

3.02 Immunisation (child and adult)

Vaccination coverage rates among Indigenous Australian children and adults

Data sources

Data for this measure come mainly 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. This included information on 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).

The Australian Childhood Immunisation Register (ACIR)

The ACIR is a national register that records details of vaccinations given to children under seven years of age who live in Australia. Immunisation coverage is produced at the national, state/territory and local level on a quarterly basis using the data recorded on the ACIR.

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

Childhood immunisation

In May 2005, the National Immunisation Program (NIP) schedule replaced the Australian Vaccination Schedule, and funds all recommended vaccines. From November 2005, the NIP schedule for children included vaccines for hepatitis B, diphtheria-tetanus-pertussis (DTP), haemophilus influenza type B (HIB), measles, mumps, rubella (MMR) and polio (NCIRS 2007, 2008).

Vaccination coverage rates for children aged 1 year, 2 years and 5 years as at 31 December 2009 are presented below.

- Aboriginal and Torres Strait Islander children had lower coverage for all vaccines at 1 year of age (84% compared with 92%), 2 years of age (87% and 91%) and at 5 years of age (78% and 83%), compared with other children (Table 3.02.1).
- Vaccination coverage for Indigenous children aged 1 and 5 years old was lower than for other children for all vaccines. At 2 years of age, the proportion of Indigenous and other children who were fully vaccinated against hepatitis B, DTP, polio and MMR was similar. However, the proportion of Indigenous children fully vaccinated against HIB at 2 years of age was lower than for other children (Table 3.02.1).
- Vaccination coverage for all vaccines for Indigenous children aged 1 year ranged from 74% in Western Australia to 92% in Tasmania. In Queensland, Western Australia, South Australia and the Northern Territory, Indigenous children aged 1 year had significantly lower coverage for all vaccines than other children (Table 3.02.2).
- Vaccination coverage for all vaccines for Indigenous children aged 2 years ranged from 73% in Western Australia to 96% in the Australian Capital Territory (ACT). Vaccination coverage rates were similar for Indigenous and other children aged 2 years in all states and territories except for Western Australia, where there was significantly lower coverage (Table 3.02.3).
- Vaccination coverage rates for all vaccines for Indigenous children aged 5 years ranged from 68% in the ACT to 86% in the Northern Territory. Vaccination coverage rates were similar for Indigenous and other children aged 5 years in all states and territories except for the Northern Territory where the proportion of Indigenous children fully vaccinated was higher (86% compared with 78%) (Table 3.02.4).

Table 3.02.1: Vaccination coverage estimates for children at age 1, 2 and 5 years, by Indigenous status, as at 31 December 2009^(a)

Vaccine	1 year			2 years			5 years		
	Indigenous	Other	Ratio ^(b)	Indigenous	Other	Ratio ^(b)	Indigenous	Other	Ratio ^(b)
	Per cent			Per cent			Per cent		
Hepatitis B	84.9	92.1	0.9*	92.8	93.7	1.0	n.a. ^(c)	n.a. ^(c)	..
DTP	85.0	92.6	0.9*	93.7	94.8	1.0	79.0	83.5	0.95*
Polio	84.9	92.6	0.9*	93.6	94.7	1.0	79.0	83.5	0.95*
HIB	85.9	92.3	0.9*	90.0	93.6	1.0*	n.a. ^(c)	n.a. ^(c)	..
MMR	n.a. ^(d)	n.a. ^(d)	..	93.1	93.7	1.0	79.5	83.3	0.95*
All vaccines	84.1	92.0	0.9*	87.1	91.1	0.96*	78.2	82.8	0.95*

* Represents results with statistically significant differences in the Indigenous/other comparisons.

(a) Three-month cohorts, for cohorts born between 1 July and 30 September 2008, 1 July and 30 September 2007, and 1 July and 30 September 2004, respectively.

(b) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

(c) Data are not collected for children aged 5 years who receive a HIB or hepatitis B vaccine.

(d) Data are not collected for children aged 1 year who receive a MMR vaccine.

Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, owing to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.2: Vaccination coverage estimates for selected diseases for children fully vaccinated at 1 year of age, by Indigenous status, as at 31 December 2009^(a)

	Vaccine					
	Hepatitis B	DTP	Polio	HIB	MMR ^(b)	All vaccines
New South Wales	Per cent					
Indigenous	87.2	87.3	87.1	87.2	n.a.	87.0
Other	92.5	92.9	92.8	92.6	n.a.	92.3
Ratio ^(c)	0.9	0.9	0.9	0.9	..	0.9
Victoria						
Indigenous	84.3	84.3	84.3	84.3	n.a.	84.3
Other	92.1	92.9	92.9	92.4	n.a.	92.0
Ratio ^(c)	0.9	0.9	0.9	0.9	..	0.9
Queensland						
Indigenous	85.8	85.8	85.8	85.9	n.a.	85.8
Other	92.4	92.7	92.7	92.5	n.a.	92.3
Ratio ^(c)	0.9*	0.9*	0.9*	0.9*	..	0.9*
Western Australia						
Indigenous	78.0	78.0	78.0	80.3	n.a.	73.7
Other	90.4	90.8	90.8	90.6	n.a.	90.2
Ratio ^(c)	0.9*	0.9*	0.9*	0.9*	..	0.8*
South Australia						
Indigenous	77.7	77.7	77.7	77.1	n.a.	77.1
Other	92.0	92.6	92.6	92.1	n.a.	91.9
Ratio ^(c)	0.8	0.8*	0.8*	0.8*	..	0.8*
Tasmania						
Indigenous	91.5	92.5	91.5	91.5	n.a.	91.5
Other	92.6	92.8	92.8	92.8	n.a.	92.6
Ratio ^(c)	1.0	1.0	1.0	1.0	..	1.0
Australian Capital Territory						
Indigenous	80.0	80.0	80.0	80.0	n.a.	80.0
Other	93.6	94.3	94.2	94.0	n.a.	93.5
Ratio ^(c)	0.9	0.8	0.8	0.9	..	0.9
Northern Territory						
Indigenous	86.7	87.0	87.0	93.2	n.a.	85.4
Other	91.7	91.7	91.5	92.5	n.a.	89.7
Ratio ^(c)	0.9	0.9	1.0	1.0	..	0.95*
Australia						
Indigenous	84.9	85.0	84.9	85.9	n.a.	84.1
Other	92.1	92.6	92.6	92.3	n.a.	92.0
Ratio ^(c)	0.9*	0.9*	0.9*	0.9*	..	0.9*

(continued)

Table 3.02.2 (continued): Vaccination coverage estimates for selected diseases for children fully vaccinated at 1 year of age, by Indigenous status, as at 31 December 2009^(a)

* Represents results with statistically significant differences in the Indigenous/other comparisons.

- (a) Three-month cohort, for cohort born between 1 July and 30 September 2008.
- (b) Children aged 1 year do not receive a MMR vaccine.
- (c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.3: Vaccination coverage estimates for selected diseases for children fully vaccinated at 2 years of age, by Indigenous status, as at 31 December 2009^(a)

	Vaccine					
	Hepatitis B	DTP	Polio	HIB	MMR	All vaccines
New South Wales	Per cent					
Indigenous	91.9	92.5	92.5	93.3	92.1	88.4
Other	94.0	94.5	94.4	94.6	93.3	91.8
Ratio ^(b)	1.0	1.0	1.0	1.0	1.0	1.0
Victoria						
Indigenous	93.7	95.3	95.3	94.2	94.8	92.7
Other	93.9	95.5	95.4	93.9	94.4	91.7
Ratio ^(b)	1.0	1.0	1.0	1.0	1.0	1.0
Queensland						
Indigenous	93.4	94.9	94.8	92.8	93.5	89.8
Other	92.8	94.2	94.2	91.7	93.3	89.5
Ratio ^(b)	1.0	1.0	1.0	1.0	1.0	1.0
Western Australia						
Indigenous	93.0	93.0	93.0	74.9	93.6	73.3
Other	93.9	94.4	94.3	94.0	93.6	91.2
Ratio ^(b)	1.0	1.0	1.0	0.8*	1.0	0.8*
South Australia						
Indigenous	87.0	88.6	88.1	84.3	89.2	83.2
Other	94.0	95.6	95.6	91.7	94.5	89.7
Ratio ^(b)	0.9	0.9	0.9	0.9	0.9	0.9
Tasmania						
Indigenous	94.5	95.3	95.3	95.3	92.2	90.6
Other	94.3	94.8	94.8	95.1	94.6	92.9
Ratio ^(b)	1.0	1.0	1.0	1.0	1.0	1.0
Australian Capital Territory						
Indigenous	95.8	95.8	95.8	95.8	95.8	95.8
Other	95.1	95.3	95.3	95.6	94.4	93.1
Ratio ^(b)	1.0	1.0	1.0	1.0	1.0	1.0
Northern Territory						
Indigenous	95.0	95.3	95.3	91.9	95.3	91.3
Other	92.8	93.7	93.7	92.4	93.5	90.2
Ratio ^(b)	1.0	1.0	1.0	1.0	1.0	1.0
Australia						
Indigenous	92.8	93.7	93.6	90.0	93.1	87.1
Other	93.7	94.8	94.7	93.6	93.7	91.1
Ratio ^(b)	1.0	1.0	1.0	0.96*	1.0	0.96*

(continued)

Table 3.02.3 (continued): Vaccination coverage estimates for selected diseases for children fully vaccinated at 2 years of age, by Indigenous status, as at 31 December 2009^(a)

* Represents results with statistically significant differences in the Indigenous/other comparisons.

(a) Three-month cohort, for cohort born between 1 July and 30 September 2007.

(b) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.4: Vaccination coverage estimates for selected diseases for children fully vaccinated at 5 years of age, by Indigenous status, as at 31 December 2009^(a)

	Vaccine					
	Hepatitis B ^(b)	DTP	Polio	HIB ^(b)	MMR	All vaccines
New South Wales	Per cent					
Indigenous	n.a.	78.2	78.1	n.a.	78.4	78.0
Other	n.a.	81.5	81.4	n.a.	81.3	80.9
Ratio ^(c)	..	1.0	1.0	..	1.0	1.0
Victoria						
Indigenous	n.a.	79.5	79.5	n.a.	81.4	79.1
Other	n.a.	86.9	86.8	n.a.	86.6	86.3
Ratio ^(c)	..	0.9	0.9	..	0.9	0.9
Queensland						
Indigenous	n.a.	79.0	79.1	n.a.	79.7	77.8
Other	n.a.	83.4	83.3	n.a.	83.2	82.6
Ratio ^(c)	..	0.9	0.9	..	1.0	0.9
Western Australia						
Indigenous	n.a.	75.5	75.5	n.a.	75.9	74.3
Other	n.a.	82.5	82.4	n.a.	81.9	81.4
Ratio ^(c)	..	0.9	0.9	..	0.9	0.9
South Australia						
Indigenous	n.a.	71.9	71.9	n.a.	73.3	71.9
Other	n.a.	81.4	81.5	n.a.	81.1	80.8
Ratio ^(c)	..	0.9	0.9	..	0.9	0.9
Tasmania						
Indigenous	n.a.	86.2	86.2	n.a.	85.1	85.1
Other	n.a.	87.5	87.4	n.a.	87.2	86.3
Ratio ^(c)	..	1.0	1.0	..	1.0	1.0
Australian Capital Territory						
Indigenous	n.a.	73.7	68.4	n.a.	68.4	68.4
Other	n.a.	86.4	86.2	n.a.	86.2	85.8
Ratio ^(c)	..	0.9	0.8	..	0.8	0.8
Northern Territory						
Indigenous	n.a.	86.9	86.9	n.a.	86.9	86.2
Other	n.a.	79.2	79.0	n.a.	78.8	77.8
Ratio ^(c)	..	1.1	1.1	..	1.1	1.1*
Australia						
Indigenous	n.a.	79.0	79.0	n.a.	79.5	78.2
Other	n.a.	83.5	83.4	n.a.	83.3	82.8
Ratio ^(c)	..	0.95*	0.95*	..	0.95*	0.95*

(continued)

Table 3.02.4 (continued): Vaccination coverage estimates for selected diseases for children fully vaccinated at 5 years of age, by Indigenous status, as at 31 December 2009^(a)

* Represents results with statistically significant differences in the Indigenous/other comparisons.

- (a) Three-month cohort, for cohort born between 1 July and 30 September 2004.
- (b) Children aged 5 years do not receive a Hib or Hepatitis B vaccine.
- (c) Ratio—coverage estimate for Indigenous children divided by coverage estimate for other children.

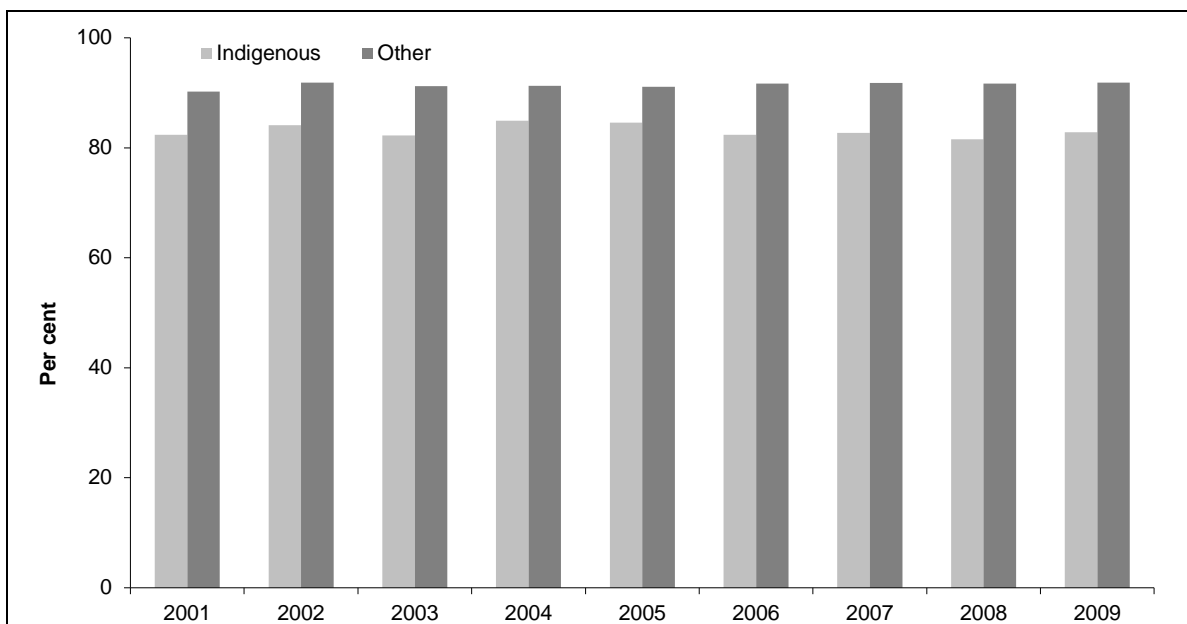
Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, owing to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Time series analyses

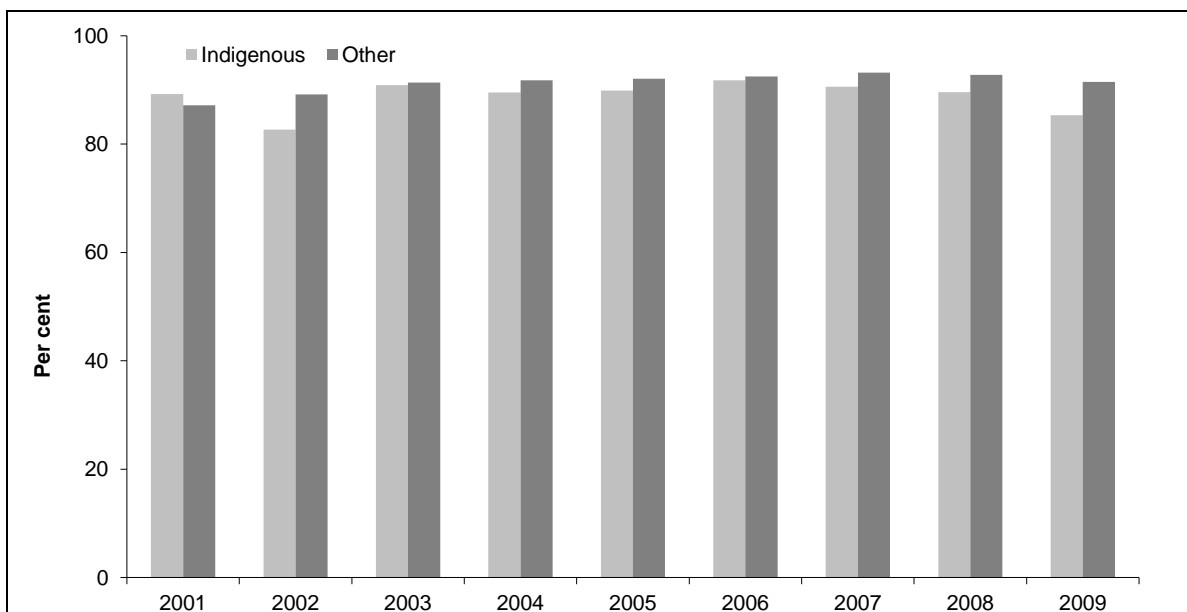
Longer term trend data are limited to five jurisdictions – New South Wales, Victoria, Western Australia, South Australia and the Northern Territory. Data from the ACT, Queensland and Tasmania have not been included because information on Indigenous status from these jurisdictions has not been routinely reported or transferred to the ACIR in previous years.

- Between 2001 and 2009, there was very little change in the proportion of Indigenous children who were fully vaccinated at one year of age, and a slight increase for other children (Table 3.02.5; Figure 3.02.1).
- Between 2001 and 2009, there was a no change in the proportion of Indigenous children who were fully immunised at 2 years of age and a significant increase in the proportion of other children who were fully immunised at two years of age (Table 3.02.5; Figure 3.02.2).
- Between 2008 and 2009, there was an increase in the proportion of Indigenous children and other children who were fully immunised at five years of age (Table 3.02.5; Figure 3.02.3).
- Between 2002 and 2007, there were significant increases in the proportion of Indigenous children and other children who were fully immunised at six years of age (Table 3.02.5; Figure 3.02.4).



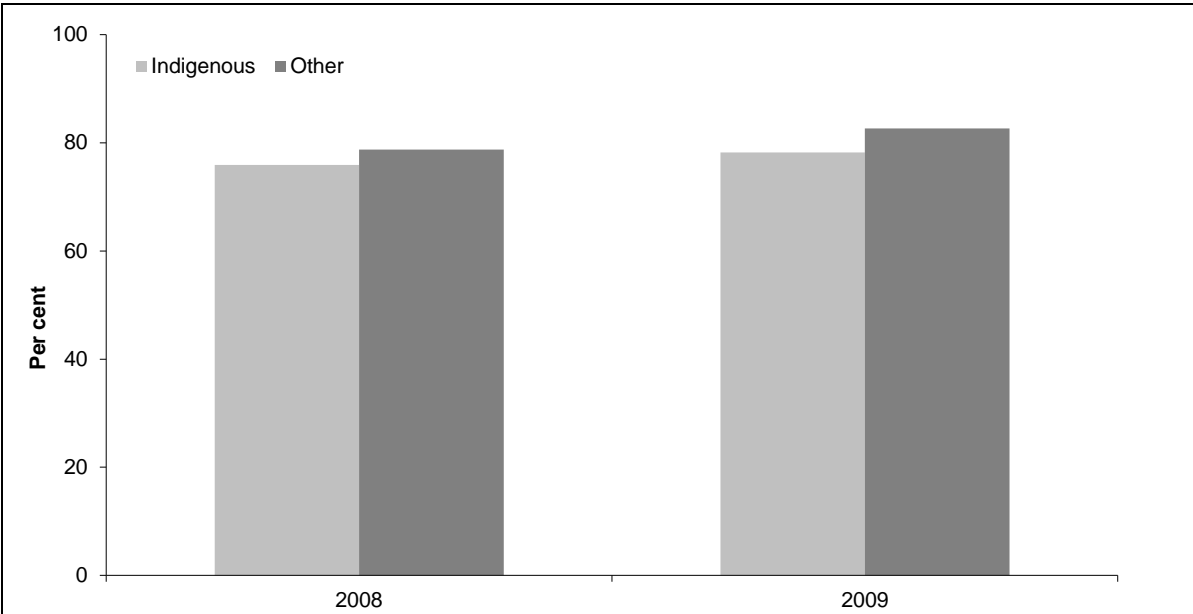
Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.1: Coverage rates for children fully vaccinated at age 1 year in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001-2009



Source: AIHW analysis of ACIR Medicare Australia data.

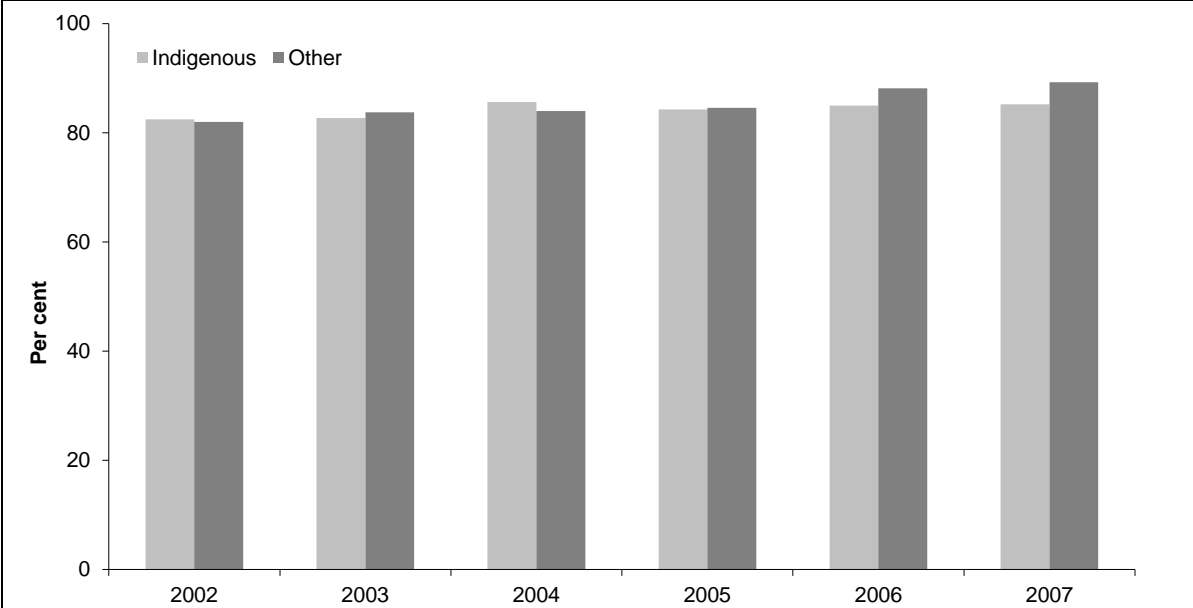
Figure 3.02.2: Coverage rates for children fully vaccinated at age 2 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001-2009



Note: From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, due to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.3: Coverage rates for children fully vaccinated at age 5 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2008 and 2009



Notes:

1. Data not available for children at age 6 years for 2001.
2. From 2008, fully vaccinated status for 5 year olds is reported in place of that for 6 year olds, due to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Figure 3.02.4: Coverage rates for children fully vaccinated at age 6 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2002-2007

Table 3.02.5: Coverage rates (per cent) for children fully vaccinated at age 1 years, 2 years, 5 years and 6 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2009

	Age 1 years			Age 2 years			Age 5 years			Age 6 years		
	Indig.	Other	Rate difference	Indig.	Other	Rate difference	Indig.	Other	Rate difference	Indig.	Other	Rate difference
2001	82.4	90.2	-7.8	89.3	87.2	2.1	n.a.	n.a.	..	n.a.	n.a.	..
2002	84.1	91.9	-7.8	82.7	89.2	-6.5	n.a.	n.a.	..	82.5	82.0	0.5
2003	82.2	91.2	-9.0	90.9	91.3	-0.5	n.a.	n.a.	..	82.7	83.7	-1.0
2004	85.0	91.3	-6.3	89.5	91.8	-2.2	n.a.	n.a.	..	85.6	83.9	1.7
2005	84.6	91.1	-6.5	89.9	92.1	-2.2	n.a.	n.a.	..	84.3	84.6	-0.3
2006	82.3	91.7	-9.3	91.8	92.5	-0.7	n.a.	n.a.	..	84.9	88.1	-3.2
2007	82.7	91.8	-9.0	90.6	93.2	-2.6	n.a.	n.a.	..	85.2	89.3	-4.0
2008	81.5	91.7	-10.2	89.6	92.8	-3.2	75.9	78.8	-2.8	n.a.	n.a.	..
2009	82.8	91.9	-9.0	85.3	91.5	-6.1	78.2	82.7	-4.5	n.a.	n.a.	..

Notes:

1. Data not available for six year olds for 2001.
2. From 2008, fully vaccinated status for five year olds is reported in place of that for 6 year olds owing to changes to NCIR reporting practices.

Source: AIHW analysis of ACIR Medicare Australia data.

Table 3.02.5 (supplemental information): Vaccination schedule 2010 for selected cohorts

Age cohort	Vaccine
12– <15 month age cohort	
DTP	Diphtheria 3 + Pertussis 3 + Tetanus 3
Polio	Polio 3
HIB	HBOC3 or PRPOMP2 or PRPOMP3 or PRPT3 or PRPD3 or HBX3 or CMX2 or CMX3 or IFHX3 or PDCL3 or PLCL3 or GNHIB2 or GNHIB3 HepB
MMR	not assessed
Fully vaccinated	DTP + Polio + HIB + HepB (All previous doses are presumed as given)
Only those immunisation services a child has received up to 12 months of age are included in the report.	
24– <27 month age cohort	
DTP	Diphtheria 3 + Pertussis 3 + Tetanus 3 or Diphtheria 4 + Pertussis 4
Polio	Polio 3
HIB	HBOC4 or PRPOMP3 or PRPOMP4 or PRPT4 or PRPD4 or HBX4 or CMX3 or CMX4 or IFHX3 or IFHX4 or PDCL4 or PLCL4 or GNHIB3 or GNHIB4
MMR	Measles 1 + Mumps 1 + Rubella 1
Fully vaccinated	DTP + OPV + HIB + HepB + MMR (All previous doses are presumed as given)
Only those immunisation services a child has received up to 24 months of age are included in the report.	
60– <63 month age cohort	
DTP	Diphtheria 4 + Pertussis 4 + Tetanus 4 or Diphtheria 5 + Pertussis 5
Polio	Polio 4
HIB	not assessed
MMR	Measles 2 + Mumps 2 + Rubella 2
Fully vaccinated	DTP + OPV + MMR (All previous doses are presumed as given)
Only those immunisation services a child has received up to 60 months of age are included in the report.	

Source: ACIR unpublished.

Self-reported data

Childhood immunisation

The 2004–05 NATSIHS provided 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 NHS, 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 4.0% of Indigenous children aged 0–6 years were partially immunised in 2001 and 7.0% were partially immunised in 2004–05 (Table 3.02.6).
- 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, but 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 3.02.7). 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 3.02.6: Immunisation status of children aged 0–6 years in non-remote areas, by Indigenous status, 2001 and 2004–05

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

(continued)

Table 3.02.6 (continued): Immunisation status of children aged 0–6 years in non-remote areas, by Indigenous status, 2001 and 2004–05

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

(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) Includes immunisation status not known.

(e) For children who had immunisation records available.

(f) Status derived based on vaccination schedule started.

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

Source: ABS 2006 (2001 NHS and 2004–05 NATSIHS).

Table 3.02.7: Factors influencing decision to immunise children aged 0–6 years in non-remote areas, by Indigenous status, 2001 and 2004–05

Factors influencing decision to immunise	2001		2004–05	
	Indigenous	Non-Indigenous	Indigenous	
	Per cent		Ratio ^(a)	Per cent
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 ^(b)	8	0.7	11
Reminder notification	5 ^(b)	3	2.0	8
Local access to clinic or doctor	4 ^(b)	3	1.2	6 ^(b)
Promotion through TV/radio/other media/clinic	3 ^(b)	4	0.9	5 ^(b)
Payment	0 ^(c)	1	0.3	3 ^(b)
Other	3 ^(b)	3	0.9	3 ^(b)
Total	100	100	..	100
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: AIHW analysis of ABS 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

Adolescent immunisation

From September 2003, the NIP schedule recommended catch-up hepatitis B vaccination for adolescents of one cohort within the age range of 10–13 years who had no prior history of disease or vaccination (NCIRS 2008).

The 2004–05 NATSIHS and NHS provide data on coverage for the hepatitis B vaccine for adolescents aged 10–17 years living in non-remote areas, which is not covered by the ACIR.

- In 2004–05, the proportions of Indigenous and non-Indigenous adolescents who had completed hepatitis B vaccination were comparable (51% and 50%, respectively).
- There were some variations across the states/territories, and generally the coverage estimates were lower in Indigenous adolescents, although the differences were not statistically significant (NCIRS 2008).

Adult immunisation

Aboriginal and Torres Strait Islander adults aged 50 years or over, and those aged 15 to 49 years with medical conditions putting them at high risk of disease or complications, are recommended for vaccination against influenza and pneumococcal disease. These two vaccines have been provided through the National Indigenous Pneumococcal and Influenza Immunisation (NIPII) Program since 1999. For other (non-Indigenous) adult Australians, the recommended age to receive these two vaccines is 65 years or over, and is funded through the Influenza Vaccine Program for Older Australians since 1999 and Pneumococcal Vaccination Program for Older Australians since January 2005 (NCIRS 2008).

The 2004–05 NATSIHS and NHS provide data on coverage for the influenza and pneumococcal vaccines in adults, as well as the presence of high-risk medical conditions that are indicators for vaccination in younger adults.

Risk factors

Influenza

The risk factors for which the influenza vaccine is recommended include at least one of many chronic medical conditions including severe asthma, diabetes mellitus, and chronic cardiovascular, respiratory and kidney conditions (NCIRS 2008).

- In 2004–05, approximately 17% of Indigenous Australians aged 18–49 years reported at least one of the chronic medical conditions that were considered risk factors of influenza for which vaccination was recommended. The proportion with at least one risk factor rose to 29% when current asthma was included (Table 3.02.8).
- Influenza vaccination coverage varied across jurisdictions. The highest influenza vaccination coverage was reported in the Northern Territory, where 55% of those who reported at least one risk factor, and 48% of the total Indigenous population aged 18–49 years, reported having the influenza vaccination in the last 12 months (Table 3.02.8).
- Of the 23% of the Indigenous population aged 18–49 who reported having the influenza vaccination in the last 12 months, 8.4% had at least one risk factor and 15% had no risk factors (NCIRS 2008).

Pneumococcal

The risk factors for which the pneumococcal vaccine is recommended include at least one of many chronic medical conditions (but not including asthma), heavy alcohol use and tobacco smoking (NCIRS 2008).

- In 2004–05, the proportion of Indigenous Australians aged 18–49 years who reported at least one of the chronic medical conditions or heavy alcohol use was 32%, which then rose to 66% when tobacco smoking was added (Table 3.02.9).
- Pneumococcal vaccination coverage varied across jurisdictions. The highest pneumococcal vaccination coverage was reported in the Northern Territory, where 25% of those who reported at least one risk factor, and 26% of the total Indigenous population aged 18–49 years, reported having the influenza vaccination in the last 5 years (Table 3.02.9).
- Of the 12% of the Indigenous population aged 18–49 who reported having the pneumococcal vaccination in the last 5 years, 8.6% had at least one risk factor and 3.4% had no risk factors (NCIRS 2008).

Table 3.02.8: Prevalence of self-reported risk factors and proportion of Indigenous population who had influenza vaccination in 12 months prior to survey, Indigenous adults aged 18 to 49 years, by state/territory, 2004–05

	NSW/ACT	Vic	Qld	WA	SA	Tas	NT	Aust.
	Per cent							
Prevalence of risk factor(s)								
Chronic conditions	15	16	17	20	16	15	22	17
Chronic conditions and asthma	28	29	31	29	25	30	26	29
Proportion who had influenza vaccination in the last 12 months								
Of those who reported at least one risk factor	14	23	35	31	33	17	55	29
Of total population	10	16	29	20	21	11	48	23

Source: NCIRS 2008.

Table 3.02.9: Prevalence of self-reported risk factors and proportion of Indigenous population who had pneumococcal vaccination in 5 years prior to survey, Indigenous adults aged 18 to 49 years, by state/territory, 2004–05

	NSW/ACT	Vic	Qld	WA	SA	Tas	NT	Aust.
	Per cent							
Prevalence of risk factor(s)								
Chronic conditions	15	16	17	20	16	15	22	17
Chronic conditions and heavy alcohol	31	30	34	38	30	26	28	32
Chronic conditions, heavy alcohol and tobacco	67	62	65	67	67	62	69	66
Proportion who had pneumococcal vaccination in the last 5 years								
Of those who reported at least one risk factor	4	10	20	9	10	3	25	13
Of total population	4	8	17	7	12	3	26	12

Source: NCIRS 2008.

Immunisation for adults aged 50 years and over

Data on immunisation of Indigenous persons aged 50 years and over come from the 2004–05 NATSIHS 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 3.02.10).
- 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 with 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 3.02.11).
- 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 of charge for the different population groups. In 2004–05, a lower proportion of Indigenous persons aged 50 years and over had been vaccinated against influenza in the last 12 months and pneumonia in the last 5 years (60% and 34%, respectively) than non-Indigenous persons aged 65 years and over (73% and 43%, respectively) (Figure 3.02.5).

Table 3.02.10: 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
Per cent						
Males						
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 ^(a)	14 ^(b)	12 ^(b)	8 ^(b)	18	15
Never had vaccination for influenza	19 ^(b)	46	40	10	32	26
Total^(c)	100	100	100	100	100	100
Had vaccination for pneumonia in last 5 years	58	16 ^(b)	24	53	23	31
Had vaccination for pneumonia but not in last 5 years	n.p.	8 ^(a)	6 ^(a)	—	n.p.	n.p.
Never had vaccination for pneumonia	34 ^(b)	74	66	38	70	61
Total^(d)	100	100	100	100	100	100
Females						
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 ^(b)	9 ^(b)	8 ^(b)	8 ^(b)	17	15
Never had vaccination for influenza	13 ^(b)	40	34	12	28	24
Total^(c)	100	100	100	100	100	100
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 ^(a)	1 ^(a)
Never had vaccination for pneumonia	41	76	68	36	65	56
Total^(d)	100	100	100	100	100	100
Persons						
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 ^(a)	11	10	8	18	15
Never had vaccination for influenza	16 ^(b)	43	37	11	30	25
Total^(c)	100	100	100	100	100	100

(continued)

Table 3.02.10 (continued): 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
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 ^(a)	3 ^(a)	—	1 ^(b)	1 ^(b)
Never had vaccination for pneumonia	38	75	67	37	67	58
Total^(d)	100	100	100	100	100	100

(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 'influenza vaccination status' not known and not applicable.

(d) Includes 'pneumonia vaccination status' not known and not applicable.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.02.11: 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 ^(a)	11
Had influenza vaccination but not known if in last 12 months ^(b)	0 ^(a)	1 ^(c)	1 ^(a)
Never had vaccination for influenza	30	9 ^(a)	15
Total	100	100	100
Had vaccination for pneumonia in last 5 years	30	48	43
Had vaccination for pneumonia but not in last 5 years	1 ^(a)	n.p.	1
Had vaccination for pneumonia but not known if in last 5 years ^(d)	7	n.p.	3
Never had vaccination for pneumonia	63	45	53
Total	100	100	100
Total number	36,917	12,237	2,430,253

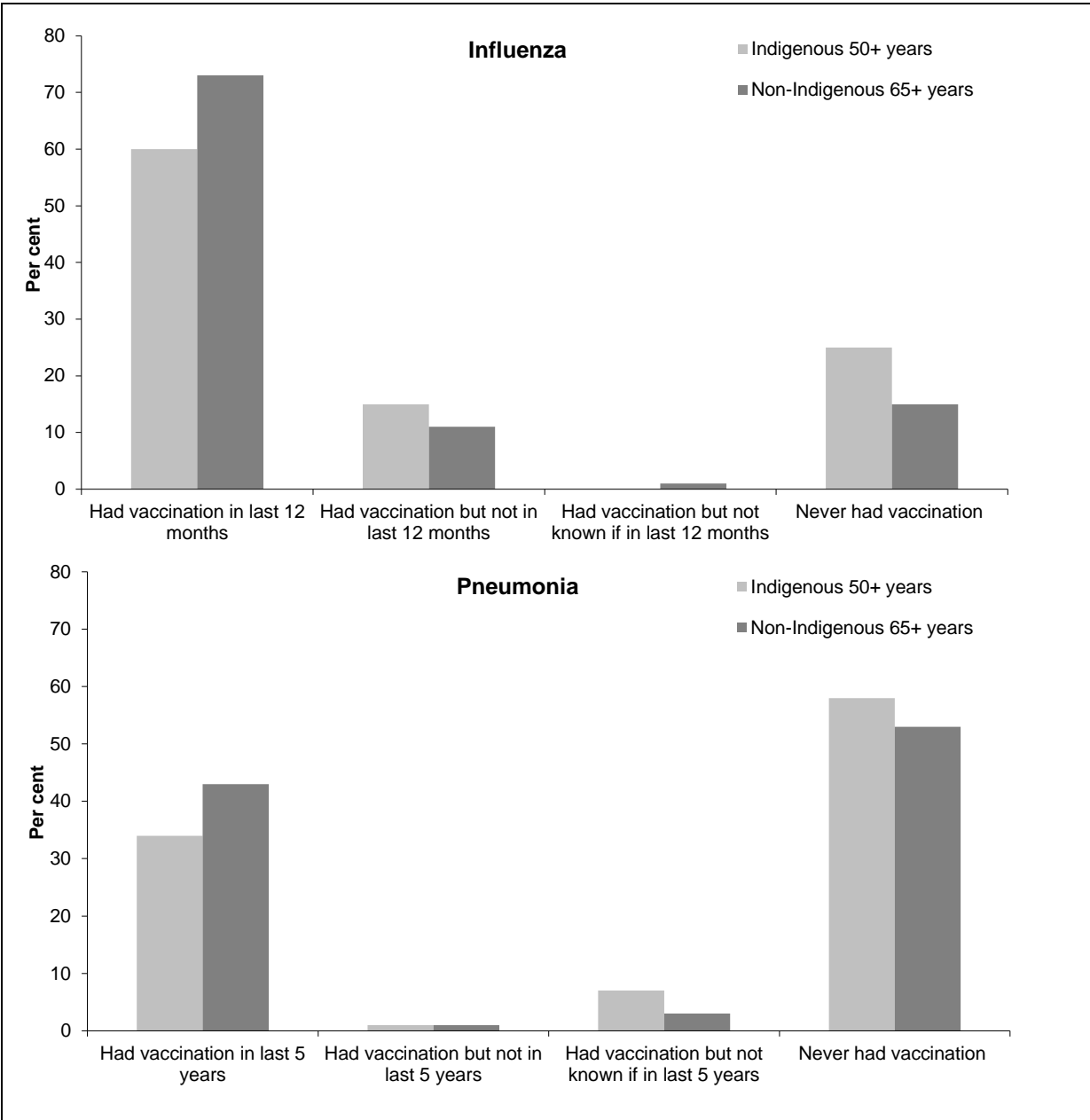
(a) Estimate has a relative standard error of 25% to 50% and should be used with caution.

(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: AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.



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

Figure 3.02.5: Immunisation status, Indigenous persons aged 50 years and over and non-Indigenous persons aged 65 years and over, 2004–05

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 3.02.12).
- 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 3.02.13). 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 3.02.12: Immunisation status, by access to health care, Indigenous persons aged 50 years and over, non-remote areas, 2004–05^(a)

Accessing health care ^(b)	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 ^(c)	25 ^(c)	28	33	56 ^(d)	26	28
Visited casualty	3 ^(c)	1 ^(d)	0 ^(d)	2 ^(c)	2 ^(c)	0	2 ^(c)	2 ^(c)
Visited outpatients	8	8 ^(d)	3 ^(c)	7	9 ^(c)	0	5 ^(c)	7
Visited day clinic	6 ^(c)	3 ^(d)	3 ^(d)	4	8 ^(c)	7 ^(d)	3 ^(c)	4
Doctor consultation (GP)	45	30	29	37	43	61 ^(d)	34	37
Specialist consultation	12 ^(c)	14 ^(c)	4 ^(c)	10	12 ^(c)	8 ^(d)	9 ^(c)	10
Dental consultation	6 ^(c)	1 ^(d)	5 ^(d)	5 ^(c)	4 ^(c)	0	6 ^(c)	5 ^(c)
Consultation with other health professional	20	17 ^(c)	26 ^(c)	21	20	13 ^(d)	22	21
Total accessing health care^(e)	67	55	53	61	67	71^(d)	58	61
Not accessing /not stated	33	45	47	39	33	29 ^(d)	42	39
Total	100	100	100	100	100	100	100	100
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 because persons may have reported more than one type of action.

Source: AIHW analysis of 2004–05 NATSIHS.

Table 3.02.13: Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05

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

(continued)

Table 3.02.13 (continued): Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004–05

Accessing health care ^(a)	Influenza				Pneumonia			
	Had vaccination in last 12 months	Had vaccination but not in last 12 months ^(b)	Never had vaccination	Total ^(c)	Had vaccination in last 5 years	Had vaccination but not in last 5 years ^(d)	Never had vaccination	Total ^(e)
Per cent								
Housing tenure type								
Owner	42	14	43	100	18	n.p.	77	100
Renter	67	15	17	100	42	1 ^(f)	50	100
Other ^(h)	68 ^(f)	16 ^(g)	15 ^(g)	100	40 ^(f)	n.p.	56 ^(f)	100
Treatment when seeking health care in last 12 months compared with non-Indigenous people								
Worse	55 ^(f)	26 ^(f)	19 ^(f)	100	46 ^(f)	n.p.	46 ^(f)	100
The same or better	62	13	25	100	36	1 ^(g)	58	100
Other ^(a)	42	28 ^(f)	28 ^(f)	100	18	n.p.	68	100
Total	60	15	25	100	34	1^(f)	58	100
Total number	29,394	7,397	12,173	49,154	16,880	28,695	304	49,154

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

(b) Includes 'Had influenza vaccination but not known if in the last 12 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 12 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: 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 vaccinations were provided free of charge (Table 3.02.14). In 2001, approximately 30% of Indigenous Australians aged 50 years and over in non-remote areas received influenza vaccinations free of charge, compared with 67% of non-Indigenous Australians.

Table 3.02.14: How influenza vaccination was obtained, persons aged 50 years and over, by Indigenous status, 2001 and 2004–05

Whether influenza vaccination free	2001			Rate ratio ^(a) (non-remote)	2004–05
	Indigenous (remote)	Indigenous (non-remote)	Non-Indigenous (non-remote)		Indigenous (non-remote)
	Per cent				
Not applicable	68	55	25	2.2*	48
Influenza and vaccination free of charge	27	30	67	0.5*	43
Influenza vaccination not free of charge	n.p.	15	7	2.0*	6
Not stated	n.a.	n.a.	n.a.	n.a.	n.p.
Not known	n.p.	—	1 ^(b)	n.a.	n.p.
Total	100	100	100	..	100
Total number	10,219	378,78	2,223,805	..	35,128

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

(a) Ratio—Indigenous: non-Indigenous.

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

Source: AIHW analysis of 2001 NHS (Indigenous supplement) and 2004–05 NATSIHS.

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. 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 NHS.

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).

Immunisation data

The 2004–05 NATSIHS collected immunisation status data for Indigenous Australian children in non-remote areas only. The 2004–05 NHS did not collect child immunisation data, so no comparative data are available for non-Indigenous children. The 2004–05 NHS 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 2004–05 NATSIHS publication (ABS 2006).

The Australian Childhood Immunisation Register (ACIR)

Registrations

The ACIR was established in 1996. The data used are from an administrative data collection, for which there is an incentive payment for notification, and further incentives for parents to have their child's vaccination status up to date.

The Register is linked to the Medicare enrolment register and approximately 99% of children are registered with Medicare by 12 months of age. Immunisations are notified to Medicare Australia by a range of providers, including general practitioners, councils, Aboriginal medical services and the state and territory health authorities.

Data have been reported using the ACIR definition of fully immunised children; that is, children who have received all age appropriate immunisations for diphtheria, tetanus, pertussis, hepatitis B, poliomyelitis, haemophilus influenza type B, measles, mumps and rubella.

The Varicella vaccine was added to the NIPS for children born from 1 May 2004; the Pneumococcal vaccine was added to the NIPS for children born from 1 January 2005; and the Rotavirus vaccine was added to the NIPS for children born from 1 May 2007. Consequently, data for these vaccinations are not available for the cohort of children being reported for this indicator in this iteration of the report.

Although there are now more vaccines than reported on the National Immunisation Program Schedule for children, these are not in scope for those children aged 5 years at the time of reporting.

A minimum 3-month lag period is allowed for late notification of immunisations to the Register. Data have been presented for children born between 1 January 2004 and 31 March 2004.

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 12 months of age. However, it is not currently possible to determine accurately whether this is true of the Indigenous Australian child population, nor 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.

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. A recent study (Rank and Menzies 2007) found that the reporting of Indigenous status on the ACIR has improved from 42% of the estimated national cohort of Indigenous children aged 12 to 14 months in 2002 to 95% in 2005. The ACIR holds records only for children up to seven 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 ACT, 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 because of the differences in the cohort used, population coverage, data collection method, method of calculating 'fully immunised' and vaccines included.

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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List of tables

Table 3.02.1: Vaccination coverage estimates for children at age 1, 2 and 5 years, by Indigenous status, as at 31 December 2009	1556
Table 3.02.2: Vaccination coverage estimates for selected diseases for children fully vaccinated at 1 year of age, by Indigenous status, as at 31 December 2009 .	1557
Table 3.02.3: Vaccination coverage estimates for selected diseases for children fully vaccinated at 2 years of age, by Indigenous status, as at 31 December 2009	1559
Table 3.02.4: Vaccination coverage estimates for selected diseases for children fully vaccinated at 5 years of age, by Indigenous status, as at 31 December 2009	1561
Table 3.02.5: Coverage rates (per cent) for children fully vaccinated at age 1 years, 2 years, 5 years and 6 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001-2009	1565
Table 3.02.6: Immunisation status of children aged 0-6 years in non-remote areas, by Indigenous status, 2001 and 2004-05	1568
Table 3.02.7: Factors influencing decision to immunise children aged 0-6 years in non-remote areas, by Indigenous status, 2001 and 2004-05	1570
Table 3.02.8: Prevalence of self-reported risk factors and proportion of Indigenous population who had influenza vaccination in 12 months prior to survey, Indigenous adults aged 18 to 49 years, by state/territory, 2004-05	1572
Table 3.02.9: Prevalence of self-reported risk factors and proportion of Indigenous population who had pneumococcal vaccination in 5 years prior to survey, Indigenous adults aged 18 to 49 years, by state/territory, 2004-05	1572
Table 3.02.10: Immunisation status, by sex and remoteness, Indigenous persons aged 50 years and over, 2001 and 2004-05.....	1574
Table 3.02.11: Immunisation status, Indigenous persons aged 50 years and over and non-Indigenous persons aged 65 years and over, 2004-05.....	1576
Table 3.02.12: Immunisation status, by access to health care, Indigenous persons aged 50 years and over, non-remote areas, 2004-05.....	1579
Table 3.02.13: Immunisation status, by selected population characteristics, Indigenous persons aged 50 years and over, 2004-05	1580
Table 3.02.14: How influenza vaccination was obtained, persons aged 50 years and over, by Indigenous status, 2001 and 2004-05.....	1582

List of figures

- Figure 3.02.1: Coverage rates for children fully vaccinated at age 1 year in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2009 1563
- Figure 3.02.2: Coverage rates for children fully vaccinated at age 2 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2001–2009 1563
- Figure 3.02.3: Coverage rates for children fully vaccinated at age 5 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2008 and 2009..... 1564
- Figure 3.02.4: Coverage rates for children fully vaccinated at age 6 years in NSW, Vic, WA, SA and NT combined, by Indigenous status, 2002–2007 1564
- Figure 3.02.5: Immunisation status, Indigenous persons aged 50 years and over and non-Indigenous persons aged 65 years and over, 2004–05 1577