activities was three times that for non-Indigenous people and expenditure on admitted patient services in acute-care hospitals was twice that for non-Indigenous people.
- The Northern Territory (\$4,522) and Western Australia (\$3,850) had the highest average expenditure per person for Indigenous people. This is, at least in part, explained by the large proportions of their Indigenous population living in remote areas. Tasmania, which had the lowest average expenditure per person (\$816), was the only jurisdiction where the estimated expenditure per person for Indigenous Australians was lower than that for non-Indigenous people (\$1,478), but the uncertainty as to what is actually spent on health for Indigenous Australians in Tasmania is huge and these numbers should be treated with great caution.



**Table 3.15.3: Estimated state/territory health expenditure per person for Indigenous and non-Indigenous people, by program, 2001–02 (\$)**

Health good or service type	Expenditure per person (\$)								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>Acute care hospitals</b>									
Indigenous	1,317.78	1,338.43	1,573.16	2,748.22	1,429.21	458.48	1,778.69	2,788.15	1,754.12
Non-Indigenous	891.78	868.17	699.11	922.95	650.52	826.46	1,024.99	796.61	834.16
Total	900.52	865.34	734.07	1,016.57	658.91	851.47	1,028.13	1,363.22	855.88
<b>Admitted patient services</b>									
Indigenous	978.01	968.80	1,218.67	2,387.24	1,174.54	230.55	1,503.47	2,677.39	1,443.55
Non-Indigenous	700.87	725.11	548.33	761.88	512.51	585.87	849.03	726.21	669.74
Total	706.55	726.52	576.22	848.57	518.94	611.34	850.96	1,281.21	688.01
<b>Non-admitted patient services</b>									
Indigenous	339.77	369.63	354.49	360.98	254.66	227.93	275.22	110.76	310.56
Non-Indigenous	190.91	143.06	150.78	161.07	138.00	240.59	175.95	70.40	164.42
Total	193.96	144.37	157.85	168.00	139.97	240.12	177.17	82.01	167.87
Emergency departments									
Indigenous	70.40	162.32	—	165.37	152.72	20.73	—	95.70	75.51
Non-Indigenous	40.24	34.19	—	35.69	74.30	21.88	—	52.17	32.48
Total	40.86	34.93	—	40.19	75.63	21.84	—	64.69	33.50
Other non-admitted patient services									
Indigenous	269.38	207.31	—	195.66	101.94	207.19	—	15.06	135.37
Non-Indigenous	150.67	108.87	—	125.38	63.70	218.71	—	18.24	101.14
Total	153.10	109.44	—	127.82	64.34	218.28	—	17.32	101.95
<b>Public (psychiatric) hospitals</b>									
Indigenous	54.41	—	62.83	63.55	194.03	15.65	—	—	53.80
Non-Indigenous	23.63	—	34.64	29.87	52.68	14.01	—	—	21.79
Total	24.26	—	35.62	31.03	55.07	14.07	—	—	22.54
<b>Services for older people</b>									
Indigenous	2.01	14.40	16.52	133.78	4.82	—	—	—	25.51
Non-Indigenous	6.76	20.66	32.81	66.90	26.92	—	—	—	22.16
Total	6.66	20.62	32.25	69.22	26.54	—	—	—	22.23
<b>Patient transport</b>									
Indigenous	71.71	45.38	154.14	25.78	72.45	26.25	46.67	275.16	109.45
Non-Indigenous	46.99	35.60	61.21	4.25	23.06	57.18	28.88	52.27	40.71
Total	47.49	35.66	64.44	5.00	23.90	56.04	29.10	116.37	42.33
<b>Public health activities<sup>(a)</sup></b>									
Indigenous	67.01	281.66	61.78	67.65	78.31	39.79	67.26	424.86	122.65
Non-Indigenous	33.75	40.79	33.99	32.72	43.61	43.70	71.00	100.17	37.59
Total	34.43	42.19	34.96	33.93	44.20	43.56	70.96	193.55	39.60
<b>Community health services</b>									
Indigenous	659.09	697.83	497.68	495.97	353.75	201.55	570.07	955.13	594.93
Non-Indigenous	136.41	134.17	196.99	69.64	86.53	420.91	249.94	256.20	146.25
Total	147.13	137.43	207.42	84.42	91.05	412.82	253.86	457.20	156.84

(continued)

**Table 3.15.3 (continued): Estimated state/territory health expenditure per person for Indigenous and non-Indigenous people, by program, 2001–02 (\$)**

Health good or service type	Expenditure per person (\$)								
	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Total
<b>Health research</b>									
Indigenous	13.49	3.73	10.15	25.78	97.87	—	21.05	52.57	22.84
Non-Indigenous	14.59	3.73	10.16	22.40	13.46	—	21.12	3.74	11.38
Total	14.57	3.73	10.16	22.51	14.88	—	21.12	17.79	11.65
<b>Health administration (nec)<sup>(b)</sup></b>									
Indigenous	—	—	22.43	87.69	158.00	47.94	—	—	29.39
Non-Indigenous	—	—	16.28	43.98	44.56	102.52	—	—	13.22
Total	—	—	16.49	45.50	46.47	100.51	—	—	13.60
<b>Other health services (nec)</b>									
Indigenous	3.41	16.77	2.15	201.73	—	25.85	54.72	26.11	36.31
Non-Indigenous	3.82	4.55	1.37	101.46	—	13.54	30.19	4.71	13.38
Total	3.81	4.62	1.40	104.94	—	13.99	30.49	10.86	13.93
<b>Total</b>									
<b>Indigenous</b>	<b>2,188.92</b>	<b>2,398.19</b>	<b>2,400.84</b>	<b>3,850.16</b>	<b>2,388.43</b>	<b>815.49</b>	<b>2,538.46</b>	<b>4,521.98</b>	<b>2,749.00</b>
<b>Non-Indigenous</b>	<b>1,157.72</b>	<b>1,107.68</b>	<b>1,086.57</b>	<b>1,294.16</b>	<b>941.33</b>	<b>1,478.31</b>	<b>1,426.13</b>	<b>1,213.70</b>	<b>1,140.63</b>
<b>Total</b>	<b>1,178.87</b>	<b>1,109.60</b>	<b>1,136.80</b>	<b>1,413.12</b>	<b>961.02</b>	<b>1,492.45</b>	<b>1,433.66</b>	<b>2,158.99</b>	<b>1,178.61</b>
<b>State funding of private hospital services</b>									
Indigenous	0.26	0.38	1.95	18.38	0.01	3.91	—	—	3.43
Non-Indigenous	6.25	0.57	11.07	37.09	1.38	46.25	0.04	—	9.12
Total	6.12	0.57	10.75	36.44	1.36	44.69	0.04	—	8.99

(a) Expenditure data on public health activities were sourced from the National Public Health Expenditure Project and Government Procurement Card reporting mechanisms.

(b) Health administration expenditure was allocated differently across jurisdictions.

Source: AIHW 2005: Table 5.2.

## Regional health expenditure

Estimated average health expenditures per person by remoteness area for Indigenous and non-Indigenous people are presented in Table 3.15.4 and Figure 3.15.2. This analysis is restricted to the 52% of health services expenditure data that can be apportioned according to the Australian Standard Geographic Classification Remoteness Areas. It should be noted that some of the expenditure categories within this section are not directly comparable with estimates in other sections of this measure (see AIHW 2005).

- In 2001–02, average expenditures on health for Indigenous Australians were lower in major cities and inner regions, but substantially higher in outer regional, remote and very remote areas, compared with expenditure per person on non-Indigenous people.
- Expenditure on admitted patient services in public acute care hospitals for Aboriginal and Torres Strait Islander peoples was greatest in the more remote areas, as was expenditure by OATSIH through Aboriginal Community Controlled Health Services.
- Medicare expenditures for Aboriginal and Torres Strait Islander peoples were greatest in major cities and inner and outer regional areas, most likely because of better access to private general practitioners in these areas. Pharmaceutical Benefits Scheme (PBS)

expenditures, on the other hand, were greater in more remote areas where the section 100 arrangements apply. Under section 100 of the *National Health Act 1953*, clients of approved remote area Aboriginal Health Services (AHSs) are able to receive PBS medicines directly from the AHS at the time of medical consultation, without the need for a normal prescription form, and without charge.

- Average per person expenditures on services for older people were higher for Indigenous Australians than for non-Indigenous Australians in remote and very remote areas.

**Table 3.15.4: Estimated average health expenditures per person on selected health services, Indigenous and non-Indigenous people, by remoteness, 2001–02 (\$)**

Area of expenditure		Major cities <sup>(a)(b)</sup>	Inner regional <sup>(b)</sup>	Outer regional <sup>(a)</sup>	Remote and very remote	Total
Admitted patient services						
Public hospitals	Indigenous	973.18	844.17	1,557.72	2,416.18	1,463.30
	Non-Indigenous	645.01	713.07	808.74	813.29	679.00
Private hospitals	Indigenous	47.34	29.54	15.53	4.57	25.08
	Non-Indigenous	277.18	280.44	194.35	142.11	266.80
OATSIH <sup>(c)</sup>	Indigenous	173.26	211.84	288.78	546.80	306.47
Medicare (medical only) <sup>(d)</sup>	Indigenous	170.96	173.34	175.16	111.41	156.68
	Non-Indigenous	427.04	363.26	322.22	255.22	399.80
PBS <sup>(e)</sup>	Indigenous	57.52	60.65	62.08	110.58	73.23
	Non-Indigenous	217.71	236.75	216.59	155.14	220.29
Services for older people (Australian Government expenditure only)	Indigenous	53.33	23.10	78.58	114.49	69.20
	Non-Indigenous	176.72	215.17	138.17	46.65	178.20
<b>Total for selected health services</b>	<b>Indigenous</b>	<b>1,475.60</b>	<b>1,342.64</b>	<b>2,177.85</b>	<b>3,304.03</b>	<b>2,093.95</b>
	<b>Non-Indigenous</b>	<b>1,743.66</b>	<b>1,808.69</b>	<b>1,680.08</b>	<b>1,412.42</b>	<b>1,744.09</b>
<b>Ratio Indigenous:non-Indigenous</b>		<b>0.85</b>	<b>0.74</b>	<b>1.30</b>	<b>2.34</b>	<b>1.20</b>

(a) Darwin is included as an outer regional area under ARIA+.

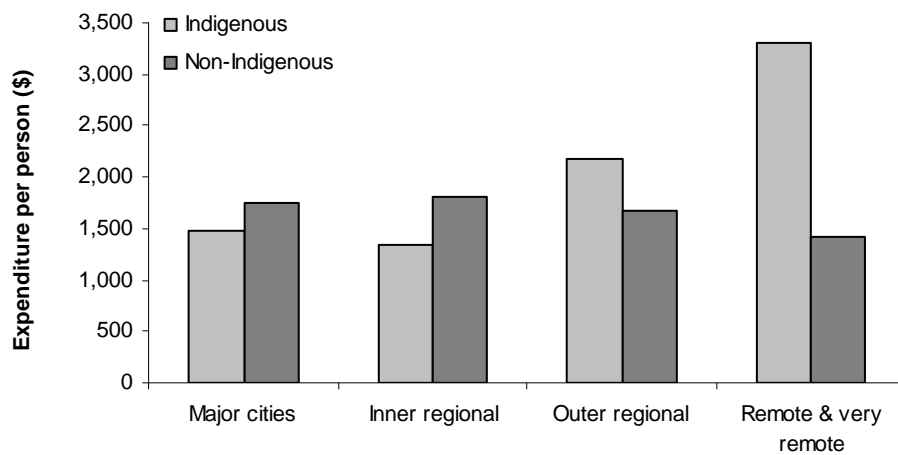
(b) Hobart is included as an inner regional area under ARIA+.

(c) OATSIH expenditure on Aboriginal Community Controlled Health Services.

(d) Excludes Medicare benefits for optometry and dental services.

(e) Excludes benefits paid through special supply arrangements of the PBS (other than payments to remote area AHSs under section 100 of the *National Health Act 1953*).

Source: AIHW 2005: Table 7.2.



Source: AIHW 2005:Table 7.2

**Figure 3.15.2: Estimated average health expenditures per person on selected health services, Indigenous and non-Indigenous people, by remoteness, 2001-02**

## Funding of health services

Funding for health goods and services for Aboriginal and Torres Strait Islander people is presented in Table 3.15.5 below.

- Governments provided an estimated 93% of the funding used to pay for health goods and services for Aboriginal and Torres Strait Islander peoples during 2001–02 while non-government sources such as out-of-pocket spending and insurers provided the remainder of the funding (Table 3.15.5).
- The Australian Government's funding was similar for Indigenous and non-Indigenous Australians (43% and 48% respectively), while the shares of funding provided by both the state and territory governments and the non-government sector were different for Indigenous and non-Indigenous Australians. The states and territories provided nearly half (50%) of the funding for Aboriginal and Torres Strait Islander peoples, compared with 20% for non-Indigenous Australians. Non-government sources, on the other hand, provided a much lower share of the funding for services for Indigenous people (7%) than for non-Indigenous people (33%). Non-government payments include injury compensation insurers, private health insurers and out-of-pocket payments by users of services.

The main reason for the differences between Indigenous and non-Indigenous funding shares of the states and territories and non-government sources was the greater reliance by Aboriginal and Torres Strait Islander peoples on publicly provided services, particularly public hospitals which are funded by the states and territories and have a higher use by Indigenous Australians. Indigenous Australians also have a lower use of privately provided services than non-Indigenous Australians.

- The top three areas of funding for Indigenous Australians in 2001–02 were services to admitted patients in acute care hospitals (\$683 million), community health services (\$440 million) and non-admitted patient services in acute care hospitals (\$142 million).
- For non-Indigenous people, the top three areas of funding were admitted patient services in acute care hospitals (\$17,927 million), medical services (\$11,113 million) and pharmaceuticals (\$9,012 million). Of the admitted patient services funding, more than one-quarter (28%) was by private hospitals, compared with only 2% in the case of Indigenous people.

**Table 3.15.5: Health funding for Indigenous and non-Indigenous people, by service type and broad sources of funding, current prices, 2001-02 (\$ million)**

Health good or service type	Australian Government funding		State/territory government funding		Non-government funding		Total funding = total expenditure	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
Admitted patient services	294.0	7,977.0	373.4	5,628.8	15.1	4,321.6	682.5	17,927.4
Private hospitals	6.2	1,753.8	1.6	172.9	3.7	3,130.5	11.5	5,057.1
Public hospitals	287.8	6,223.1	371.8	5,456.0	11.4	1,191.1	671.0	12,870.2
Non-admitted patient services	58.9	1,459.8	75.6	1,484.3	7.9	172.4	142.4	3,116.5
Emergency departments	13.9	307.3	18.8	273.6	2.0	34.7	34.6	615.7
Other services	45.1	1,152.4	56.8	1,210.7	5.9	137.7	107.8	2,500.8
Public (psychiatric) hospitals	—	0.2	23.6	394.6	1.1	18.2	24.7	413.0
Medical services	84.5	8,876.3	—	—	15.1	2,236.2	99.6	11,112.5
Community health services <sup>(a)</sup>	167.7	40.5	271.9	2,762.5	0.3	7.5	439.9	2,810.5
Dental services (private) <sup>(b)</sup>	1.5	349.1	—	—	20.3	3,385.1	21.8	3,734.2
Other professional services	6.6	556.5	—	—	10.2	1,695.9	16.9	2,252.4
Pharmaceuticals	36.0	4,690.2	1.5	0.7	28.7	4,320.8	66.2	9,011.6
Services for older people	30.5	3,379.2	11.7	420.0	7.7	792.4	49.9	4,591.6
Patient transport	12.6	121.0	47.6	327.7	2.6	443.9	62.8	892.7
Public health activities	31.2	557.5	41.3	472.3	—	—	72.5	1,029.9
Other health services <sup>(c)</sup>	47.9	1,958.0	39.1	719.2	22.5	3,139.3	109.6	5,816.6
<b>All health goods and services</b>	<b>771.5</b>	<b>29,965.2</b>	<b>885.7</b>	<b>12,210.2</b>	<b>131.4</b>	<b>20,533.5</b>	<b>1,788.6</b>	<b>62,708.9</b>
<i>Share of total funding</i>	<i>43.1</i>	<i>47.8</i>	<i>49.5</i>	<i>19.5</i>	<i>7.3</i>	<i>32.7</i>	<i>100.0</i>	<i>100.0</i>
Expenditure per person (\$)	1,682.54	1,580.88	1,931.66	644.18	286.63	1,083.29	3,900.83	3,308.35
Ratio Indigenous:non-Indigenous	1.06:1		3.00:1		0.26:1		1.18:1	

(a) Includes funding of dental services by states and territories.

(b) Excludes funding of dental services by states and territories.

(c) Includes health administration (nec), aids and appliances, and other health services (nec).

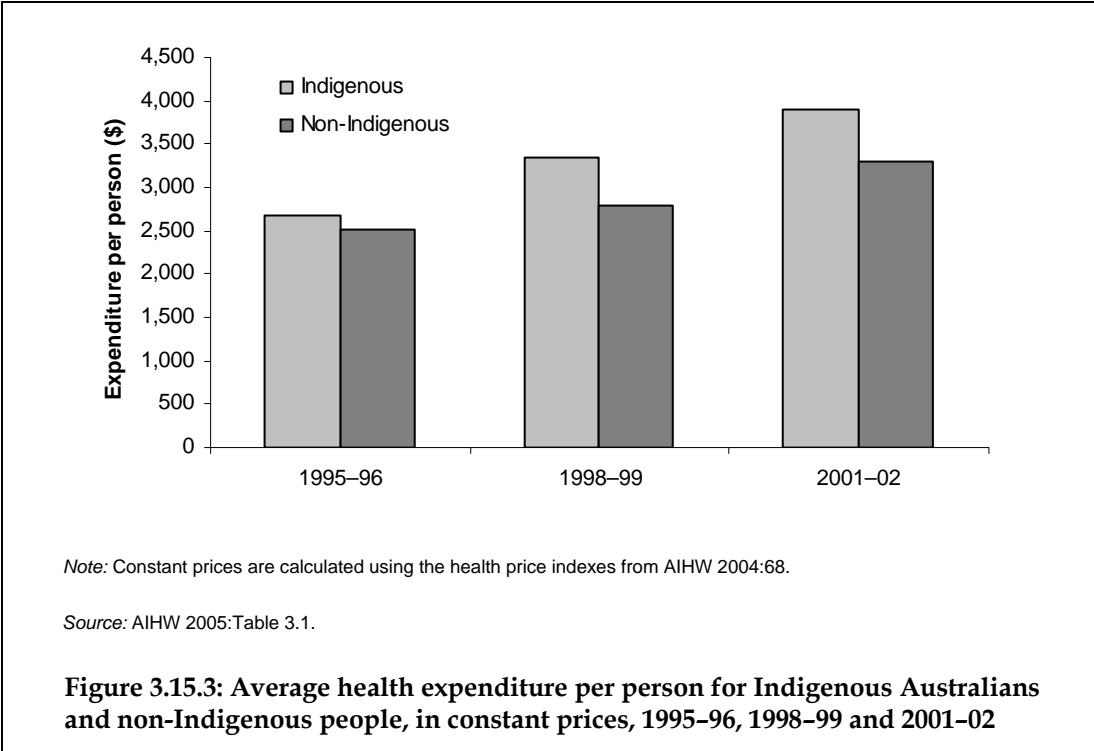
Source: AIHW 2005: Table 2.4.

## Changes in health expenditure and funding over time

Health expenditure estimates for Aboriginal and Torres Strait Islander peoples have been produced for 1995–96, 1998–99 and 2001–02. Changes in expenditure and funding over time should be interpreted with caution as changes may, in part, reflect changes in the propensity of people to identify themselves as Indigenous or improvements in the ability of health care providers to identify Indigenous people. It should also be noted that the methods used to develop the estimates of expenditure in respect to Indigenous Australians have changed significantly between years, particularly between 1995–96 and 1998–99. While estimates for each of the three periods (1995–96, 1998–99 and 2001–02) have been included in the tables and figures below, discussion focuses on changes between 1998–99 and 2001–02.

### Total government health expenditure

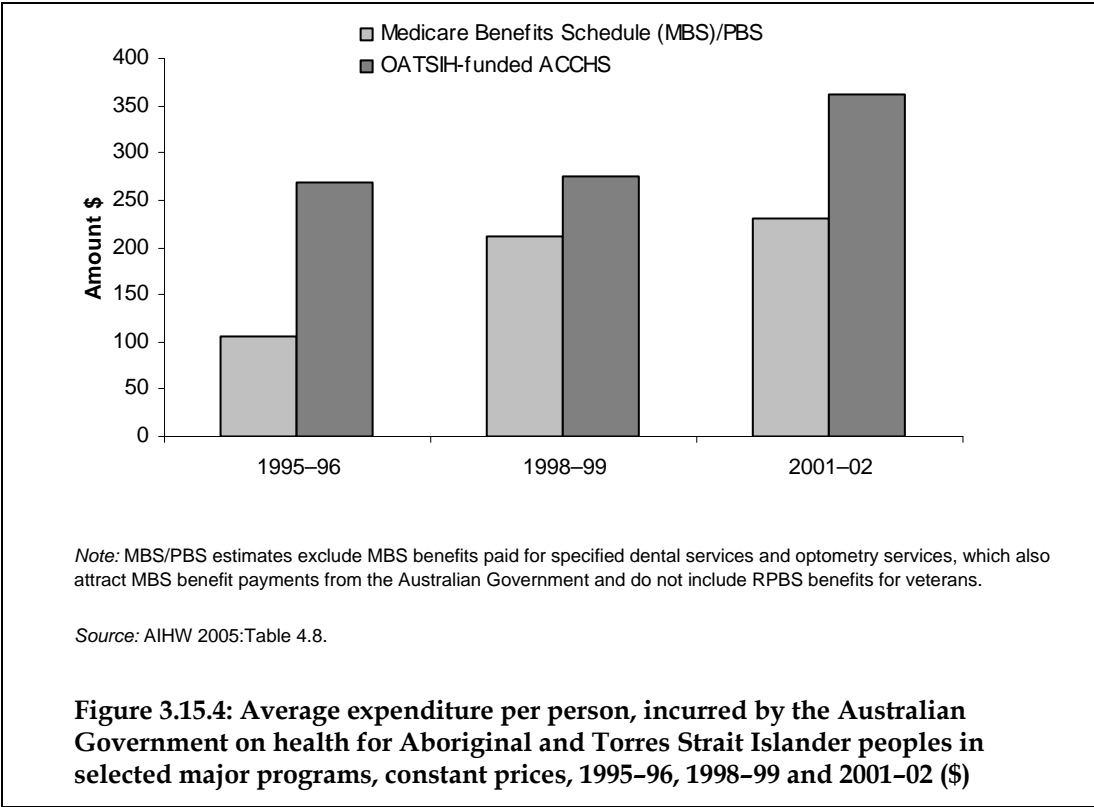
- Estimated expenditures on health for both Indigenous and non-Indigenous people increased between 1995–96, 1998–99 and 2001–02 (Figure 3.15.3). Estimated expenditure on health care for Aboriginal and Torres Strait Islander peoples rose by about 17% in constant prices between 1998–99 and 2001–02, while average expenditures for non-Indigenous people increased by around 19% per person in constant prices over the same period.
- The ratio of estimated Indigenous to non-Indigenous expenditures per person was 1.08:1, 1.22:1 and 1.18:1 in 1995–96, 1998–99 and 2001–02 respectively.



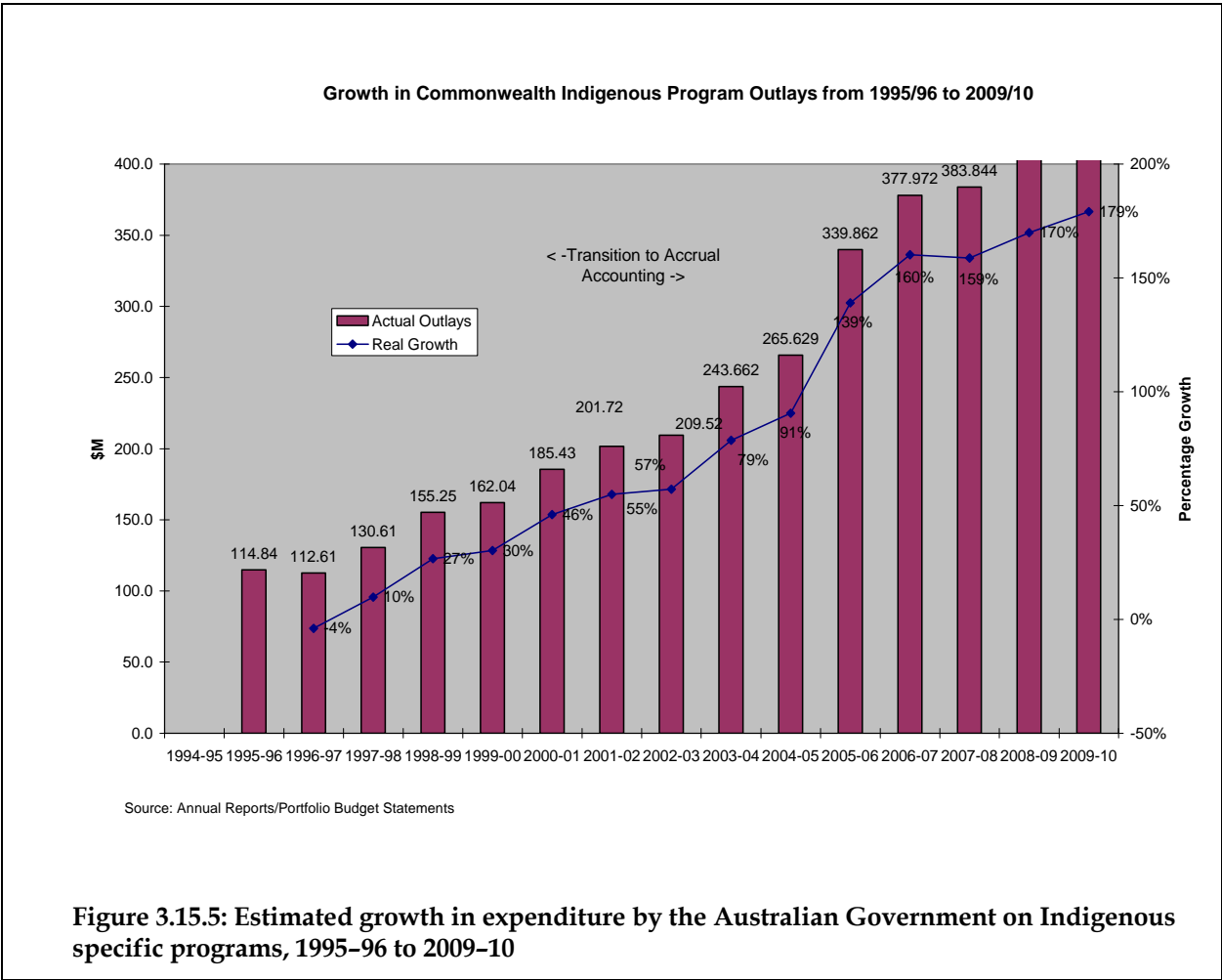
### Australian Government expenditure

- Estimates of average expenditure per person by the Australian Government on its two largest mainstream programs – Medicare and PBS – increased by 9.8% from an estimated \$211 in 1998–99 to \$232 in 2001–02 (Figure 3.15.4).
- The Australian Government has substantially increased the coverage and capacity of Indigenous-specific health services across Australia in urban, rural and remote areas since 1995–96. In that time, program funding for Indigenous health has increased by over \$260 million, a real increase of 160% (see Figure 3.15.5). Total program funding of \$485.8 million has been allocated in the 2006–07 Budget for Indigenous-specific health programs across the Health and Ageing portfolio, including the OATSIH funding of \$377.97 million.

These funds are in addition to the funding provided through mainstream programs, such as Medicare and the PBS, which are becoming more responsive to meeting the health needs of Indigenous Australians.



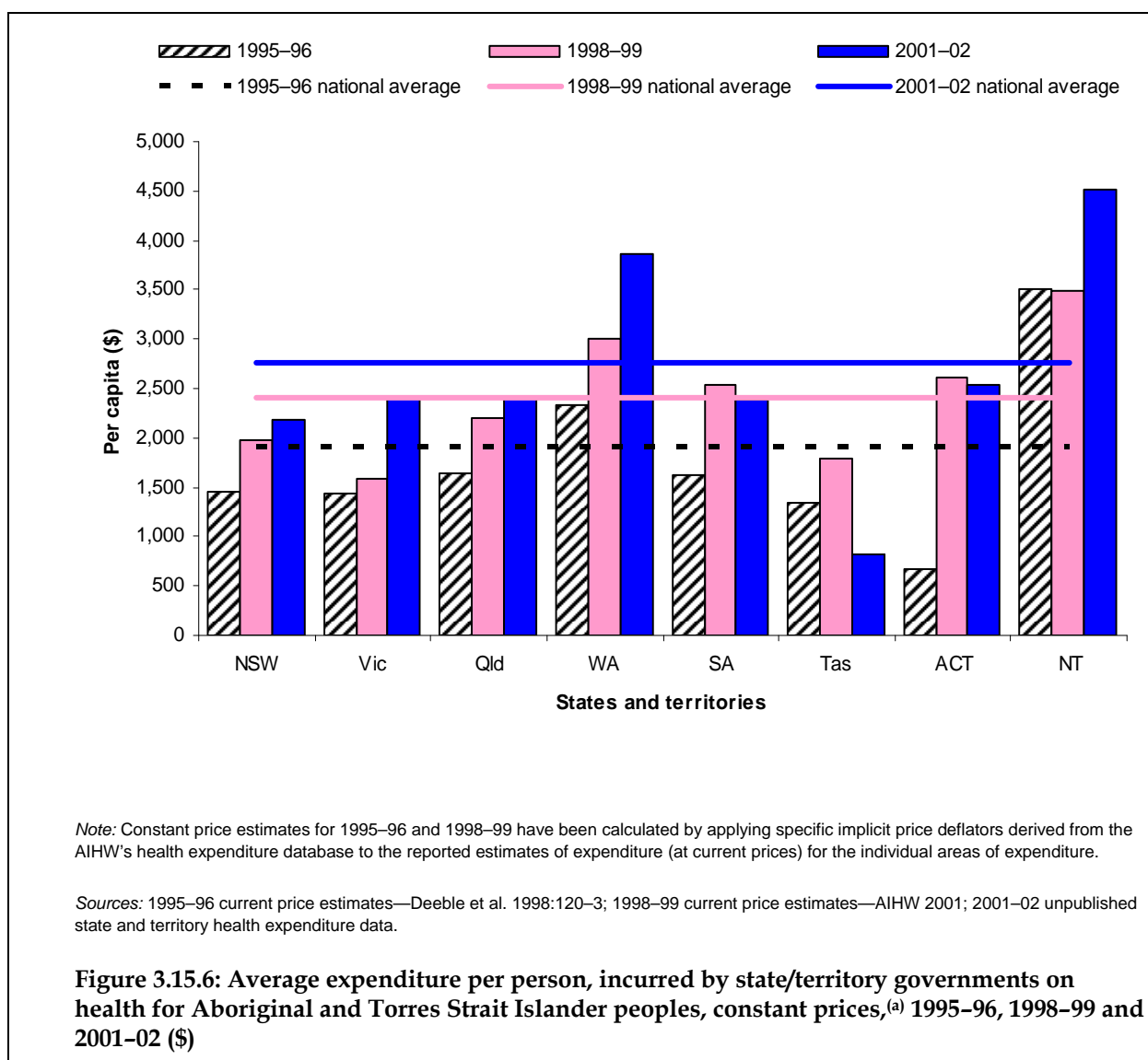




**State/territory government expenditure**

Average per person expenditures incurred by state and territory governments on health for Indigenous people over the period 1995-96 to 2001-02 are presented in Figure 3.15.6.

- Of the four jurisdictions with reported average per person expenditures above the national average in 1998-99 (Western Australia, South Australia, Australian Capital Territory and Northern Territory), only Western Australia and the Northern Territory remained above the national average in 2001-02.



## Funding

- There have been some shifts in the share of Australian Government, state and territory government and non-government funding per Indigenous persons between 1998-99 and 2001-02 (Table 3.15.6). State and territory governments' share of funding per Indigenous person has increased over this period (from 45% to 50%), while Australian Government and non-government shares of funding per Indigenous person have declined slightly (from 45% to 43% for Australian Government and from 10% to 7% for non-government).

These comparisons should be treated with caution, however, due to changes in the willingness of people to identify as Indigenous in Censuses over time which affects the denominators of per person expenditure estimates.

**Table 3.15.6: Average funding per Indigenous person, constant prices, and shares of funding, by source of funds, 1995–96 to 2001–02**

Year	Australian Government		State and territory governments		Non-government	
	Amount (\$)	Share (%)	Amount (\$)	Share (%)	Amount (\$)	Share (%)
1995–96 <sup>(a)</sup>	1,120.69	42.0	1,398.08	52.3	152.37	5.7
1998–99	1,512.08	45.3	1,503.00	45.0	322.58	9.7
2001–02	1,682.54	43.1	1,931.66	49.5	286.63	7.3

(a) There were substantial changes in estimating methods between 1995–96 and 1998–99.

Source: AIHW 2005: Table 3.3.

## Data quality issues

### Expenditure data

#### *Quality of data on Indigenous service use*

*For many publicly funded health services there are few details available about service users and, in particular, about their Indigenous status. For privately funded services, this information is frequently unavailable. For those services that do collect this information, recording Indigenous status accurately for all people does not always occur. The result is that there is some margin of error in the estimations of health expenditure for Aboriginal and Torres Strait Islander people and their corresponding service use.*

#### *Expenditure estimates*

*There may be some limitations associated with the scope and definition of health expenditures included in this measure. Other (non-health) agency contributions to health expenditure, such as 'health' expenditures incurred within education departments and prisons, are not included.*

*Furthermore, while every effort has been made to ensure consistent reporting and categorisation of expenditure on health goods and services, in some cases there may be inconsistencies across data providers. These may result from limitations of financial reporting systems, and/or different reporting mechanisms. Reporting of health administration (nec) is one such example; in some cases, all the associated administration costs have been included in the estimates of expenditure on a particular health service category (for example, acute care services), whereas in other cases they have been separately reported.*

#### *Estimation of Australian Government expenditure on Aboriginal and Torres Strait Islander people*

*For many areas of expenditure by the Australian Government there were limited administrative data on the utilisation of the associated services by Aboriginal and Torres Strait Islander people. Accordingly, in many areas, estimates were made on the basis of survey data, or an approximation of Indigenous use was made, based on likely Indigenous access to the service.*

#### *Estimation of MBS and PBS expenditure*

*Australian Government expenditures on Aboriginal and Torres Strait Islander people through the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS) are not easily quantified. Until very recently the administrative data collected through these programs have not included information on the Indigenous status of patients. Since November 2002, Aboriginal and Torres Strait Islander people have been able to voluntarily identify through the Medicare system.*

(continued)

### **Data quality issues (continued)**

*At the time of preparing this report, however, there were limited numbers of Indigenous Australians identified within Medicare data. Accordingly, in this report, the estimates of expenditure on Aboriginal and Torres Strait Islander people through these programs are largely based on survey data. Future reports may be able to use the voluntarily identified Medicare data.*

*The national, continuing survey of general practitioner activity entitled Bettering the Evaluation and Care of Health (BEACH) is the principal source of data used in estimating the Aboriginal and Torres Strait Islander share of MBS and PBS benefits.*

#### **Expenditure on public hospitals**

##### *Separations*

*The number and pattern of hospitalisations can be affected by differing admission practices among the jurisdictions and from year to year, and differing levels and patterns of service delivery.*

##### *Under-identification*

*The incompleteness of Indigenous identification means the adjustments must be made to the number of hospital separations recorded as Indigenous so as to more accurately estimate admitted patient expenditure for Aboriginal and Torres Strait Islander people.*

## **References**

- AIHW (Australian Institute of Health and Welfare) 2001. Expenditures on health services for Aboriginal and Torres Strait Islander peoples 1998–99. AIHW cat. no. IHW 7. Canberra: AIHW and Department of Health and Aged Care.
- AIHW 2004. Health expenditure Australia 2002–03. Health and Welfare Expenditure Series no. 20. AIHW cat. no. HWE 27. Canberra: AIHW.
- AIHW 2005. Expenditures on health for Aboriginal and Torres Strait Islander people, 2001–02. Health and Welfare Expenditure Series no. 23. AIHW cat. no. HWE 30. Canberra: AIHW.
- Deeble J, Mathers C, Smith L, Goss J, Webb R and Smith V 1998. Expenditures on health services for Aboriginal and Torres Strait Islander peoples. AIHW cat. no. HWE 6. Canberra: AIHW, Department of Health and Family Services and National Centre for Epidemiology and Population Health.

## 3.16 Recruitment and retention of clinical management staff

*The recruitment and retention of qualified clinical and management staff to provide effective health care to meet Aboriginal and Torres Strait Islander health care needs*

### Data sources

National data for broad measures of recruitment and retention are not available from existing national administrative health or workforce databases. There are, however, a small number of limited collections that are relevant to this measure. Data for this measure come from the Service Activity Reporting data collection, the Rural Workforce Agency National Minimum Dataset, and general practitioner data held by the Department of Health and Ageing (DoHA).

#### Service Activity Reporting (SAR) data collection

The SAR collects data from approximately 140 Australian Government funded Aboriginal and Torres Strait Islander primary health care services which are held at DoHA. It is estimated that these services provide GP services to around 40% of the Indigenous population. Service-level data on health care and health-related activities are collected by survey questionnaire over a 12-month period.

Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002-03 to 2004-05.

It should be noted that the SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

#### Rural Workforce Agency National Minimum Dataset

The Rural Workforce Agency National Minimum Data Set is a national data set based on annual surveys conducted by each state and territory Rural Workforce Agency and compiled through the Australian Rural and Remote Workforce Agencies Group. The data are collected in accord with an agreed national minimum data set and data dictionary so should be consistent and provide a valuable and regular source of data. These data are available by remoteness area and duration of practice. It does not directly answer the broader retention and recruitment questions but will provide useful information for this measure.

#### GP data

The Department of Health and Ageing DoHA holds data on the number of GPs in Australia by remoteness area and Statistical Local Area (SLA). The number of GPs in areas of high, medium and low Indigenous populations (based on SLAs) are used as a proxy measure of GP retention.

There are a number of difficulties in using these data as a proxy for retention of GPs in an area. Some GPs may work only part of the year or may provide services at more than one

region. GPs may also stop billing Medicare for a period of time and resume at a later time. This causes problems in counting GPs based on their duration of practice.

Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated as some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system, further understating the full-time equivalent for doctors in areas with high Indigenous populations. Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of SLAs in the first group with far more people per doctor than several SLAs in the second group.

A voluntary indigenous identifier was introduced into the Medicare database from November 2002. This data item requires further development prior to its use in this context. As these data improve, it will be possible to utilise this identifier to undertake calculations of GP retention in areas by Indigenous status of clients, however, currently these data are not available.

## Analyses

### Recruitment

Information on the recruitment of clinical and management staff in Aboriginal and Torres Strait Islander primary health care services is available from the Service Activity Reporting (SAR) data collection, collected by DoHA, and is presented below.

#### Recruitment by staff category

- As at the 30 June 2004, there were approximately 1,850 full-time equivalent (FTE) health (clinical) staff and 1,030 full-time equivalent administrative and support (management) staff positions within Aboriginal and Torres Strait Islander primary health care organisations funded by the Australian Government. The number of full-time equivalent vacancies at this time was 138 health staff and 24 administrative and support staff, which was 7.4% and 2.3% of total funded full-time equivalent positions.
- The highest number of health staff vacancies in 2004 were for Aboriginal Health Workers (50), followed by nurses (27) and social and emotional wellbeing workers (17) (Table 3.16.1).
- Occupations with the highest proportion of health staff vacancies out of funded full-time equivalent positions for that occupation were dentists (11.3%), allied health professionals (9.1%) and nurses (8.9%).

**Table 3.16.1: Number and percentage of health (clinical) staff and administrative and support (management) staff vacancies in Aboriginal and Torres Strait Islander primary health care organizations, at 30 June 2004**

<b>Staff category</b>	<b>Number</b>	<b>Per cent<sup>(a)</sup></b>
<b>Health staff</b>		
Aboriginal Health Worker	50	7.4
Doctors and specialists	14	6.5
Nurses	27	8.9
Emotional and social wellbeing workers	17	8.0
Allied health professionals	2	9.1
Dentists	5	11.3
Dental support	4	7.4
Traditional healers	—	—
Substance use workers	4	4.6
Environmental health workers	—	—
Drivers/field officers	4	3.4
Other health staff	11	13.7
<b>Total health/clinical</b>	<b>138</b>	<b>7.4</b>
<b>Administrative and support staff</b>		
CEO/admin/managers	3	1.0
Secretaries	6	1.9
Accountants	1	0.8
Information/data	—	—
Trainers/educators	1	2.6
Other support staff	13	5.8
<b>Total administrative and support staff</b>	<b>24</b>	<b>2.3</b>
<b>Total</b>	<b>162</b>	<b>5.6</b>

(a) Number of funded FTE vacancies divided by the total FTE positions multiplied by 100.

Source: Service Activity Reporting unpublished data.

### **Recruitment by state/territory and remoteness**

- The Northern Territory had the highest proportion of health staff vacancies of total full-time equivalent positions in Aboriginal and Torres Strait Islander primary health care organisations (10%), and Victoria and Tasmania had the lowest proportion of health staff vacancies (5%) (Table 3.16.2; Figure 3.16.1).
- As at 30 June 2004, very remote areas of Australia had the highest proportion of health staff vacancies of total positions funded in Aboriginal and Torres Strait Islander primary health care organisations (9.5%). This compared to around 6% in major cities and remote areas and 7% in inner and outer regional areas (Table 3.16.3; Figure 3.16.2). The highest proportion of administrative and support staff vacancies of total positions funded in Aboriginal and Torres Strait Islander primary health care organisations were in remote areas of Australia (3.6%). This compared to around 2% of vacancies in other areas of Australia.



**Table 3.16.2: Number and percentage<sup>(a)</sup> of health (clinical) staff and administrative and support (management) staff vacancies of total positions (FTE) in Aboriginal and Torres Strait Islander primary health care organisations, by state/territory, at 30 June 2004**

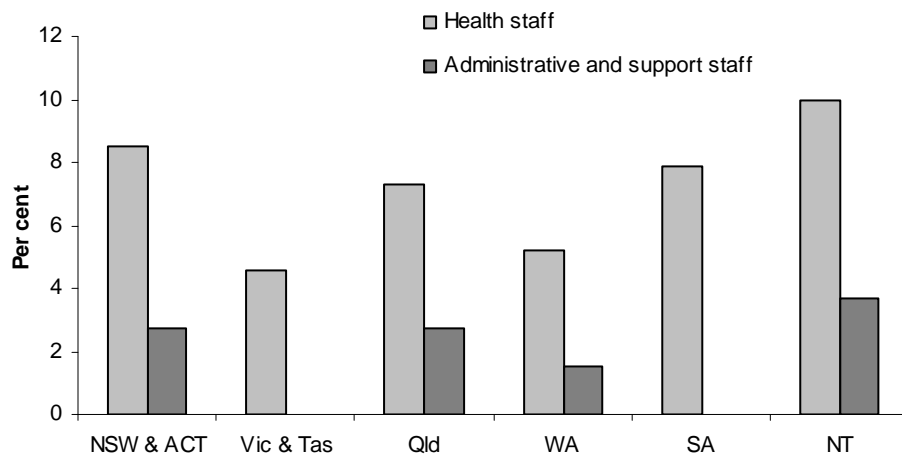
Staff category	NSW and ACT <sup>(b)</sup>		Vic and Tas <sup>(b)</sup>		Qld		WA		SA		NT	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Health staff	36	8.5	9	4.6	22	7.3	19	5.2	16	7.9	36	10.0
Administrative and support staff	5	2.7	n.p.	n.p.	5	2.7	3	1.5	n.p.	n.p.	8	3.7
<b>Total</b>	<b>41</b>	<b>6.7</b>	<b>n.p.</b>	<b>n.p.</b>	<b>27</b>	<b>5.5</b>	<b>22</b>	<b>3.9</b>	<b>n.p.</b>	<b>n.p.</b>	<b>44</b>	<b>7.6</b>

n.p. Not published due to small numbers.

(a) Number of funded FTE vacancies divided by the total FTE positions multiplied by 100.

(b) Jurisdictions have been combined due to the small number of services

Source: Service Activity Reporting unpublished data.



*Note:* Number of administrative and support staff not available for Victoria, Tasmania and South Australia.

*Source:* Service Activity Reporting unpublished data.

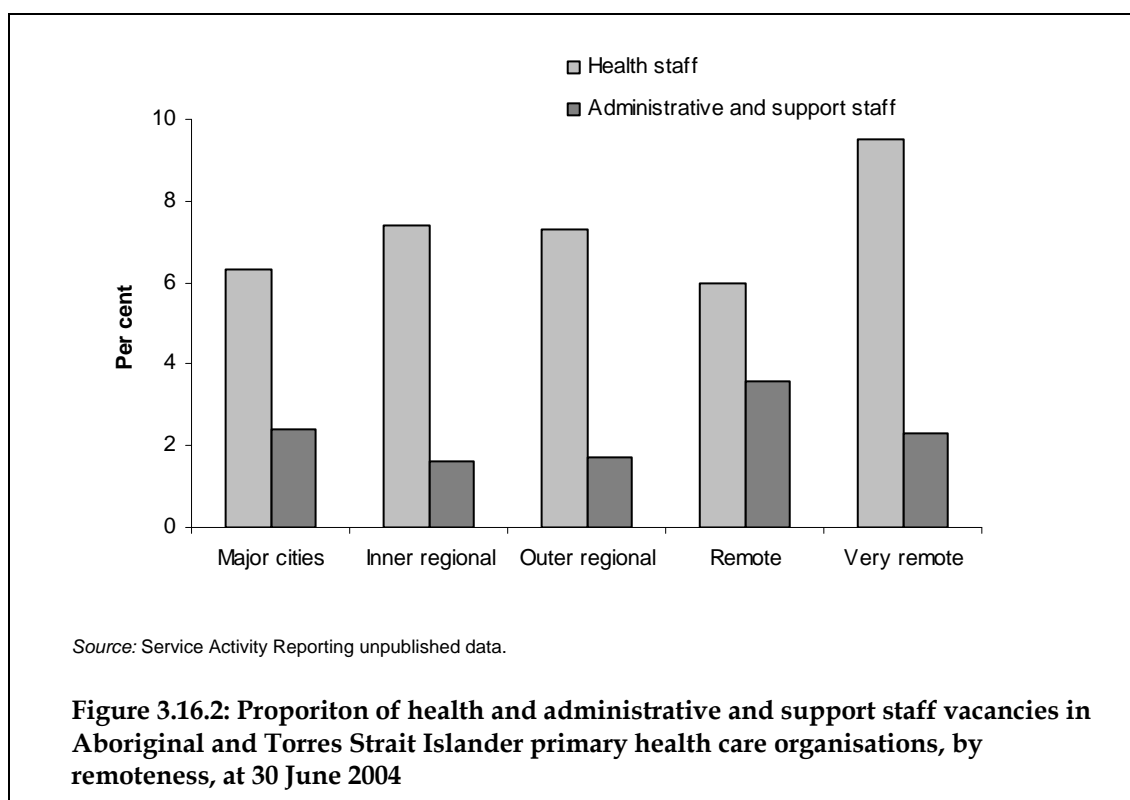
**Figure 3.16.1: Proportion of health and administrative and support staff vacancies of total positions in Aboriginal and Torres Strait Islander primary health care organisations, by state/territory, at 30 June 2004**

**Table 3.16.3: Number and percentage<sup>(a)</sup> of health (clinical) staff and administrative and support (management) staff vacancies of total positions (FTE) in Aboriginal and Torres Strait Islander primary health care organisations, by remoteness, at 30 June 2004**

Staff category	Major cities		Inner regional		Outer regional		Remote		Very remote		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Health staff	23	6.3	24	7.4	29	7.3	19	6.0	44	9.5	138	7.4
Administrative and support staff	4	2.4	3.	1.6	4	1.7	8	3.6	5	2.3	24	2.3
<b>Total</b>	<b>27</b>	<b>5.1</b>	<b>27</b>	<b>5.2</b>	<b>33</b>	<b>5.2</b>	<b>27</b>	<b>5.0</b>	<b>49</b>	<b>7.2</b>	<b>162</b>	<b>5.6</b>

(a) Number of funded FTE vacancies divided by the total FTE positions multiplied by 100.

Source: Service Activity Reporting unpublished data.



### Recruitment by length of time vacant

- The majority of staff vacancies in Aboriginal and Torres Strait Islander health care organisations were vacant for between 4 and 25 weeks (62 health staff vacancies and 14 administrative and support staff vacancies) (Table 3.16.4).

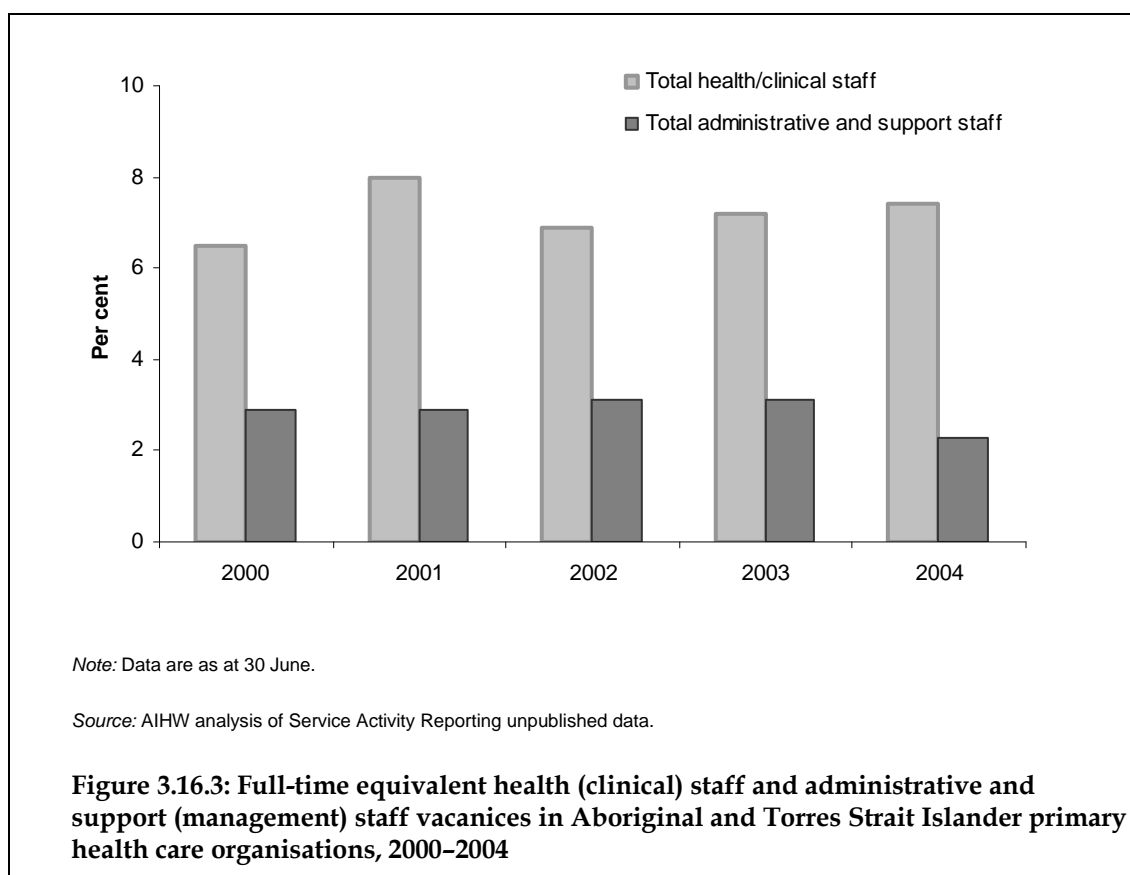
**Table 3.16.4: Full-time equivalent health (clinical) staff and administrative and support (management) staff vacancies in Aboriginal and Torres Strait Islander primary health care organisations, by length of time vacant, at 30 June 2004**

Staff category	1 week	2–3 weeks	4–25 weeks	26+ weeks
Health staff	7	9	62	60
Admin. and support staff	0	2	14	8
<b>Total</b>	<b>7</b>	<b>11</b>	<b>76</b>	<b>68</b>

Source: Service Activity Reporting unpublished data.

### Time series analyses

- There has been little change in the proportion of administrative and support staff vacancies in Aboriginal and Torres Strait Islander health care organisations over the period June 2000 to June 2004 (Figure 3.16.3).



## Retention

Information on the number of general practitioners (GPs) working in Australia is available from DoHA and additional data on GPs working in rural areas of Australia are available from the Rural Workforce Agency.

## GPs by Statistical Local Area

Table 3.16.5 and Figure 3.16.4 present data on the number of full-time equivalent GPs per 1,000 population by areas of low through to high proportions of Indigenous populations. Using population data from the 2001 Census, Statistical Local Areas (SLAs) were grouped according to the percentage of the population living in these areas that was Indigenous.

- In 2004–05, there were approximately 14,509 full-time equivalent general practitioners working in Australia. Approximately 47% of GPs were working in areas where less than 1% of the population was Indigenous, at a rate of 0.8 per 1,000 population and only 0.2% of GPs were working in areas where more than 50% of the population was Indigenous, at a rate of 0.3 per 1,000 population (Table 3.16.5).

Care must be used in the interpretation of the data provided. There are two issues that have an effect on the quality of these data. First, the data include only those GPs claiming through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be

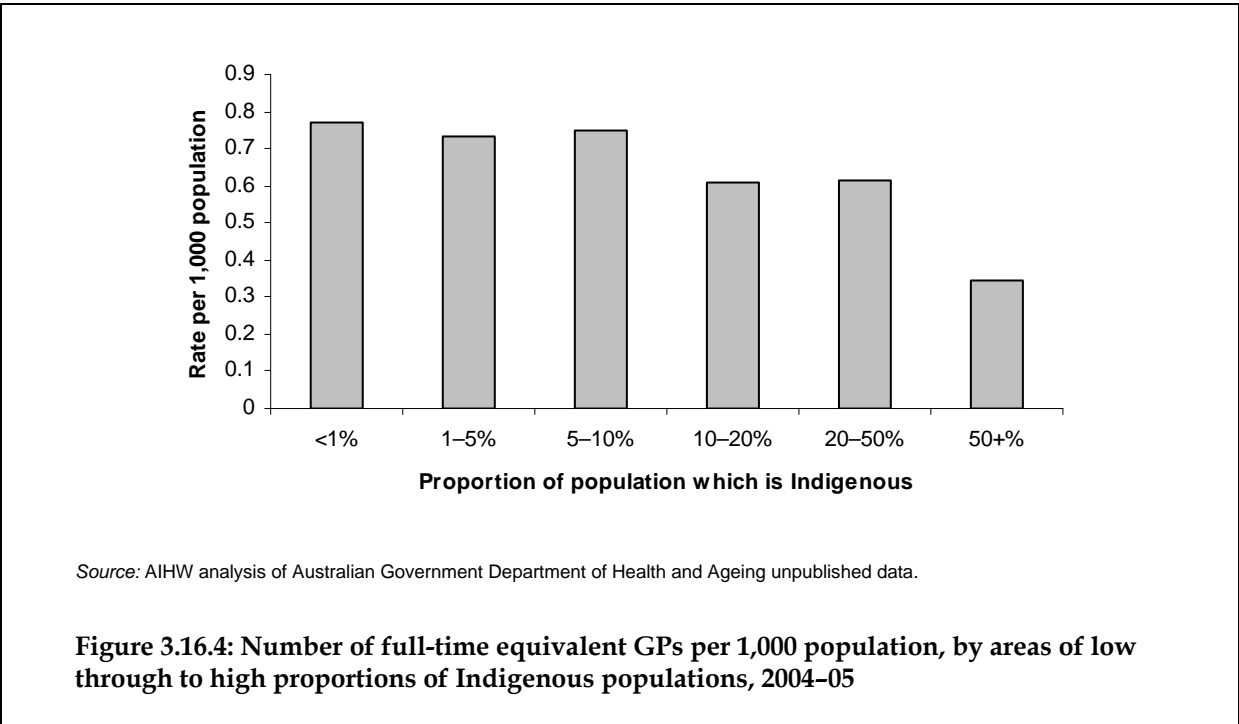
understated as some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system, further understating the FTE for doctors in areas with high Indigenous populations.

Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of SLAs in the first group with far more people per doctor than several SLAs in the second group.

**Table 3.16.5: Number of full-time equivalent GPs per 1,000 population, by areas of low through to high proportions of Indigenous populations, 2004–05**

Proportion of SLA population which is Indigenous	Number of FTE GPs	Rate per 1,000 population
<1%	6,854	0.8
1–5%	6,623	0.7
5–10%	690	0.7
10–20%	233	0.6
20–50%	82	0.6
50+%	27	0.3
<b>Total</b>	<b>14,509</b>	<b>0.7</b>

Source: AIHW analysis of Australian Government Department of Health and Ageing unpublished data.



## GPs by remoteness

Table 3.16.6 presents the number and proportion of full-time equivalent GPs by remoteness area.

- In 2004–05, approximately 73% of GPs were working in capital cities or other metropolitan areas, 25% of GPs were working in rural areas and only 2% of GPs were working in remote areas of Australia.

**Table 3.16.6: Number and proportion of full-time equivalent GPs, by remoteness, 2004–05**

Remoteness category	Number of FTE GPs	Per cent
Capital city	9,493	65.4
Other metropolitan area	1,125	7.8
Large rural	906	6.2
Small rural	1,001	6.9
Other rural	1,700	11.7
Remote centre	124	0.9
Other remote centre	159	1.1
<b>Total</b>	<b>14,509</b>	<b>100.0</b>

Source: Australian Government Department of Health and Ageing unpublished data.

## GPs in rural areas

Table 3.16.7 presents the number and proportion of GPs working in rural areas of Australia, by length of stay in current practice and remoteness area as at 30 November 2004.

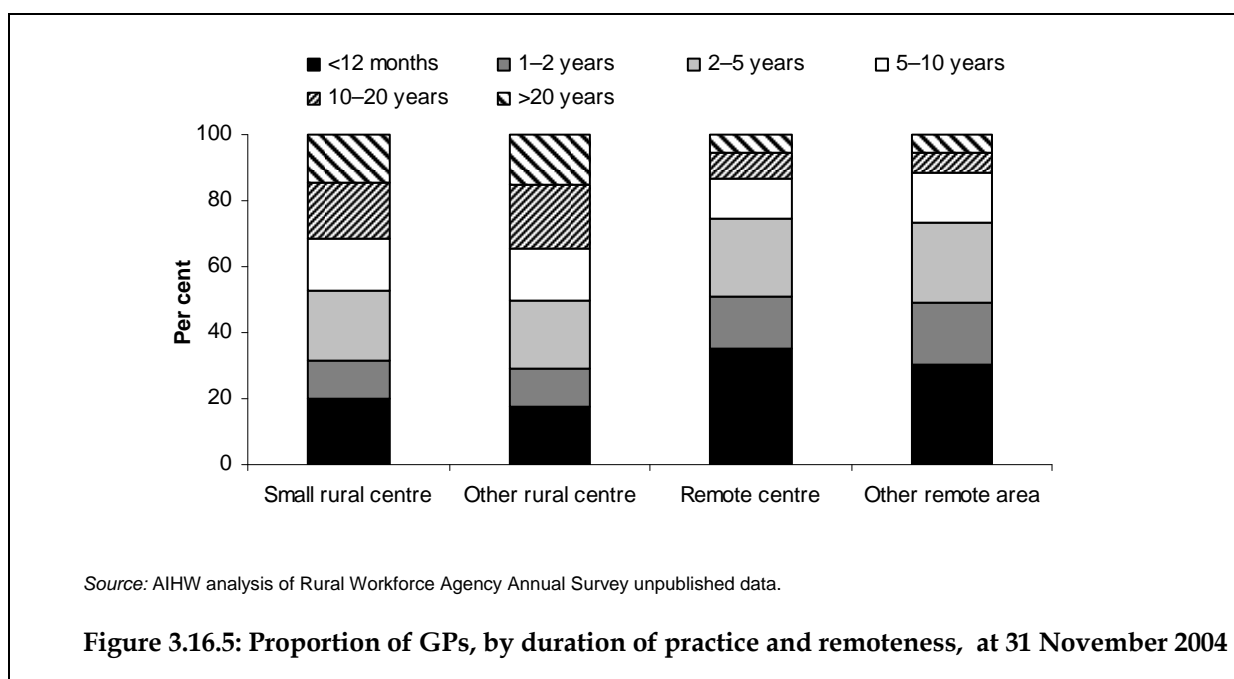
- As at 30 November 2004, the Rural Workforce Agency Annual Survey recorded a total of 3,801 general practitioners working in rural areas of Australia. Approximately 21% of general practitioners reported they had stayed in current practice for less than 12 months and only 14% had stayed in practice for more than 20 years (Table 3.16.7).
- General practitioners in rural areas were more likely to stay in current practice for a longer time than general practitioners in more remote areas. For example, between 12% and 14% of general practitioners working in remote centres and other remote areas had stayed in practice for 10 years or more compared with 32% to 35% of general practitioners working in small rural centres and other rural centres (Figure 3.16.5).

**Table 3.16.7: Number and proportion of GPs, by length of stay in current practice and remoteness, at 30 November 2004**

RRMA <sup>(a)</sup> category	Duration						Total
	<12 months	1–2 years	2–5 years	5–10 years	10–20 years	>20 years	
<b>Number</b>							
Small rural centre	263	149	273	205	217	193	<b>1,300</b>
Other rural centre	338	233	398	312	382	290	<b>1,953</b>
Remote centre	100	44	67	34	22	16	<b>283</b>
Other remote area	81	49	65	39	17	14	<b>265</b>
<b>Total</b>	<b>782</b>	<b>475</b>	<b>803</b>	<b>590</b>	<b>638</b>	<b>513</b>	<b>3,801</b>
<b>Proportion</b>							
Small rural centre	20.2	11.5	21.0	15.8	16.7	14.8	<b>100.0</b>
Other rural centre	17.3	11.9	20.4	16.0	19.6	14.8	<b>100.0</b>
Remote centre	35.3	15.5	23.7	12.0	7.8	5.7	<b>100.0</b>
Other remote area	30.6	18.5	24.5	14.7	6.4	5.3	<b>100.0</b>
<b>Total</b>	<b>20.6</b>	<b>12.5</b>	<b>21.1</b>	<b>15.5</b>	<b>16.8</b>	<b>13.5</b>	<b>100.0</b>

(a) RRMA: Rural, remote and metropolitan areas.

Source: Rural workforce Agency Annual Survey unpublished data.





## **Additional information**

### **Supply of health professionals**

Data on the supply of health professionals are available from AIHW Labor Force Surveys. Data from the 2003 Medical Labour Force Survey and 2003 Nursing and Midwifery Labor Force Survey are summarised below.

- There were 56,207 registered medical practitioners working in medicine in Australia in 2003, a rise of 10% from 2000. The number of clinicians grew by 9% from 47,372 in 2000 to 51,819 in 2003. This is equivalent to an increase of 13 clinicians per 100,000 population (from 247 in 2000 to 261 in 2003). There was a 13% increase in specialist numbers between 2000 and 2003 (from 16,008 to 18,093), which equates to an increase of 7 specialists per 100,000 population (from 84 to 91). The number of specialists-in-training grew by 14% between 2000 and 2003 (from 5,162 to 5,892) and this equates to an increase of 3 per 100,000 population (AIHW 2005a).
- The supply of practitioners increased in all regions between 2000 and 2003, despite a decrease in average hours during that time. Increases in the full-time equivalent rate of supply ranged from 12 practitioners per 100,000 population in major cities and outer regional areas, to 5 practitioners per 100,000 population in very remote areas.
- The total number of nurses identified in 2003 by the Nursing and Midwifery Labour Force Survey was 273,378, comprising 218,615 registered nurses and 54,762 enrolled nurses. This represents a 5% increase in the number of nurses between 2001 and 2003. Overall, supply of nurses increased from 1,031 FTE nurses per 100,000 population in 2001 to 1,106 FTE nurses per 100,000 population in 2003 (AIHW 2005b).
- Across geographic regions in 2003, the level of supply ranged from 1,169 FTE nurses per 100,000 population in very remote areas to 1,029 FTE nurses in outer regional areas.

### **Factors that influence length of practice in rural and remote Australia**

In 2001, a national survey of GPs practising in rural and remote communities was conducted by the Monash University School of Rural Health. The survey found that professional considerations, particularly on-call arrangements, professional support and variety of rural practice were the most important factors determining general practice retention in rural and remote areas. Other important factors were local availability of services and geographic attractiveness. The least important factor was proximity to a city or large regional centre (Humphreys et al. 2002)

## **Data quality issues**

### **Service Activity Reporting data**

Response rates to the SAR by Aboriginal and Torres Strait Islander primary health care services were between 97% and 99% during the period 2002–03 to 2004–05. The SAR collects service-level data on health care and health-related activities by survey questionnaire over a 12-month period. While this data collection provides valuable information, it needs to be recognised that there are limitations that have to be considered when using these data. Particular issues include:

- The SAR only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.
- The SAR questionnaire collects a broad set of indicators for the services and did not aim to provide a comprehensive set of statistics on the activities of the services or their needs.
- These data provide a rough guide to service activity in this area but do not attempt to measure quantity or quality.
- These data also do not differentiate between services provided by the service and those facilitated by the service.

### **Staff vacancies in Aboriginal and Torres Strait Islander primary health care organisations**

The Service Activity Reporting (SAR) data collection reports on the number of vacancies in Aboriginal and Torres Strait Islander primary health care organisations (138 in 2003–04) funded by the Australian Government for both clinical and management positions at 30 June each year. While the numbers of FTE positions, about 1,400 health practitioner and 800 admin./management positions, are of reasonable size, the number of FTE vacancies, 118 (8.45%) and 11 (1.38%) respectively, are very small. The small numbers could limit the scope for breaking the data down into finer categories and could over-emphasise variability over time. The SAR collection is a snapshot at 30 June and therefore does not include vacancies arising but filled during the course of a year.

### **Rural Workforce Agency National Minimum Dataset**

The Rural Workforce Agency National Minimum Data Set is a national data set based on annual surveys conducted by each state and territory Rural Workforce Agency and compiled through the Australian Rural and Remote Workforce Agencies Group (Health Workforce Queensland and New South Wales Rural Doctors Network 2005). The data are collected in accord with an agreed national minimum data set and data dictionary, so should be consistent and provide a valuable and regular source of data. This measure does not directly answer the broader retention and recruitment questions but will provide a useful interim surrogate measure.

### **GP data**

Care must be taken in using and interpreting the data provided. There are two issues to note which have an effect on the quality of the data. First, the data include only those services claimed through the Medicare system. Consequently the full-time equivalent for doctors in remote areas, which are more likely to have high proportions of Indigenous population, will be understated as some services are provided in rural hospitals and through the Royal Flying Doctor Service. There is also anecdotal information that services provided in Aboriginal Medical Services are often not claimed through the Medicare system, further understating the full time equivalent for doctors in areas with high Indigenous populations.

Second, the data at the grouped SLA level can hide variability in data at the individual SLA level. For example, although one group of SLAs may have fewer people per doctor overall than a second group of SLAs, there will be a number of SLAs in the first group with far more people per doctor than several SLAs in the second group.

(continued).

### **Data quality issues (continued)**

*A voluntary indigenous identifier was introduced into the Medicare database from November 2002. As at 1 July 2005, 84,867 people had identified as Aboriginal, Torres Strait Islander or both in the Medicare database. As these data improve, it will be possible to utilise this identifier to undertake calculations of GP retention in areas by Indigenous status of clients.*

## **References**

- AIHW (Australian Institute of Health and Welfare) 2005a. Medical Labour Force Survey 2003. (National Health Labour Force Series no. 32). AIHW cat. no. HWL 32 Canberra: AIHW.
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- Humphreys J, Jones MP, Jones J & Mara P 2002. Workforce retention in rural and remote Australia: Determining the factors that influence length of practice. *Medical Journal of Australia* 176(10): 472–6.