

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 people

Data sources

Data for this measure come from the Medicare database, the AIHW BreastScreen Australia database, the National Bowel Cancer Screening Register, the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS), the AIHW's National Mortality Database, and the Service Activity Reporting (SAR) database.

Medicare database

Medicare enrolment application forms are lodged by persons wishing to enrol with Medicare at 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 DoHA.

In November 2002, the ABS standard question on Indigenous identification was included on this form. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010d). There has been a rapid expansion in the number of enrollees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

To date, the database has not been analysed to estimate the numbers of people who have identified themselves as non-Indigenous, or those who have either not responded to the question or have not been presented with an opportunity to respond to the question.

BreastScreen Australia

BreastScreen Australia is a comprehensive population-based screening program for breast cancer. It 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 2010a).

The national program was established in 1991. It is a joint program of the Australian Government and state and territory governments. BreastScreen Australia is monitored annually and reported at the national level by the AIHW in the 'BreastScreen Australia monitoring report'. The latest report combined data from the 2006–2007 and 2007–2008 reporting periods.

The standard ABS question is used to record Indigenous status in this database. 'Not stated' values for Indigenous status are separately quantified for most jurisdictions, but are included in the 'non-Indigenous' numbers for those jurisdictions that do not record this separately. Care should be taken when interpreting data at the jurisdictional level as the numbers are too small to provide meaningful comparison between jurisdictions.

Participation of Indigenous women remained lower than that of non-Indigenous women (36.4% compared with 54.8% in 2007–2008). 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 (AIHW 2010a).

National Mortality Database

The National Mortality Database is a national collection of de-identified unit record level data. It comprises most of the information recorded on death registration forms and medical (cause of death) certificates, including Indigenous status. The database is maintained by the AIHW. Information on the characteristics and causes of death of the deceased is provided by the Registrars of Births, Deaths and Marriages and coded nationally by the ABS. Information on the cause of death is supplied by the medical practitioner certifying the death, or by a coroner. The data are updated each calendar year and are presented by state/territory of usual residence rather than state/territory where death occurs.

It is considered likely that most deaths of Aboriginal and Torres Strait Islander people are registered. However, a proportion of these deceased are not reported as Aboriginal or Torres Strait Islander by the family, health worker or funeral director during the death registration process. That is, while data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked of relatives and friends of the deceased by the funeral director. Detailed breakdowns of Aboriginal and Torres Strait Islander deaths are therefore only provided only for five jurisdictions – New South Wales, Queensland, South Australia, Western Australia and the Northern Territory (AIHW 2008).

Deaths for which the Indigenous status of the deceased was not reported have been excluded from the analysis.

Data have been combined for the 5-year period 2003–2008 because of the small number of deaths from some conditions each year. Data have been analysed using the year of registration of death for all years. Note that the 2006 edition of this report used year of occurrence of death for all years of analysis except for the latest year of available data for which year of registration of death was used. Data published in this report may therefore differ slightly from those published in the previous edition for comparable years of data.

National Bowel Cancer Screening Register

The National Bowel Cancer Screening Program (NBCSP) was implemented in August 2006 by the Australian Government, in partnership with state and territory governments, as part of its Strengthening Cancer Care initiative. The goals of the NBCSP are to reduce the incidence of and mortality due to bowel cancer through screening to detect abnormalities of the colon and rectum at an early stage. Furthermore, where bowel cancer has developed, to detect cancers at an early stage in order to maximise the effectiveness of treatment (AIHW & DoHA 2009).

Phase 1 of the NBCSP began in August 2006, where people across Australia turning 55 or 65 years of age between 1 May 2006 and 30 June 2008 were invited to screen for bowel cancer. Phase 2 was introduced in July 2008 and expanded the program so that people turning 50, 55 or 65 years of age between 1 January 2008 and 31 December 2010 were invited to screen. Invitation packs, including a faecal occult blood test (FOBT), were sent directly to participants by Medicare Australia. Data are collected about participants and their screening outcomes from a variety of sources and stored in the National Bowel Cancer Screening Register, which is maintained by Medicare Australia. The data are collected on questionnaires completed by participants, general practitioners, colonoscopists, pathologists and other specialists. The AIHW produces annual monitoring reports for DoHA to assist in management of the NBCSP.

Data in this indicator are based on data recorded in the Register for people invited between 1 January 2008 and 31 December 2008. It includes all activity up until 31 January 2009 and presented in the NBCSP monitoring report 2009. This includes invitees from both phase 1 and phase 2, which began on 1 July 2008. However, as people aged 50 years were only included from phase 2, data for people aged 50 years were only available for the final 6 months of 2008 (AIHW & DoHA 2009).

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (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. This included issues of health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. It is planned to repeat the NATSIHS at 6-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).

OATSIH Services Reporting data collection

In 2008–09, the Australian Institute of Health and Welfare (AIHW) collected the data from the Aboriginal and Torres Strait Islander primary health-care, substance use, and Bringing Them Home and Link Up counselling services funded by the Australian Government through the Office for Aboriginal and Torres Strait Islander Health (OATSIH). OATSIH-funded services include both Indigenous community controlled health organisations and non-community controlled health organisations. Note that the OATSIH Services Reporting (OSR) only includes Aboriginal and Torres Strait Islander health organisations that receive at least some Australian Government funding to facilitate access to primary health care.

This collection, referred to as the OSR data collection replaces the Service Activity Reporting (SAR), Drug and Alcohol Services Reporting (DASR), and Bringing Them Home and Link Up counselling data collections previously collected by the OATSIH.

The counting rules used in OSR data analyses treats each auspice service as a single service and this yields a larger numerator and denominator when calculating rates whereas in earlier collections (SAR and DSAR) only the higher level service was counted. For example,

a higher level service could have five auspice services under it and in OSR these will be counted as five individual services whereas in SAR and DSAR it was counted as a single service. While this change only marginally affects the aggregate rates, caution should be exercised when comparing rates with earlier data collection periods.

The OSR data collection included 211 Australian Government-funded Aboriginal and Torres Strait Islander primary health-care services. Service-level data on health care and health-related activities were collected by survey questionnaire for the 2008–09 financial year reporting period and provided data on episodes of care, service population, clients and staffing. Response rates to the OSR questionnaire by Aboriginal and Torres Strait Islander primary health-care services in 2008–09 were around 97%.

Of the 86 Bringing Them Home and Link Up counselling services, 81 (94%) responded to the OSR questionnaire, as well as five auspiced services. Many services providing Bringing Them Home and Link Up counselling are part of existing primary health-care or substance-use disorder specific services.

Forty five (90%) out of 50 substance use disorder specific services as well as three auspiced services responded to the OSR questionnaire.

Analyses

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 also includes keeping a record of the health assessment and offering the patient a written report about the health assessment, with recommendations about matters covered.

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

- Annual health checks for Aboriginal and Torres Strait Islander children aged 0–14 years were introduced into the MBS in May 2006 (Medicare Item number 708). For the period July 2008 to June 2009, there were 14,160 health assessments of Indigenous children in Australia (a rate of 72 per 1,000 Indigenous children) (Table 3.03.1). The rate at which Indigenous children aged 0–14 years received health assessments under the MBS ranged from 4 per 1,000 in Tasmania to 187 per 1,000 in South Australia.
- Two-yearly health checks for Aboriginal and Torres Strait Islanders aged 15–54 years were introduced in the MBS in May 2004 (Medicare Item no. 710). Between July 2008 and June 2009, there were 18,370 health assessments of Indigenous Australians aged 15–54 years, which was a rate of 61 per 1,000 population. The rate at which Indigenous

Australians aged 15–54 years received health assessments under the MBS ranged from 8 per 1,000 in Tasmania to 98 per 1,000 in the Northern Territory (Table 3.03.1).

- Annual health assessments for Aboriginal and Torres Strait Islander Australians aged 55 years and over were introduced in November 1999 (Medicare Item numbers 704 and 706). Between July 2008 and June 2009, there were 5,253 health assessments of Indigenous Australians aged 55 years and over (a rate of 115 per 1,000 population). The rate of MBS health assessments for Indigenous Australians aged 55 years and over ranged from 13 per 1,000 in Tasmania to 190 per 1,000 in the Northern Territory (Table 3.03.1).
- Between July 2008 and June 2009, Indigenous Australians aged 55 years and over received MBS health assessments at a rate of 115 per 1,000 (Medicare Item nos. 704 and 706). This was much lower than the rate at which all Australians aged 75 years and over received assessments during this period (228 per 1,000) (Medicare Item numbers 700 and 702) (Table 3.03.2).
- The rate of MBS health assessments for Indigenous Australians aged 55 years and over increased between the first quarter of 2006 and the fourth quarter of 2009 (from 67 per 1,000 in January to March 2006 to 123 per 1,000 in October to December 2009). The rate of MBS assessments for Indigenous Australians aged 15–54 years increased between the first quarter 2006 and the fourth quarter 2009 (from 29 per 1,000 to 68 per 1,000). The rate of MBS assessments for Indigenous Australians aged 0–14 years increased between the second quarter 2006 and the fourth quarter 2009 (from 9 per 1,000 to 76 per 1,000) (Table 3.03.3 and Figure 3.03.1).

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, 2008–09

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Aboriginal and Torres Strait Islander child health checks aged 0–14 years (MBS Item 708)^(a)									
Number	3,923	422	4,537	1,946	561	28	55	2,688	14,160
No. per 1,000	67.0	33.7	78.6	75.0	54.0	4.1	34.6	118.2	72.1
Aboriginal and Torres Strait Islander health checks aged 15–54 years (MBS Item 710)^(b)									
Number	4,653	805	5,616	2,715	559	91	105	3,826	18,370
No. per 1,000	53.3	41.0	66.3	64.2	33.5	8.3	39.3	98.2	60.5
Aboriginal and Torres Strait Islander Health Assessments aged 55 years and older (MBS Item 704/706)^(c)									
Number	1,470	269	1,542	790	144	23	26	989	5,253
No. per 1,000	101.6	80.9	127.9	132.2	59.5	13.0	90.9	190.1	115.3

- (a) Child health checks commenced in May 2006. Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 Indigenous population projections for those aged 0–14 years.
- (b) These adult health checks were introduced in May 2004 as a biennial assessment. Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 Indigenous population projections for those aged 15–54 years.
- (c) Health assessments for older patients were introduced in November 1999. Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 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 over and all Australians aged 75 years and over, 2008–09

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
Aboriginal and Torres Strait Islander health assessments aged 55 years and older (MBS Item 704/706)									
Number	1,470	269	1,542	790	144	23	26	989	5,253
No. per 1,000 ^(a)	101.6	80.9	127.9	132.2	59.5	13.0	90.9	190.1	115.3
All Australian health assessments aged 75 years and older (MBS Item 700/702)									
Number	111,434	73,240	62,649	22,019	27,520	9,486	2,429	274	309,051
No. per 1,000 ^(a)	239.1	210.6	260.5	186.4	223.4	271.7	157.2	80.9	229.0

(a) Data provided are for the period 1 July 2008 to 30 June 2009. Rates are calculated using the average of 2008 and 2009 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.

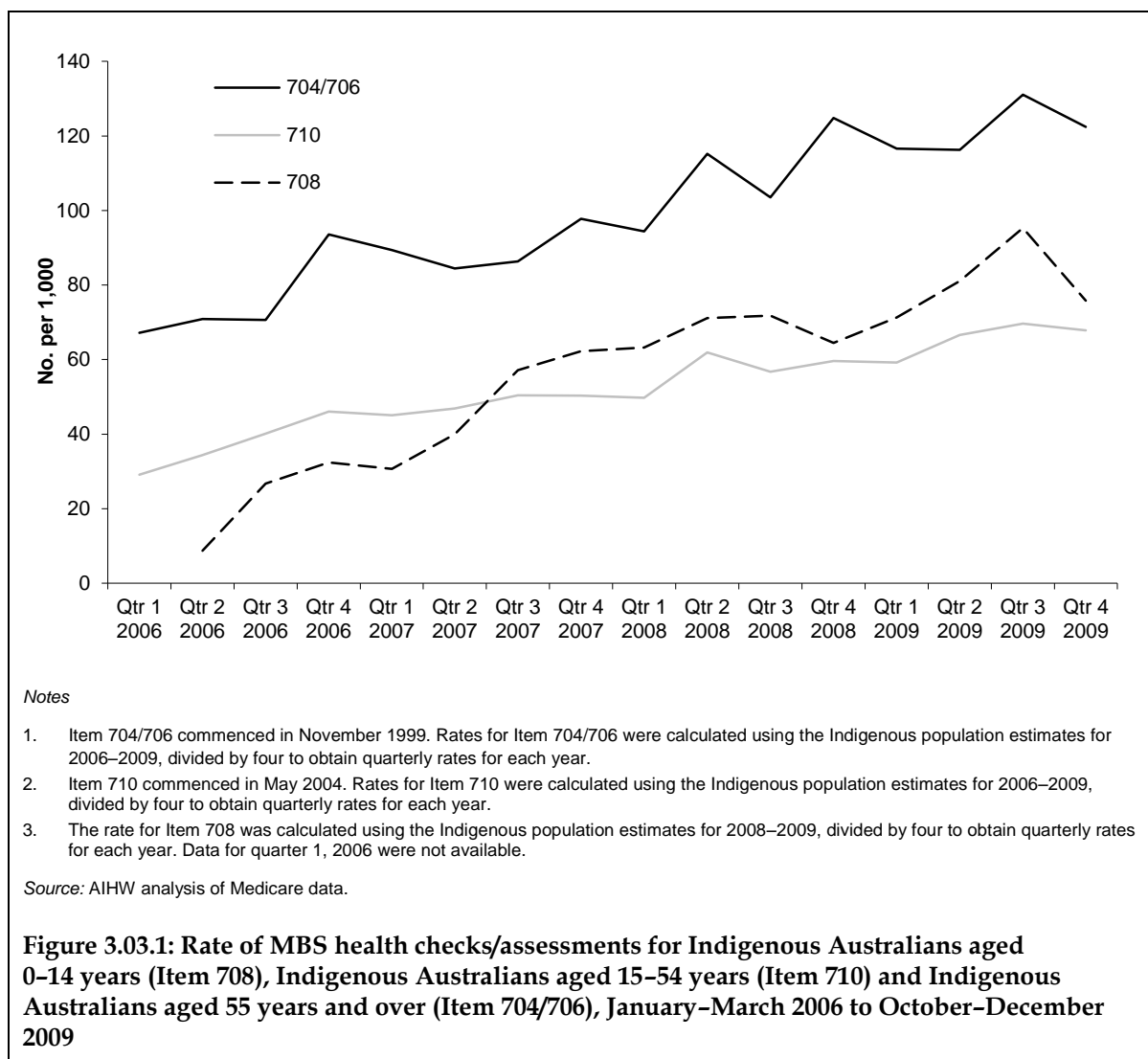


Table 3.03.3: Rate^(a) of MBS health checks/assessments for Indigenous Australians aged 0–14 years (Item 708), Indigenous Australians aged 15–54 years (Item 710) and Indigenous Australians aged 55 years and over (Item 704/706), January–March 2006 to October–December 2009

	Item 708		Item 710		Item 704/706	
	Number	Rate	Number	Rate	Number	Rate
Qtr 1 2006	n.a.	n.a.	2055	29.1	672	67.2
Qtr 2 2006	423	8.7	2432	34.4	709	70.9
Qtr 3 2006	1298	26.7	2834	40.1	707	70.7
Qtr 4 2006	1574	32.4	3254	46.0	936	93.5
Qtr 1 2007	1496	30.7	3279	45.1	941	89.4
Qtr 2 2007	1947	39.9	3409	46.9	889	84.5
Qtr 3 2007	2786	57.2	3667	50.4	909	86.4
Qtr 4 2007	3035	62.3	3662	50.3	1029	97.8
Qtr 1 2008	3095	63.3	3721	49.7	1047	94.4
Qtr 2 2008	3481	71.2	4634	61.9	1277	115.2
Qtr 3 2008	3510	71.7	4244	56.7	1148	103.5
Qtr 4 2008	3152	64.4	4459	59.6	1384	124.8
Qtr 1 2009	3508	71.3	4548	59.2	1362	116.6
Qtr 2 2009	3990	81.1	5119	66.6	1359	116.3
Qtr 3 2009	4688	95.3	5353	69.6	1532	131.1
Qtr 4 2009	3731	75.8	5213	67.8	1431	122.5

(a) Number per 1,000 population.

Notes

1. Item 704/706 commenced in November 1999. Rates for Item 704/706 were calculated using the Indigenous population estimates for 2006–2009, divided by four to obtain quarterly rates for each year.
2. Item 710 commenced in May 2004. Rates for Item 710 were calculated using the Indigenous population estimates for 2006–2009, divided by four to obtain quarterly rates for each year.
3. The rate for Item 708 was calculated using the Indigenous population estimates for 2008–2009, divided by four to obtain quarterly rates for each year. Data for quarter 1, 2006 were not available

Source: AIHW analysis of Medicare data.

Breast cancer screening

BreastScreen Australia – which is 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 2 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 focus on women in this age group, although women aged 40–49 years and those over 70 years may also use the service. When making direct comparisons between the eight states and territories it is important to consider the substantial differences that exist between the jurisdictions, including population, area and geographic structure.

- Of the 1,273,403 women aged 50-69 years and over participating in screening through BreastScreen Australia in 2007-2008, 10,189 (0.8%) identified as Aboriginal or Torres Strait Islander. Although 8,060 women in 2007-2008 were classified as not stating their Indigenous status, the true not stated figure is higher because some jurisdictions classified these women as 'non-Indigenous' (AIHW 2010a).
- During 2007-2008, the participation rate for BreastScreen Australia was highest among those aged 60-64 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 36%, which was 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 all females in that age group (23% compared with 33% for all women) (Table 3.03.4).
- The breast screening participation rates for Indigenous women (excluding those in Tasmania and the Australian Capital Territory) aged 50-69 years ranged from 28% in Victoria to 47% in Queensland (Table 3.03.4). Age standardised rates for women aged 50-69 are not available for Tasmania and the Australian Capital Territory as Indigenous population estimates are not available for this age group.
- The participation rate for Indigenous women aged 50-69 years ranged from 35% to 36% for all years between 1999-2000 and 2007-2008. Over the same period, the participation rate for all women ranged between 55% and 57% (Table 3.03.5; Figure 3.03.2).

Care needs to be taken when comparing Indigenous and non-Indigenous participation rates owing 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 and small numbers.

Breast cancer mortality

Data have been combined for the 4 year periods 2003-2007. Due to the additional of New South Wales (NSW) in 2001, comparisons prior to this time period are not valid. Previously NSW was considered to have insufficient data on Aboriginal and Torres Strait Islander status on the AIHW National Mortality Database.

- In 2003-2007, the age-standardised breast cancer mortality rate for Indigenous women of all ages in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined (23 deaths per 100,000 women) was not significantly different from the rate for non-Indigenous women (23 deaths per 100,000 women) (AIHW 2010a).

Table 3.03.4: Age-specific participation rates^(a) in BreastScreen Australia of Indigenous and all women, by state/territory, 2007–2008

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Per cent								
Indigenous women									
40–49 years	6.6	3.3	24.8	14.2	9.9	11.8	6.2	4.6	12.5
50–59 years	34.6	24.8	45.4	26.9	30.8	28.1	24.8	22.6	33.9
60–64 years	40.1	33.7	48.4	34.2	33.1	32.7	48.0	25.3	38.6
65+ years	21.8	19.5	34.1	24.9	19.0	20.9	27.8	13.2	23.9
40+ (age-standardised rate)^(b)	22.0	16.9	35.5	22.8	20.6	20.9	21.7	14.1	23.1
50–69 years (age-standardised rate)^{(b)(c)}	37.1	28.3	46.7	30.6	31.6	n.a.	n.a.	23.6	36.0
All women									
40–44 years	6.3	5.3	25.2	11.0	10.2	22.0	3.8	4.2	10.9
45–49 years	11.6	10.3	37.4	21.4	20.0	34.0	9.5	13.1	18.6
50–54 years	50.1	48.2	53.8	52.0	53.2	47.6	45.5	34.8	50.5
55–59 years	55.3	54.3	58.1	55.2	57.7	56.7	57.3	42.7	55.8
60–64 years	57.9	58.0	60.4	58.0	61.6	59.3	59.9	45.6	58.7
65–69 years	56.4	56.5	59.5	58.4	60.3	58.8	59.3	41.4	57.6
70–74 years	13.5	33.4	53.1	20.0	25.2	33.9	18.8	8.7	28.0
75–79 years	6.6	13.3	19.4	11.1	13.5	11.2	8.7	4.9	11.8
80–84 years	2.6	3.0	5.1	4.2	5.0	3.9	2.7	2.7	3.5
85+ years	0.6	0.6	1.3	0.9	0.9	0.6	0.4	0.2	0.8
40+ (age-standardised rate)^(b)	29.2	30.3	42.0	32.9	34.1	37.6	28.9	22.3	32.9
50–69 years (age-standardised rate)^{(b)(c)}	54.3	53.4	57.4	55.3	57.4	54.5	54.2	40.4	54.9

(continued)

Table 3.03.4 (continued): Age-specific participation rates^(a) in BreastScreen Australia of Indigenous and all women, by state/territory, 2007–2008

Age group	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Rate ratios ^(d)								
40+	0.8	0.6	0.8	0.7	0.6	0.6	0.8	0.6	0.7
50–69 years	0.7	0.5	0.8	0.6	0.6	n.a.	n.a.	0.6	0.7

(a) Rates are the number of women screened as a percentage of the eligible female population calculated as the average of the 2007 and 2008 ABS estimated resident population.

(b) Rates are directly age-standardised to the Australian 2001 standard population.

(c) Age-standardised rates for women aged 50-69 years are not available for the ACT and Tasmania as Indigenous estimated resident population data are not available for this age group.

(d) Rate ratio—Indigenous: all women.

Source: AIHW analysis of BreastScreen Australia data

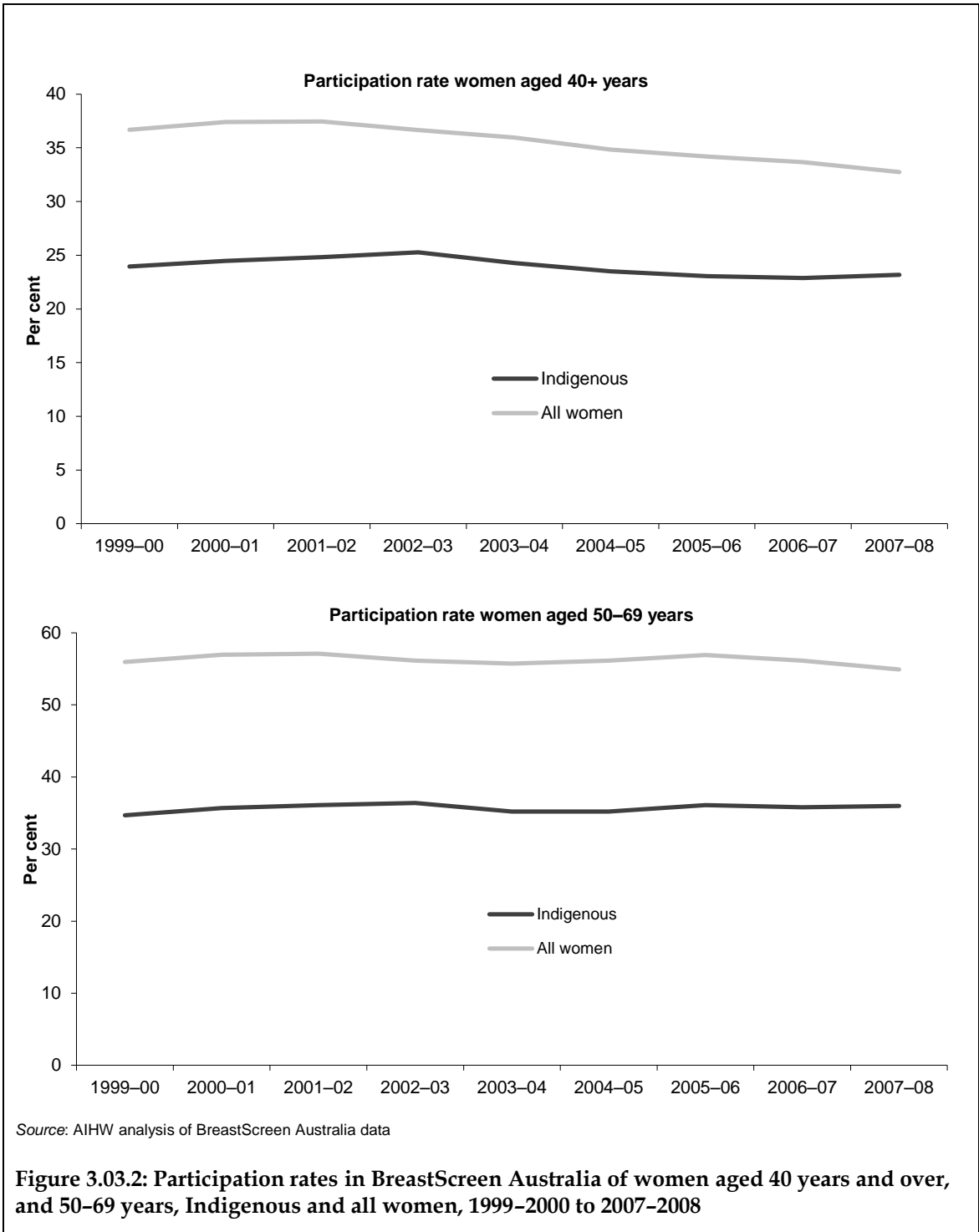


Table 3.03.5: Participation rates (per cent) in BreastScreen Australia of women aged 40 years and over, and 50–69 years, Indigenous and all women, 1999–2000 to 2007–2008

	Indigenous women	LCL 95%^(a)	UCL 95%^(b)	All women	LCL 95%^(a)	UCL 95%^(b)
Women 40+ years						
1999–2000	23.9	23.5	24.4	36.7	36.6	36.7
2000–2001	24.5	24.0	24.9	37.4	37.3	37.5
2001–2002	24.8	24.3	25.3	37.4	37.4	37.5
2002–2003	25.3	24.8	25.7	36.7	36.6	36.7
2003–2004	24.3	23.8	24.7	36.0	35.9	36.0
2004–2005	23.5	23.1	23.9	34.8	34.8	34.9
2005–2006	23.1	22.7	23.5	34.2	34.1	34.2
2006–2007	22.9	22.5	23.3	33.7	33.6	33.7
2007–2008	23.2	22.8	23.6	32.7	32.7	32.8
Women 50–69 years						
1999–2000	34.7	33.8	35.5	55.9	55.8	56.1
2000–2001	35.7	34.8	36.5	57.0	56.8	57.1
2001–2002	36.1	35.3	37.0	57.1	57.0	57.2
2002–2003	36.4	35.6	37.3	56.2	56.1	56.3
2003–2004	35.2	34.4	35.9	55.7	55.6	55.8
2004–2005	35.2	34.5	36.0	56.1	56.0	56.2
2005–2006	36.1	35.3	36.8	56.9	56.8	57.0
2006–2007	35.8	35.1	36.6	56.1	56.0	56.2
2007–2008	36.0	35.3	36.7	54.9	54.8	55.0

(a) LCL = lower confidence limit.

(b) UCL = upper confidence limit.

Source: AIHW analysis of BreastScreen Australia data.

Bowel cancer screening

The NBCSP aims to reduce the incidence of and mortality due to bowel cancer through screening to detect abnormalities of the colon and rectum at an early stage and, where bowel cancer has developed, to detect cancers at an early stage in order to maximise the effectiveness of treatment. Data in this indicator are based on data recorded in the Register for people invited to screen for bowel cancer between 1 January 2008 and 31 December 2008. This includes invitees from both phase 1 and phase 2; however, because people aged 50 years were only included from phase 2, data for people aged 50 years were only available for the final 6 months of 2008 (AIHW & DoHA 2009).

Participation in screening

- Between 1 January 2008 and 31 December 2008, 685,915 eligible Australians were invited to screen for bowel cancer; of these, 251,152 (37%) agreed to participate by 31 January 2009.
- There were 945 people who identified as Indigenous who responded to the invitation to screen. Of these, 178 were aged 50 years, 484 were aged 55 years and 283 were aged 65 years (Table 3.03.6).
- Participation in the NBCSP was significantly higher (2.2 times) for non-Indigenous invitees than for Indigenous people (AIHW & DoHA 2009).

Table 3.03.6: People responding to the National Bowel Cancer screening invitations, by age, sex and Indigenous status, 2008

	Indigenous		Non-Indigenous		Total		Rate difference ^(c)
	Number	Rate (no. per 100 persons invited) ^{(a)(b)}	Number	Rate (no. per 100 persons invited) ^(b)	Number	Rate (no. per 100 persons invited) ^{(a)(b)}	
Males							
50 years ^(d)	87	4.7	11,156	9.7	11,243	9.6	-5.0
55 years	219	13.3	33,303	24.7	33,522	24.5	-11.4
65 years	133	16.9	28,118	31.4	28,251	31.3	-14.5
Total	439	10.2 (9.3–11.2)	72,577	21.4 (21.2–21.5)	73,016	21.2 (21.2–21.3)	-11.2
Females							
50 years ^(d)	91	4.8	13,493	11.7	13,584	11.6	-6.9
55 years	265	14.6	41,780	31.1	42,045	30.9	-16.5
65 years	150	15.8	31,044	35.6	31,194	35.4	-19.8
Total	506	10.9 (10.0–11.7)	86,317	25.6 (25.5–25.8)	86,823	25.4 (25.3–25.6)	-14.7
Persons							
50 years ^(d)	178	4.7	24,649	10.7	24,827	10.6	-6.0
55 years	484	14	75,083	27.9	75,567	27.7	-13.9
65 years	283	16.2	59,162	33.5	59,445	33.3	-17.3
Total	945	10.6 (9.9–11.2)	158,894	23.5 (23.4–23.6)	159,839	23.3 (23.2–23.4)	-12.9

(a) Rates are the number of people returning a completed FOBT kit as a percentage of the total number of the eligible population who were invited to screen.

(b) The total rates reported in the table include 95% confidence intervals.

(c) Indigenous rate minus non-Indigenous rate.

(d) People aged 50 years were invited to screen from 1 July 2008.

Note: Indigenous status was defined by the participant on the Participant Details form. There were 93,313 participants with Indigenous status 'not stated'. These are treated as missing data and excluded from this analysis. Hence the sum of the columns may be less than the national total; data in this table is therefore considered unreliable.

Source: AIHW & DoHA 2009.

Faecal Occult Blood Test (FOBT) positivity numbers and rates

Only correctly completed FOBT kits were analysed. If no significant blood is found in either of the samples, the FOBT result is negative. If significant levels of blood are present in at least one of two samples, the FOBT result is considered positive.

- Positivity rates were higher in people identified as Indigenous (8.1%) than non-Indigenous (6.6%); however, the difference was not statistically significant (Table 3.03.7). Due to the low numbers of Indigenous participants, care must be exercised in interpreting these results (AIHW & DoHA 2009).

Colonoscopy procedures

Table 3.03.8 provides a summary of the number of colonoscopy procedures as part of the NBCSP.

- Only 6,713 of the 8,741 participants who underwent a colonoscopy by 31 January 2009 had their Indigenous status recorded, so comparisons of colonoscopy follow-up rates between Indigenous and non-Indigenous people should be made with caution (AIHW & DoHA 2009).
- Colonoscopy follow-up rates were significantly lower for Indigenous people (50%) than non-Indigenous people (64%) (Table 3.03.8).

Table 3.03.7: Faecal Occult Blood Test positivity rates from the National Bowel Cancer Screening Program, by age, sex and Indigenous status, 2008

		Indigenous	Non-Indigenous	Total
Males				
50 years ^(a)	Positive results	4	683	687
	Per cent	4.7	6.2	6.2
55 years	Positive results	25	2,194	2,219
	Per cent	11.8	6.6	6.7
65 years	Positive results	12	2,703	2,715
	Per cent	9.2	9.7	9.7
Total	Positive results	41	5,580	5,621
	Per cent^(b)	9.6 (6.8–12.4)	7.7 (7.6–7.9)	7.8 (7.6–8.0)
Females				
50 years ^(a)	Positive results	8	669	677
	Per cent	9.0	5.0	5.1
55 years	Positive results	15	2,088	2,103
	Per cent	5.9	5.0	5.0
65 years	Positive results	10	2,114	2,124
	Per cent	6.8	6.9	6.9
Total	Positive results	33	4,871	4,904
	Per cent^(b)	6.7 (4.5–8.9)	5.7 (5.5–5.9)	5.7 (5.5–5.9)
Persons				
50 years ^(a)	Positive results	12	1,352	1,364
	Per cent	6.9	5.6	5.6
55 years	Positive results	40	4,282	4,322
	Per cent	8.5	5.7	5.8
65 years	Positive results	22	4,817	4,839
	Per cent	7.9	8.2	8.2
Total	Positive results	74	10,451	10,525
	Per cent^(b)	8.1 (6.3–9.8)	6.6 (6.5–6.8)	6.6 (6.5–6.8)

(a) People aged 50 years were invited to screen from 1 July 2008.

(b) The total rates reported in the table include 95% confidence intervals.

Notes

1. Indigenous status was defined by the participant on the Participant Details form.
2. There were 5,911 positive FOBT results and 90,000 valid FOBT results where Indigenous status was not stated. These are regarded as missing data and are excluded from this table. Hence the sum of the areas may be less than the national total.
3. Percentages are the number of participants with positive FOBT results as a proportion of the total number of participants with valid results. A valid result was either positive or negative; inconclusive results were excluded.

Source: AIHW & DoHA 2009

Table 3.03.8: Colonoscopies reported following a positive Faecal Occult Blood Test result from the National Bowel Cancer Screening Program, by age, sex and Indigenous status, 2008

		Indigenous	Non-Indigenous	Total
Males				
50 years ^(a)	Number	n.p.	n.p.	179
	Per cent	n.p.	n.p.	26.1
55 years	Positive results	n.p.	n.p.	1,508
	Per cent	n.p.	n.p.	68.0
65 years	Number	n.p.	n.p.	1,833
	Per cent	n.p.	n.p.	67.5
Total	Number	22	3,498	3,520
	Per cent^(b)	53.7 (38.4–68.9)	62.7 (61.4–64.0)	62.6 (61.4–63.9)
Females				
50 years ^(a)	Number	n.p.	n.p.	208
	Per cent	n.p.	n.p.	30.7
55 years	Number	n.p.	n.p.	1,508
	Per cent	n.p.	n.p.	71.7
65 years	Number	n.p.	n.p.	1,477
	Per cent	n.p.	n.p.	69.5
Total	Number	15	3,178	3,193
	Per cent^(b)	45.5 (28.5–62.4)	65.2 (63.9–66.6)	65.1 (63.8–66.4)
Persons				
50 years ^(a)	Number	n.p.	n.p.	387
	Per cent	n.p.	n.p.	28.4
55 years	Number	n.p.	n.p.	3,016
	Per cent	n.p.	n.p.	69.8
65 years	Number	n.p.	n.p.	3,310
	Per cent	n.p.	n.p.	68.4
Total	Number	37	6,676	6,713
	Per cent^(b)	50.0 (38.6–61.4)	63.9 (63.0–64.8)	63.8 (62.9–64.7)

(a) People aged 50 years were invited to screen from 1 July 2008.

(b) The total rates reported in the table include 95% confidence intervals.

Notes

1. Indigenous status was defined by the participant on the Participant Details form.
2. There were 2,028 recorded colonoscopies and 5,911 positive FOBT results where Indigenous status was not stated. These are regarded as missing data and are excluded from this table. Hence the sum of the areas may be less than the national total.
3. Percentages of colonoscopies performed equal the number of people who have had a colonoscopy recorded following a positive FOBT as a proportion of the total number of people with positive FOBT results.
4. As progression through the pathway to the colonoscopy stage may take some time, some participants (particularly those aged 50 years) may not have had sufficient time to undergo a colonoscopy. Additionally, reporting of colonoscopy follow-up is not mandatory. Therefore, actual numbers of participant colonoscopies may be underestimated.

Source: AIHW & DoHA 2009

Mortality from bowel cancer

A major objective of the NBCSP is to reduce mortality from bowel cancer in Australia through early detection and treatment of bowel cancers and through identifying and treating polyps and adenocarcinomas, which might develop into cancer.

- The age-standardised rate of deaths from bowel cancer was lower (18 deaths per 100,000 population) in Indigenous in 2002–06 than in non-Indigenous people (20 people per 100,000) in Queensland, Western Australia, South Australia and the Northern Territory (AIHW & DoHA 2009).

Cervical cancer screening

A cervical cancer may take 10 or more years to develop, but, before this, the cervical cells may show pre-cancerous changes. These early changes can be detected by a pap smear and, if they are promptly treated, cervical cancer can be prevented. Self-reported data from the NATSIHS on the occurrence and regularity of pap smears among Aboriginal and Torres Strait Islander women are presented in the tables and figure below.

- In 2004–05, approximately 85% of Indigenous women aged 18 years and over reported ever having a pap smear test and 58% reported having regular pap smear tests (Table 3.03.9).
- In 2004–05, only 5.0% of Indigenous women aged 18 years and over reported that they had not heard of a pap smear test.

Pap smears by age and sex

- The 25–34 and 35–44 year age groups had the highest proportion (both 68%), and the 18–24 and 55 years and over age groups had the lowest proportion (both 43%) of Indigenous women who reported having regular pap smear tests (Table 3.03.9).

Table 3.03.9: Indigenous women aged 18 years and over reporting whether had a pap smear test(a), by age group, 2004–05

	18–24	25–34	35–44	45–54	55 and over	Total
	Per cent					
Has never had a pap smear test	32.1	8.7	6.0	5.5	13.6	13.2
Has had a pap smear test	65.8	90.7	91.9	92.5	82.2	84.9
Only had one pap smear test	17.0	5.0	3.7	4.1	5.8	7.2
More than one pap smear test but not regular	6.3	17.7	20.0	25.3	32.6	18.8
Has regular pap smear tests	42.5	67.8	68.0	61.6	42.9	58.4
At least annually	11.3	20.5	19.3	17.3	9.3	16.4
More than 1 year, up to and including 2 years	28.7	44.4	41.1	38.4	30.4	37.6
More than 2 years apart	2.5	2.9	7.6	5.7	3.2	4.4
All Indigenous women aged 18 and over ^(b)	26,193	33,330	29,487	18,831	15,454	123,295

(a) Should exclude data from women who have had a hysterectomy; however, these data were not collected in the NATSIHS.

(b) Excludes women who did not complete the NATSIHS form.

Source: AIHW analysis of 2004–05 NATSIHS

Pap smears by state/territory

- In 2004–05, the proportion of Indigenous women who reported never having had a pap smear test was highest in Western Australia (16%) and lowest in Victoria (11%) (Table 3.03.10).
- The proportion of Indigenous women who reported having regular pap smear tests was highest in the Northern Territory (72%) and lowest in New South Wales and Western Australia (both 52%).

Pap smears by remoteness and time series

- In 2004–05, the proportion of Indigenous women who reported never having had a pap smear test was lowest in *Inner regional* areas (7%) and highest in *Major cities* and *Outer regional* areas (both 15%) (Table 3.03.11).
- The proportion of Indigenous women who reported having regular pap smear tests was highest in the *Remote and very remote* areas (65%) and lowest in *Major cities* (54%).
- Over the period 2001 to 2004–05, the proportion of Indigenous women who reported having regular pap smear tests increased in remote areas (from 56% to 65%) and decreased in non-remote areas (from 52% to 47%), although this difference is not statistically significant (ABS 2006) (Figure 3.03.3).

Table 3.03.10: Indigenous women aged 18 years and over reporting whether had a pap smear test^(a), by state/territory, 2004–05

	NSW	Vic	Qld	WA	SA	NT	Tas/ACT ^(b)	Aust.
	Per cent							
Has never had a pap smear test	11.6	10.9	12.7	16.0	14.5	14.8	11.7	13.2
Has had a pap smear test	87.9	89.1	84.9	79.1	82.2	83.8	88.3	84.9
Only had one pap smear test	8.7	7.6	4.0	11.9	7.5	6.0	5.6	7.2
More than one pap smear test but not regular	26.2	18.2	20.3	15.2	15.3	6.0	21.4	18.8
Has regular pap smear tests	52.1	63.4	60.2	52.0	58.4	71.6	60.9	58.4
At least annually	17.7	18.2	17.9	9.2	13.9	17.5	20.0	16.4
More than 1 year, up to and including 2 years	30.3	35.4	39.3	35.2	38.4	51.6	38.0	37.6
More than 2 years apart	4.0	9.2	3.0	7.6	6.2	2.5	3.0	4.4
All Indigenous women aged 18 and over^(c)	34,014	6,607	34,938	18,457	6,770	17,214	5,296	123,295

(a) Should exclude data from women who have had a hysterectomy. However, these data were not collected in the NATSIHS.

(b) Due to confidentiality considerations, the samples from Tasmania and the Australian Capital Territory have been combined.

(c) Excludes women who did not complete the NATSIHS form.

Source: AIHW analysis of 2004–05 NATSIHS

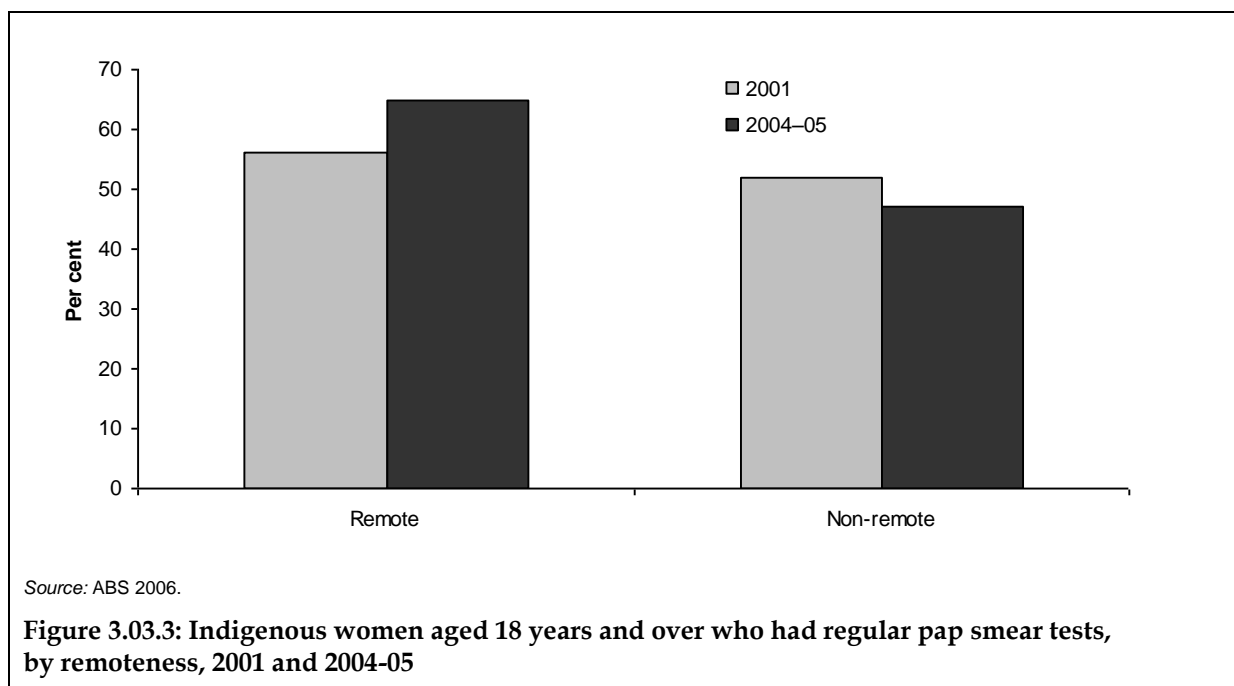
Table 3.03.11: Indigenous women aged 18 years and over reporting whether had a pap smear test^(a), by remoteness, 2004–05

	Major cities	Inner regional	Outer regional	Remote/Very remote	Aust.
	Per cent				
Has never had a pap smear test	15.0	7.2	14.8	13.7	13.2
Has had a pap smear test	84.2	92.8	84.7	81.2	84.9
Only had one pap smear test	9.3	4.6	7.9	6.2	7.2
More than one pap smear test but not regular	20.5	29.1	20.5	10.4	18.8
Has regular pap smear tests	53.8	58.6	55.5	64.6	58.4
At least annually	20.3	15.6	15.1	13.9	16.4
More than 1 year, up to and including 2 years	28.8	39.8	35.7	46.1	37.6
More than 2 years apart	4.7	3.1	4.7	4.6	4.4
All Indigenous women aged 18 and over^(b)	37,224	22,125	25,028	38,917	123,295

(a) Should exclude data from women who have had a hysterectomy. However, these data were not collected in the NATSIHS.

(b) Excludes women who did not complete the NATSIHS form.

Source: AIHW analysis of 2004–05 NATSIHS



Mortality from cervical cancer

Data on the mortality of Indigenous women from cervical cancer are presented below.

- Over the period 2003–2007 in New South Wales, Queensland, Western Australia, South Australia and the Northern Territory combined, there were 56 deaths of Indigenous women from cervical cancer. Indigenous women died at around 5 times the rate of non-Indigenous women in these states and territories (9.9 per 100,000 compared with 1.9 per 100,000) (AIHW 2010b).
- The age-standardised rate for Indigenous women aged 50–69 years, which is the target age for cervical cancer screening, was 8.3 per 100,000 compared with 2.0 per 100,000 for non-Indigenous women of the same age (AIHW 2010b).

Other screening activities

The OSR 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 2008–09, approximately 80% of respondent Aboriginal and Torres Strait Islander primary health-care services provided appropriate well persons checks, 80% provided pap smear/cervical screening and 78% provided diabetic screening (Table 3.03.12).
- Between 2001–02 and 2008–09, there was a slight increase in the proportion of Aboriginal and Torres Strait Islander primary health-care services providing cardiovascular screening (49% to 66%, respectively) and renal disease screening (44% to 54%, respectively) (Table 3.03.12; Figure 3.03.5).

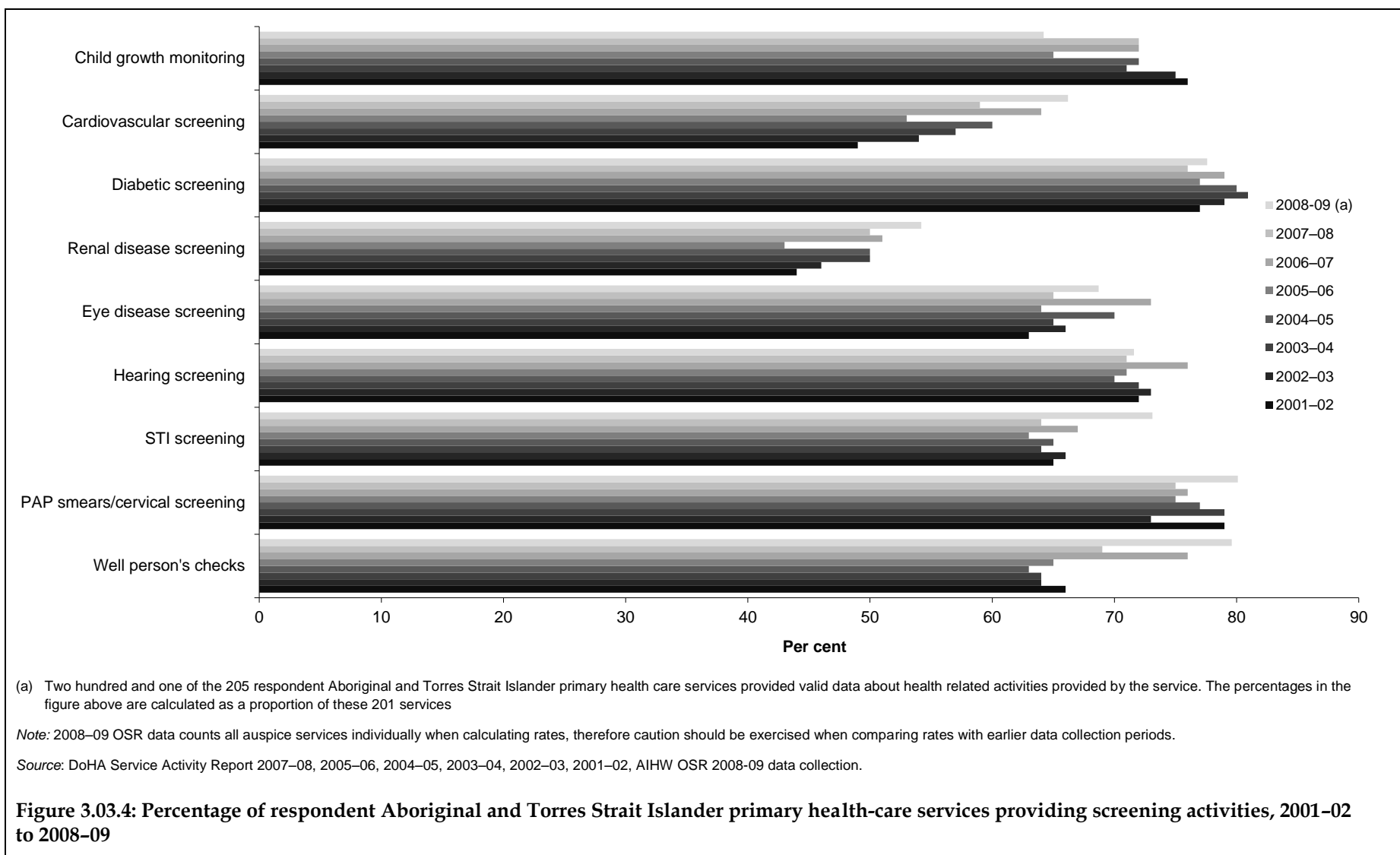
Table 3.03.12: Percentage of respondent Aboriginal and Torres Strait Islander primary health-care services providing screening activities, 2001–02 to 2008–09.

	2001–02	2002–03	2003–04	2004–05	2005–06	2006–07	2007–08	2008–09 ^(a)
Well person's checks	66.0	64.0	64.0	63.0	65.0	76.0	69.0	79.6
PAP smears/cervical screening	79.0	73.0	79.0	77.0	75.0	76.0	75.0	80.1
STI screening	65.0	66.0	64.0	65.0	63.0	67.0	64.0	73.1
Hearing screening	72.0	73.0	72.0	70.0	71.0	76.0	71.0	71.6
Eye disease screening	63.0	66.0	65.0	70.0	64.0	73.0	65.0	68.7
Renal disease screening	44.0	46.0	50.0	50.0	43.0	51.0	50.0	54.2
Diabetic screening	77.0	79.0	82.0	80.0	77.0	79.0	76.0	77.6
Cardiovascular screening	49.0	54.0	57.0	60.0	53.0	64.0	59.0	66.2
Child growth monitoring	76.0	75.0	71.0	72.0	65.0	72.0	72.0	64.2

(a) Two hundred and one of the 205 respondent Aboriginal and Torres Strait Islander primary health care services provided valid data about health related activities provided by the service. The percentages in the table above are calculated as a proportion of these 201 services.

Note: 2008–09 OSR data counts all auspice services individually when calculating rates, therefore caution should be exercised when comparing rates with earlier data collection periods.

Source: DoHA Service Activity Report 2007–08, 2005–06, 2004–05, 2003–04, 2002–03, 2001–02, AIHW OSR 2008-09 data collection.



Additional information

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 landmark 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 5-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 with advanced disease; this was not the case for the other three cancer sites.

Overall, the relative risk of cancer death was higher for Indigenous than non-Indigenous patients regardless of stage of diagnosis or cancer type (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, 5-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 study examined the role of stage of diagnosis in cancer for 815 Indigenous and 810 non-Indigenous patients diagnosed with cancer in Queensland between 1997 and 2002. It 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 or

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

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 monthly statistics have become relatively stable within 12 months.

Standard Indigenous status question

In November 2002, the ABS standard question on Indigenous identification was included on Medicare enrolment forms. The question is asked in relation to the cardholder and any other family member named on the card. Responding to the question is voluntary and there is an explanation of the reasons for the question and the use of the data included on the form. This is referred to as the Voluntary Indigenous Identifier.

Under-identification

Because the Voluntary Indigenous Identifier was only introduced recently, the coverage of Aboriginal and Torres Strait Islander Australians in this database is not complete. There were 210,351 people who had identified as Aboriginal and/or Torres Strait Islander in this database at January 2009: around 41% of the estimated Aboriginal and Torres Strait Islander population (AIHW 2010d). There has been a rapid expansion in the number of enrollees who identified as Aboriginal and/or Torres Strait Islander, from 47,200 people in August 2004.

Mortality data

Deaths

The mortality rate for Indigenous Australians can be influenced by identification of Indigenous deaths, late registration of deaths, and changes to death forms and/or processing systems. Because of the small size of the Indigenous population, these factors can significantly affect trends over time and between jurisdictions. At present, there is considerable variation across the states and territories in the completeness of mortality and hospital data for Indigenous people.

Indigenous status question

All jurisdictions comply with the standard wording for the Indigenous status question and categories for their death registration forms. However, although data are provided to the ABS for the Indigenous status question for 99% of all deaths, there are concerns regarding the accuracy of the data. The Indigenous status question is not always directly asked. Detailed breakdowns of Indigenous deaths are therefore provided for only five jurisdictions – New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Indigenous status information from the two sources is kept in the database, although this may not be consistent for an individual.

In 2004, a new range of codes were introduced as part of the effort to standardise and improve indigenous identification in data collection nationally.

Indigenous Mortality Quality Study

The ABS conducted a number of quality studies based on the 2006 Census of Population and Housing and other data sets as part of the Census Data Enhancement (CDE) project. The CDE Indigenous Mortality Quality Study linked Census records with death registration records and examined differences in the reporting of Indigenous status across the two data sets.

There were 106,945 registered death records available to be linked in the study. Of these, 1,800 (1.7%) were identified as Indigenous on the death registration. Of the total registered deaths, 98,898 (92%) were linked to a Census record. However, a much lower linkage rate was achieved for Indigenous deaths, with more than one quarter of all Indigenous death registrations (26% or 473) unable to be linked to a Census record. As a result, Indigenous death records were over-represented in the unlinked death registrations.

As well as being over-represented in unlinked death registrations, unlinked Indigenous death records had different characteristics to linked Indigenous death registrations. Indigenous death records with older ages at death and from non-remote regions were more likely to be linked.

Under-identification

Almost all deaths in Australia are registered. However, the Indigenous status of the deceased is not always recorded/recorded correctly. The incompleteness of Indigenous identification means the number of deaths registered as Indigenous is an underestimate of deaths occurring in the Aboriginal and Torres Strait Islander population (ABS 1997). As a result, the observed differences between Indigenous and non-Indigenous mortality are underestimates of the true differences.

Longer term mortality trend data are limited to three jurisdictions (Western Australia, South Australia and the Northern Territory) with 10 years of adequate identification of Indigenous deaths in their recording systems (ABS & AIHW 2005). The quality of the time series data is also influenced by the late inclusion of a 'not stated' category for Indigenous status in 1998. Before this time, the 'not stated' responses were probably included with the non-Indigenous.

The ABS calculated the implied coverage (identification) of Indigenous deaths for the period 2002–2006 using population estimates: New South Wales 45%, Victoria 32%, Queensland 51%, South Australia 62%, Western Australia 72%, Northern Territory 90%, Tasmania and the Australian Capital Territory were not calculated because of small numbers, Australia 55% (ABS 2008).

Note that different causes may have levels of under-identification that differ from the all-cause coverage estimates. Note also that the quality of the cause of death data depends on every step of the process of recording and registering deaths (including the documentation available at each step of the process) from certification to coding of cause of death.

There are also current concerns about data quality for causes of death, especially relating to external causes of death of all Australians (not just Indigenous) (ABS 2006).

Problems associated with identification result in an underestimation of deaths and hospital separations for Indigenous people.

Numerator and denominator

Rate and ratio calculations rely on good numerator and denominator data. There are changes in the completeness of identification of Indigenous people in death records. These may take place at different rates from changes in the identification of Indigenous people in other administrative collections and population censuses. Denominators used here are

sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2010* (ABS 2009).

National Bowel Cancer Screening Register

Data on bowel cancer screening are available from the NBCSR by Indigenous status. Data are collected about participants and their screening outcomes from a variety of sources and stored in the Register. The data are collected on questionnaires completed by participants, GPs, colonoscopists, pathologists and other specialists.

In the NBCSP, Aboriginal and Torres Strait Islander status relies on self-identification of participants. In 2008, only 63.6% supplied the relevant information, meaning the status was unknown for 91,313 (36.4%) participants. These participants were excluded from the analysis. Details of an invitee's Aboriginal and Torres Strait Islander status is not known at the time of invitation – these details are only collected if a person becomes a participant in the NBCSP and completes the relevant section of their Participant Details form. Hence, it is not possible to know the actual number of Aboriginal and Torres Strait Islander people that were invited into the NBCSP. Instead an estimated denominator was calculated from the proportion of people known to be Aboriginal and Torres Strait Islander using population estimates from the 2006 Census of Population and Housing, multiplied by the number of people invited into the NBCSP in 2008 (AIHW & DoHA 2009).

The data presented in this indicator are based on data recorded in the Register for the period 1 January 2008 to 31 December 2008. Because of both time lags in reporting and under reporting by clinicians, data on primary health care consultations, colonoscopies and colonoscopy outcomes in this report understate the true performance of the NBCSP. Therefore, these data should be treated with caution (AIHW & DoHA 2009).

A data supplement containing updates on preliminary numbers was released in 2010 including data for participants up to 31 January 2010, however this did not include Indigenous breakdowns (AIHW & DoHA 2010).

BreastScreen Australia

State and territory BreastScreen registers collect information on all breast cancer screening undertaken as part of BreastScreen Australia.

Women who attend for a screening mammogram at a BreastScreen Australia service are asked to complete a form that includes personal and demographic details, as well as personal and family history of breast cancer. The form also includes a question on Aboriginal and Torres Strait Islander status where women are able to identify as 'Aboriginal', 'Torres Strait Islander', 'both Aboriginal and Torres Strait Islander', or 'neither Aboriginal or Torres Strait Islander'. There is an additional 'not stated' category for women who choose not to answer this question. These responses are aggregated into the categories of 'Aboriginal and Torres Strait Islander', 'non-Indigenous' and 'not stated'. While self-reported data are generally a robust source of data on Aboriginal and Torres Strait Islander status (AIHW 2010a), a significant cause of concern with the accuracy of these data is that some jurisdictions do not allow for the 'not stated' category.

Further, some Aboriginal and Torres Strait Islander women may choose not to identify as such when presenting to a BreastScreen Australia service. Thus, some Aboriginal and Torres Strait Islander women may be incorrectly assigned non-Indigenous status. Indigenous status disaggregated by jurisdiction leads to very small numbers leading to issues around confidentiality and comparability.

Estimated Resident Populations and Indigenous Experimental Estimates and Projections are provided by the ABS.

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. It has therefore overcome 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 and 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 accommodate language and cultural appropriateness in traditional communities and help respondents understand 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 NATSIHS 2004–05 publication (ABS 2006).

OATSIH Services Reporting Data Collection

The data were collected using the OSR questionnaire, (surveying all auspice services) which combined previously separate questionnaires for primary health, substance use, and Bringing Them Home and Link up counselling services.

OATSIH sent a paper copy of the 2008–09 OSR questionnaire to each participating service and asked the service to complete the relevant sections. The participating services sent their completed OSR questionnaires directly to the AIHW.

The AIHW examined all completed questionnaires received to identify any missing data and data quality issues. Where needed, AIHW staff contacted the relevant services to follow up and obtain additional or corrected data. After manually entering the data on the data repository system, staff conducted further data quality checks.

The AIHW identified three major problems with the data quality: missing data, inappropriate data provided for the question, and divergence of data from two or more questions. The majority of 2008–09 OSR questionnaires received had one or more of these data quality issues.

Further information can be found in the data quality statement in the *Aboriginal and Torres Strait Islander Health Services Report, 2008–09: OATSIH Services Reporting – key results* (AIHW 2010c).

List of symbols used in tables

n.a.	not available
–	rounded to zero (including null cells)
0	zero
..	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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