1.11 HIV/AIDS, hepatitis C and sexually transmissible infections

The rate of notified sexually transmissible infections (STIs) for chlamydia, donovanosis, gonorrhoea, syphilis, hepatitis C and HIV/AIDS for Aboriginal and Torres Strait Islander people expressed as a rate by age group, gender, age-standardised rate and ratio

Data sources

Data are available from the National Notifiable Diseases Surveillance System held at the Department of Health and Ageing, and the National AIDS Registry and National HIV database held at the National Centre in HIV Epidemiology and Clinical Research (NCHECR).

National Notifiable Diseases Surveillance System

A set of 65 diseases and conditions are notifiable nationally to the National Notifiable Diseases Surveillance System (NNDSS), which the Australian Government Department of Health and Ageing manages.

Identification of Indigenous notifications in all states and territories is incomplete, with the level of completeness varying across diseases as well as jurisdictions. The NNDSS provided the Australian Institute of Health and Welfare (AIHW) with data on Indigenous status completeness by disease and jurisdiction. Using a cut-off of 50% completeness of Indigenous status Western Australia, South Australia, Tasmania and the Northern Territory were assessed to have adequate identification for chlamydia, syphilis, gonorrhoea and hepatitis C. Of the remaining states/territories, Queensland and Victoria had insufficient Indigenous identification for chlamydia, but adequate identification for syphilis, gonorrhoea and hepatitis C; New South Wales only had adequate identification for hepatitis C and the Australian Capital Territory did not have adequate identification for any of the STIs. Only Queensland and the Northern Territory had adequate identification for donovanosis.

The NNDSS extracted current period data (2006–2008) for this indicator in April 2010.

Although data on hepatitis C is included in this indicator, sexual transmission is not considered the main route of transmission—hepatitis C primarily occurs among those with a history of injecting drug use. Data for hepatitis C included in this indicator are for newly acquired notifications only (excluding Queensland, as hepatitis C data are reported in a separate category).

All categories of syphilis (including infectious, latent and unknown duration) have been included in the analysis in this indicator.

Detailed accounts of the methods of data collection and methods that the National Notifiable Disease Surveillance System (NNDSS) uses within the Department of Health and Ageing can be found here <http://www.health.gov.au/internet/main/publishing.nsf/Content/cda-surveil-nndss-nndssintro.htm>.

National Centre in HIV Epidemiology and Clinical Research

Notifications of HIV infections are forwarded to the National Centre in HIV Epidemiology and Clinical Research (NCHECR). Recording of Indigenous status in the NCHECR data is considered reliable in all states and territories.

Notifications for which Indigenous status was not reported have been included with notifications data for non-Indigenous people under the 'other' category.

Data are presented for the 3-year period 2006–2008 because notifications of some diseases are too small to present for a single year.

Analyses

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

Notification rates by age and sex

Chlamydia, syphilis, gonorrhoea, hepatitis C and donovanosis

Age-specific notification rates for chlamydia, syphilis, gonorrhoea and hepatitis C are presented in Table 1.11.1.

- For the 3-year period 2006–2008, chlamydia was the most frequently reported notifiable condition among both Indigenous and other males and females. The highest notification rates for chlamydia were in the 15–24 and 25–34 year age groups for both Indigenous and other males and females.
- For the 3-year period 2006–2008, in Western Australia, South Australia, Tasmania and the Northern Territory notification rates for chlamydia, syphilis, gonorrhoea and hepatitis C were higher among Indigenous males and females than among other males and females across all age groups, except for rates of hepatitis C in females aged 0–14, 45–54 and 65+ and males aged 0–14, 45–54 and 65+ where the numbers were too small to be reported.
- Rate ratios were generally highest among males and females aged 0–14 years. This is likely to be due to the very small number of notifications among other Australians in these age groups. Chlamydia notification rates among Indigenous males and females aged 0–14 years were 21–40 times the rates for other males and females; syphilis notification rates were 31–48 times as high; gonorrhoea notification rates were 154–202 times as high and Hepatitis C notification rates were 0–5 times as high as the other males and females of the same age.
- Rates for chlamydia and gonorrhoea were highest among males and females aged 15–24 years for both Indigenous and other Australians.

HIV and AIDS

Age-specific notification rates for AIDS and HIV are presented in Table 1.11.2 below.

- For the period 2006–2008, the rates of newly diagnosed HIV infections were similar for Indigenous and other males across most age groups. Over the same period, HIV

notification rates were higher among Indigenous females than among other females across most age groups.

- Between 2006 and 2008, notification rates for AIDS were higher among Indigenous males than among other males in the 15–24 year age groups (rate ratio of 6.8). Indigenous females had higher notification rates than other females for AIDS in the 25–34 year age group (ratio of 8.0).
- The rates of newly diagnosed HIV infections were highest among those aged 25–34 and 35–44 years in both the Indigenous and other Australian populations.
- HIV and AIDS notification rates were generally higher among males than females across age groups in both population groups.

Table 1.11.1: Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and sex, 2006–2008[a][b]

	Males			Females			Persons		
	Indigenous	Other[c]	Rate ratio[d][e]	Indigenous	Other[c]	Rate ratio[d][e]	Indigenous	Other[d]	Rate ratio[e][f]
					Chlamydia[f]				
0–14	69.4	1.7	40.3*	352.5	16.9	20.9*	208.9	9.1	23.0*
15–24	3,509.6	831.5	4.2*	6,276.6	1,726.1	3.6*	4,911.7	1,266.4	3.9*
25–34	1,876.7	520.9	3.6*	2,571.4	503.8	5.1*	2,261.4	513.1	4.4*
35–44	770.0	135.7	5.7*	810.0	104.2	7.8*	807.4	120.6	6.7*
45–54	309.4	57.5	5.4*	260.2	26.4	9.8*	285.9	42.1	6.8*
55–64	132.3	28.5	4.6*	94.6	6.7	14.1*	116.1	17.8	6.5*
65+	156.3	5.6	28.1*	n.p.	n.p.	40.1*	82.3	2.9	28.1*
Total	1,155.6	220.8	5.2*	1,875.1	319.2	5.9*	1,533.5	270.4	5.7*
Total age standardised[c]	**959.9**	**220.9**	**4.3***	**1,471.4**	**333.6**	**4.4***	**1,224.7**	**275.7**	**4.4***
					Syphilis[g][h]				
0–14	6.3	0.2	31.0*	16.6	0.3	47.7*	11.4	0.3	41.5*
15–24	192.9	8.4	22.9*	223.7	4.0	55.7*	214.9	6.3	34.0*
25–34	207.8	23.2	9.0*	162.1	7.1	22.9*	186.0	15.3	12.2*
35–44	226.6	28.3	8.0*	196.2	5.7	34.2*	212.3	17.0	12.5*
45–54	242.1	21.2	11.4*	218.9	3.6	60.4*	230.0	12.4	18.6*
55–64	189.0	14.4	13.1*	170.6	2.8	61.7*	179.2	8.6	20.9*
65+	279.6	11.8	23.7*	200.7	4.9	40.8*	236.6	8.0	29.4*
Total	135.1	14.7	9.2*	133.4	3.9	33.8*	136.0	9.3	14.6*
Total age standardised[c]	**180.3**	**14.6**	**12.3***	**159.6**	**3.9**	**40.8***	**170.6**	**9.3**	**18.4***

(continued)

Table 1.11.1 (continued): Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and sex, 2006–2008[a][b]

	Males			Females			Persons		
	Indigenous	Other[c]	Rate ratio[d][e]	Indigenous	Other[c]	Rate ratio[d][e]	Indigenous	Other[c]	Rate ratio[d][e]
					Gonorrhoea[g]				
0–14	43.1	0.3	154.2*	200.2	1.0	201.7*	122.0	0.6	194.8*
15–24	2,526.7	69.3	36.5*	3,086.1	32.2	95.7*	2,826.9	51.5	54.9*
25–34	1,865.0	80.0	23.3*	1,590.3	15.9	99.7*	1,742.9	48.3	36.1*
35–44	786.3	52.4	15.0*	584.4	7.8	75.3*	695.4	30.2	23.0*
45–54	348.0	28.6	12.2*	150.6	3.1	48.6*	250.9	15.8	15.8*
55–64	168.4	12.4	13.6*	50.8	1.1	46.3*	109.8	6.7	16.3*
65+	43.0	3.0	14.5*	30.9	0.3	89.8*	35.9	1.6	23.1*
Total	930.3	34.7	26.8*	991.3	8.5	117.0*	971.4	21.6	44.9*
Total age standardised[c]	**817.2**	**34.6**	**23.6***	**812.4**	**8.7**	**93.2***	**821.3**	**21.8**	**37.6***
					Hepatitis C[j]				
0–14	n.p.	n.p.	4.5	0.0	n.p.	0.0	n.p.	n.p.	2.5
15–24	26.3	5.8	4.6*	22.1	4.2	5.2*	24.2	5.0	4.8*
25–34	33.6	8.8	3.8*	17.6	4.4	4.0*	25.5	6.6	3.9*
35–44	10.3	2.9	3.5*	8.1	2.2	3.6*	9.2	2.6	3.5*
45–54	n.p.	n.p.	1.5	n.p.	n.p.	15.3*	4.9	0.9	5.3*
55–64	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.3	0.0
65+	0.0	n.p.	0.0	0.0	n.p.	0.0	0.0	0.1	0.0
Total	11.6	2.7	4.2*	8.5	1.6	5.2*	10.0	2.2	4.6*
Total age standardised[c]	**10.6**	**2.8**	**3.8***	**7.9**	**1.7**	**4.7***	**9.2**	**2.2**	**4.1***

(continued)

Table 1.11.1 (continued): Age-specific notification rates per 100,000 for chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and sex, 2006–2008[(a)(b)]

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.

(d) Rate ratio Indigenous:other.

(e) Because of the very high rates of syphilis and gonorrhoea in the Indigenous population and low rates of these STIs in the other population, rate ratios are large and may vary between reports, as fairly minor changes in rates can result in large changes in the resulting ratios.

(f) Data are reported for Western Australia, South Australia, Tasmania and the Northern Territory (note 2008 Northern Territory data is preliminary). These four jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(g) Data are reported for Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory (note 2008 Northern Territory data is preliminary). These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(h) Data includes all nominations of syphilis, including cases of more than 2 years or unknown duration.

(i) Data are reported for New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory (note 2008 Northern Territory data is preliminary). These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(j) Directly age-standardised using the Australian 2001 standard population using 5 year age groups up to 65+.

Source: AIHW analysis of NNDSS data.

Table 1.11.2: Age-specific notification rates per 100,000 for HIV and AIDS, by Indigenous status and sex, 2006–2008[a][b]

	Males			Females			Persons		
	Indigenous	Other[c]	Rate ratio[d]	Indigenous	Other[c]	Rate ratio[d]	Indigenous	Other[c]	Rate ratio[d]
					HIV				
0–14	0.0	n.p.	0.0	0.0	0.2	0.0	0.0	n.p.	0.0
15–24	5.0	4.8	1.0	n.p.	n.p.	0.4	2.9	3.2	0.9
25–34	13.7	17.7	0.8	6.3	4.0	1.6	9.9	10.9	0.9
35–44	17.8	19.7	0.9	n.p.	n.p.	1.8	10.5	10.9	1.0
45–54	n.p.	n.p.	0.3	n.p.	n.p.	1.3	n.p.	n.p.	0.4
55–64	0.0	5.2	0.0	0.0	0.4	0.0	0.0	2.8	0.0
65+	0.0	1.5	0.0	0.0	n.p.	0.0	0.0	0.7	0.0
Total	5.3	8.4	0.6*	1.6	1.3	1.3	3.5	4.8	0.7*
Total age-standardised[e]	**6.0**	**8.5**	**0.7***	**1.8**	**1.3**	**1.4**	**3.9**	**4.9**	**0.8**
					AIDS[f]				
0–14	0.0	n.p.	0.0	0.0	n.p.	0.0	0.0	n.p.	0.0
15–24	n.p.	n.p.	6.8	0.0	n.p.	0.0	n.p.	n.p.	4.5
25–34	n.p.	n.p.	0.6	n.p.	n.p.	8.0*	n.p.	n.p.	1.9
35–44	n.p.	n.p.	0.3	0.0	0.3	0.0	n.p.	n.p.	0.3
45–54	0.0	3.0	0.0	0.0	0.2	0.0	0.0	1.6	0.0
55–64	0.0	1.6	0.0	0.0	0.2	0.0	0.0	0.9	0.0
65+	0.0	0.6	0.0	0.0	n.p.	0.0	0.0	0.3	0.0
Total	n.p.	n.p.	0.3*	n.p.	n.p.	2.7	0.4	0.8	0.5
Total age-standardised[e]	**n.p.**	**n.p.**	**0.3***	**n.p.**	**n.p.**	**2.9**	**0.4**	**0.8**	**0.5**

(continued)

Table 1.11.2 (continued): Age-specific notification rates per 100,000 for HIV and AIDS, by Indigenous status and sex, 2006–2008[(a)(b)]

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.
(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.
(c) Includes notifications for non-Indigenous Australians and those for whom Indigenous status was not stated.
(d) Rate ratio Indigenous:other.
(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 65+.
(f) Excludes 2008 data from NSW, data not available due to incompleteness.

Source: AIHW analysis of NCHECR data.

Notification rates by state/territory

Notification rates for chlamydia, syphilis, gonorrhoea and hepatitis C for the period 2006–2008 for New South Wales, Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory are presented in Table 1.11.3, and notification rates for HIV and AIDS for all states and territories are presented in Table 1.11.4.

Chlamydia

- For the period 2006–2008, there were 42,762 notifications of chlamydia in Western Australia, South Australia, Tasmania and the Northern Territory, 20% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people ranged from 2% in Tasmania to 61% in the Northern Territory.
- In Western Australia, South Australia, Tasmania and the Northern Territory combined, notifications rates of chlamydia among Indigenous males and females were four times those of other males and females.
- Rate ratios for chlamydia among males and females were highest in Western Australia (Indigenous rates were around four times those of other males and females) and lowest in Tasmania (Indigenous rates were 0.3 times those of other males and females).

Syphilis

- For the period 2006–2008, there were 5,268 notifications of syphilis in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 29% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people was largest in the Northern Territory (89%).
- In Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, notification rates for syphilis among Indigenous males and females were 12 and 41 times the rates for other males and females.
- In Western Australia rates of syphilis among Indigenous people were markedly higher than among other people (37 times as high).
- Notification rates for syphilis among Indigenous males and females were similar (180 and 160 per 100,000 respectively); however the notification rate for other males was four times the rate for other females (15 compared to 3.9). This, in general, indicates that syphilis infections occur predominately through heterosexual contact in the Indigenous population, whereas in the other population transmission is generally through men who have sex with men (NCHECR 2010).

Gonorrhoea

- For the period 2006–2008, there were 19,446 notifications of gonorrhoea in Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, 55% of which were notifications of Aboriginal and Torres Strait Islander people. The percentage of notifications that occurred among Indigenous people was largest in the Northern Territory (88%) followed by Western Australia (74%).
- In Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory combined, notification rates of gonorrhoea among Indigenous males and females were 24 and 93 times the rates of other males and females respectively.

- Rates of gonorrhoea among Indigenous females were much higher than among other females in Western Australia and South Australia (132 and 89 times as high respectively).
- Notification rates for gonorrhoea among Indigenous males and females were similar (817 and 812 per 100,000 respectively); however the notification rate for other males was four times the rate for other females (35 compared to 9). This, in general, indicates that gonorrhoea infections occur predominately through heterosexual contact in the Indigenous population, whereas in the other population transmission is generally through men who have sex with men (NCHECR 2010).

Hepatitis C (newly acquired)

Hepatitis C (newly acquired) rates should be interpreted with caution as they are highly reliant on public health follow-up, therefore completeness and identification of newly acquired status of cases varies by jurisdiction.

- For the period 2006–2008, there were 1,170 notifications of hepatitis C (newly acquired) in New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory combined, 10% of which were notifications of Aboriginal and Torres Strait Islander people.
- In New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory combined, Indigenous males and females were four and five times as likely to contract hepatitis C as other males and females.
- In Western Australia, notification rates of hepatitis C among Indigenous males and females were six and seven times those of other males and females. In South Australia, the rates among Indigenous males and females were five and six times those of other males and females respectively.

Donovanosis

- For the period 2006–2008, there were five notifications of donovanosis in Australia, four of which were notifications of Aboriginal and Torres Strait Islander people. All of these recorded notifications took place in Queensland and the Northern Territory. Rates have not been calculated for these states and territories because of the small numbers of notifications.

HIV

- Over the period 2006–2008, there were 3,041 HIV notifications in Australia, 2% of which were notifications of Indigenous Australians.
- After adjusting for differences in age structure, notification rates for HIV were similar among Indigenous males and other males for the period 2006–08. HIV notification rates for Indigenous females were around 1.4 times those for other females over the same period.
- Of the states and territories for which rates could be calculated, Indigenous males in South Australia were approximately twice as likely to contract HIV as other males, and Indigenous females in Western Australia were approximately four times as likely to contract HIV as other females.

AIDS

- Over the period 2006–2008, there were 459 cases of AIDS in Australia, 1% of which were notifications of Indigenous Australians.

- The notification rate for AIDS among Indigenous Australians was half that of other Australians. Of the states and territories for which numbers were large enough to calculate rates, only Indigenous persons in Western Australia had rates greater than other Australians.

Table 1.11.3: Notification rates for Chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and state/territory, 2006-2008[a][b]

		Males					Females			Persons		
		Indigenous	Other[d]	Indigenous	Other[d]		Indigenous	Other[d]		Indigenous	Other[d]	
	Number	Per cent		Number per 100,000		Ratio[e][f]	Number per 100,000		Ratio[e][f]	Number per 100,000		Ratio[e][f]
						Chlamydia						
WA	22,291	16.3	83.7	1,021.2	249.2	4.1*	1,605.6	356.8	4.5*	1,304.6	300.8	4.3*
SA	10,244	7.8	92.2	605.7	167.2	3.6*	887.5	259.3	3.4*	746.2	211.9	3.5*
Tas	3,668	2.0	98.0	43.4	192.7	0.2*	137.2	367.7	0.4*	88.5	278.3	0.3*
NT[g]	6,559	60.9	39.1	1,302.1	412.3	3.2*	1,953.6	640.1	3.1*	1,659.9	532.4	3.1*
WA, SA, Tas & NT[h]	**42,762**	**19.9**	**80.1**	**959.9**	**220.9**	**4.3***	**1,471.4**	**333.6**	**4.4***	**1,224.7**	**275.7**	**4.4***
						Syphilis[i]						
Vic	2,243	1.6	98.4	52.6	22.5	2.3*	38.7	5.6	6.9*	46.8	14.0	3.3*
Qld	1,288	27.8	72.2	122.5	11.8	10.4*	100.0	3.6	28.0*	111.0	7.7	14.5*
WA	693	49.4	50.6	209.5	8.4	24.8*	209.0	2.8	74.0*	208.6	5.7	36.9*
SA	142	21.8	78.2	35.7	4.6	7.8*	31.6	0.3	92.6*	33.5	2.5	13.5*
Tas	80	n.p.	n.p.	n.p.	n.p.	0.5	—	3.3	—	n.p.	n.p.	0.3
NT[g]	822	89.2	10.8	469.7	29.8	15.8*	400.3	7.2	55.7*	435.0	19.4	22.4*
Vic, Qld, WA, SA, Tas & NT[j]	**5,268**	**28.5**	**71.5**	**180.3**	**14.6**	**12.3***	**159.6**	**3.9**	**40.8***	**170.6**	**9.3**	**18.4***

(continued)

Table 1.11.3 (continued): Notification rates for Chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and state/territory, 2006-2008[a][b]

		Males					Females				Persons		
		Indigenous	Other[d]	Indigenous	Other[d]		Indigenous	Other[d]		Indigenous	Other[d]	
	Number	Per cent		Number per 100,000[c]		Ratio[e][f]	Number per 100,000[c]		Ratio[e][f]	Number per 100,000[c]		Ratio[e][f]
Gonorrhoea												
Vic	3,253	0.6	99.4	21.3	35.8	0.6	10.7	5.7	1.9	16.0	20.8	0.8
Qld	4,586	39.6	60.4	309.2	35.6	8.7*	342.5	10.4	33.1*	324.4	23.0	14.1*
WA	5,119	74.1	25.9	1,547.5	31.8	48.6*	1,412.7	10.7	132.4*	1,476.9	21.4	68.9*
SA	1,445	51.4	48.6	819.3	24.0	34.1*	671.2	7.5	89.1*	741.8	15.8	47.0*
Tas	81	n.p.	n.p.	n.p.	n.p.	0.8	n.p.	n.p.	2.3	n.p.	n.p.	1.1
NT[g]	4,962	87.5	12.5	1,722.9	164.4	10.5*	1,870.3	74.1	25.2*	1,839.6	127.8	14.4*
Vic, Qld, WA, SA, Tas & NT[j]	**19,446**	**55.1**	**44.9**	**817.2**	**34.6**	**23.6***	**812.4**	**8.7**	**93.2***	**821.3**	**21.8**	**37.6***
Hepatitis C												
NSW	131	10.7	89.3	2.5	0.7	3.7*	2.6	0.5	5.1*	2.5	0.6	4.3*
Vic	513	3.9	96.1	13.6	4.0	3.4*	18.6	2.4	7.9*	16.1	3.2	5.1*
WA	291	19.6	80.4	29.9	4.9	6.1*	18.0	2.8	6.5*	24.1	3.8	6.3*
SA	168	10.1	89.9	20.7	4.2	4.9*	15.8	2.7	5.8*	18.3	3.5	5.2*
Tas	54	n.p.	n.p.	n.p.	n.p.	2.0	n.p.	n.p.	3.0	n.p.	n.p.	2.3
NT[g]	13	n.p.	n.p.	n.p.	n.p.	0.3	n.p.	n.p.	—	n.p.	n.p.	0.2
NSW, Vic, WA, SA, Tas & NT[k]	**1,170**	**9.7**	**90.3**	**10.6**	**2.8**	**3.8***	**7.9**	**1.7**	**4.7***	**9.2**	**2.2**	**4.1***

(continued)

Table 1.11.3 (continued): Notification rates for Chlamydia, syphilis, gonorrhoea and hepatitis C, by Indigenous status and state/territory, 2006-2008[(a)(b)]

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons at the $p < 0.05$ level.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Directly age-standardised using the Australian 2001 standard population using 5 year age groups up to 65+.

(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Rate ratio Indigenous:other.

(f) Because of the very high rates of syphilis and gonorrhoea in the Indigenous population and low rates of these STIs in the other population, rate ratios are large and may vary between reports, as fairly minor changes in rates can result in large changes in the resulting ratios.

(g) 2008 data for Northern Territory is preliminary.

(h) Data are reported for Western Australia, South Australia, Tasmania and the Northern Territory. These four jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(i) Data includes all nominations of syphilis, including cases of more than 2 years or unknown duration

(j) Data are reported for Victoria, Queensland, Western Australia, South Australia, Tasmania and the Northern Territory. These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

(k) Data are reported for New South Wales, Victoria, Western Australia, South Australia, Tasmania and the Northern Territory. These six jurisdictions are considered to have adequate levels of Indigenous identification in these data. They do not represent a quasi-Australian figure.

Source: AIHW analysis of NNDSS data.

Table 1.11.4: Notification rates for HIV and AIDS, by Indigenous status, sex and state/territory, 2006–2008[a][b]

				Males			Females			Persons		
		Indig.	Other[d]	Indig.	Other[d]		Indig.	Other[d]		Indig.	Other[d]	
	Number	Per cent		Number per 100,000[c]		Ratio[e]	Number per 100,000[c]		Ratio[e]	Number per 100,000[c]		Ratio[e]
						HIV						
NSW	1,168	1.7	98.3	8.7	10.2	0.9	2.2	1.4	1.6	5.3	5.8	0.9
Vic	855	0.7	99.3	11.5	9.8	1.2	0.0	1.2	0.0	5.6	5.5	1.0
Qld	559	1.9	98.1	4.3	7.8	0.5	n.p.	n.p.	0.6	2.5	4.6	0.5
WA	229	3.5	96.5	6.1	5.3	1.2	6.3	1.7	3.6*	6.2	3.5	1.8
SA	n.p.	2.9	97.1	n.p.	n.p.	1.9	n.p.	n.p.	2.3	6.9	3.5	1.9
Tas	15	0.0	100.0	0.0	1.7	0.0	0.0	n.p.	0.0	0.0	1.1	0.0
NT	n.p.	4.2	95.8	n.p.	n.p.	0.1*	n.p.	2.4	0.0	n.p.	n.p.	0.1*
ACT	16	0.0	100.0	0.0	3.1	0.0	0.0	1.0	0.0	0.0	2.0	0.0
Australia[f]	**3,041**	**1.6**	**98.4**	**6.0**	**8.5**	**0.7***	**1.8**	**1.3**	**1.4**	**3.9**	**4.9**	**0.8**
						AIDS						
NSW[g]	159	n.p.	n.p.	n.p.	n.p.	0.4	n.p.	n.p.	3.1	n.p.	n.p.	0.6
Vic	170	n.p.	n.p.	n.p.	n.p.	0.7	0.0	0.2	0.0	n.p.	n.p.	0.7
Qld	60	0.0	100.0	0.0	0.9	0.0	n.p.	n.p.	0.0	0.0	0.5	0.0
WA	33	n.p.	n.p.	n.p.	n.p.	1.3	n.p.	n.p.	15.2*	n.p.	n.p.	3.1
SA	24	0.0	100.0	0.0	1.0	0.0	n.p.	n.p.	0.0	0.0	0.5	0.0
Tas	n.p.	0.0	100.0	0.0	n.p.	0.0	0.0	0.0	0.0	0.0	n.p.	0.0
NT	6	0.0	100.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0	1.5	0.0
ACT	n.p.	0.0	100.0	0.0	n.p.	0.0	0.0	0.0	0.0	0.0	n.p.	0.0
Australia[f]	**459**	**1.3**	**98.7**	**n.p.**	**n.p.**	**0.3***	**n.p.**	**n.p.**	**2.9**	**0.4**	**0.8**	**0.5**

(continued)

Table 1.11.4 (continued): Notification rates for HIV and AIDS, by Indigenous status, sex and state/territory, 2006–2008[(a)(b)]

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

(c) Directly age-standardised using the Australian 2001 standard population using 5-year age groups up to 65+.

(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Rate ratio Indigenous: other.

(f) Excludes 2008 data from NSW, data not available due to incompleteness.

(g) NSW data for 2006-07 only, 2008 data not available due to incompleteness.

Source: AIHW analysis of NCHECR data.

HIV/AIDS by exposure categories

Table 1.11.5 presents HIV and AIDS notifications in Australia by exposure category over the period 2006–2008.

- For the period 2006–2008, the most common method of contracting HIV among Indigenous Australians was male homosexual/bisexual contact (49%) followed by injecting drug use (26%), and heterosexual contact (20%). The most common ways of contracting HIV among other Australians was male homosexual/bisexual contact (65%), heterosexual contact (23%), and other (6%).
- Over the same period, rates of AIDS among Indigenous Australians were not high enough to compare AIDS exposure categories. Among other Australians the most common way of contracting AIDS was male homosexual/bisexual contact (58%), followed by heterosexual contact (25%).

Table 1.11.5: Exposure categories for HIV/AIDS, by Indigenous status, 2006–2008[a]

Exposure category	Number		Per cent		No. per 100,000[b][c]		Ratio[e]
	Indigenous	Other[d]	Indigenous	Other[d]	Indigenous	Other[d]	
				HIV			
Male homosexual/bisexual contact	27	1,803	49.1	64.8	2.0	3.3	0.6*
Male homosexual/bisexual contact and injecting drug use	n.p.	87	n.p.	3.1	n.p.	n.p.	1.1
Heterosexual contact	11	652	20.0	23.4	0.9	1.2	0.8
Injecting drug use	14	64	25.5	2.3	1.1	0.1	9.5*
Mother with/at risk of HIV infection	0	20	0.0	0.7	0.0	0.0	0.0
Other[f]	n.p.	155	n.p.	5.6	n.p.	n.p.	0.2
Total	**55**	**2,781**	**100.0**	**100.0**	**4.3**	**5.1**	**0.8**
				AIDS[g]			
Male homosexual/bisexual contact	n.p.	263	n.p.	57.9	n.p.	n.p.	0.2
Male homosexual/bisexual contact and injecting drug use	0	22	0.0	4.8	0.0	0.0	0.0
Heterosexual contact	n.p.	113	n.p.	24.9	n.p.	n.p.	1.1
Injecting drug use	0	12	0.0	2.6	0.0	0.0	0.0
Mother with/at risk of HIV infection	0	n.p.	0.0	n.p.	n.p.	n.p.	0.0
Other[f]	n.p.	n.p.	n.p.	9.0	n.p.	n.p.	1.8
Total	**6**	**454**	**100.0**	**100.0**	**0.4**	**0.8**	**0.5**

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level.

(a) Calendar year reporting. Data are presented in 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.

(c) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 65+.

(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Rate ratio Indigenous:other.

(f) Includes: Haemophilia/coagulation disorder, receipt of blood/tissue, and exposure category undetermined.

(g) Excludes 2008 data from NSW, data not available due to incompleteness.

Source: AIHW analysis of NCHECR data.

Time series analysis

Notification rates, rate ratios and rate differences between Indigenous and other Australians for syphilis, chlamydia and gonorrhoea for the period 1994–1996 to 2006–2008, and hepatitis C (newly acquired) for the period 1997–1999 to 2006–2008, are presented in the following tables and figures. HIV and AIDS notifications for the period 1998–2000 to 2007–2008 are also presented here. Data are presented in 2- to 3-year groupings because of the small number of notifications each year.

Chlamydia

- In Western Australia, South Australia and the Northern Territory combined there were significant increases in notification rates for chlamydia among Indigenous Australians during the period 1994–1996 to 2006–2008. The fitted trend line shows an average yearly increase in the age-standardised rate of around 73 per 100,000 which is equivalent to a 199% increase in the age-standardised rate over the period (Table 1.11.6). Significant increases in age-standardised rates for chlamydia were evident for both Indigenous males and females.
- There were also significant increases in notification rates for chlamydia among other Australian males and females during the same period (608% increase for males and 474% increase for females) (Table 1.11.6).
- Notification rate ratios between Indigenous and other Australians for chlamydia also showed a significant increase over the 12-year period (Figure 1.11.1). The fitted trend line showed an average yearly increase in the ratio of around 55 which is equivalent to a 165% increase in the rate ratio over the period.
- Although rate ratios showed an increase over the period, the difference in notification rates between Indigenous and other Australians declined significantly for both males and females.

Table 1.11.6: Crude and age-standardised notification rates, rate differences and rate ratios for chlamydia, WA, SA and NT, 1994–1996 to 2006–2008[a]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[b]	Per cent change over period[c]
Indigenous notifications							
Males	823	1,219	1,703	2,508	3,174	199.7*	339.7*
Females	1,668	2,200	3,153	4,427	5,166	307.4*	258.0*
Persons	2,493	3,419	4,857	6,997	8,431	515.1*	289.3*
Other Australian notifications[d]							
Males	1,913	3,099	4,801	7,740	12,773	878.7*	643.1*
Females	3,303	4,372	6,671	10,794	17,835	1,182.9*	501.4*
Persons	5,256	7,482	11,536	18,573	30,663	2,063.5*	549.6*
Indigenous crude rate per 100,000							
Males	429.9	592.7	772.0	1,069.6	1,281.2	72.6*	236.6*
Females	861.1	1,060.3	1,417.6	1,870.4	2,063.8	107.2*	174.3*
Persons	647.3	827.5	1,096.4	1,485.0	1,692.8	91.6*	198.2*
Indigenous age-standardised rate per 100,000[e]							
Males	365.9	508.5	657.4	905.8	1,058.3	59.4*	227.3*
Females	665.2	842.7	1,127.2	1,483.9	1,621.4	85.1*	179.2*
Persons	515.2	674.6	892.1	1,203.0	1,350.4	73.3*	199.2*
Other Australian age-standardised rate per 100,000[d][e]							
Males	35.5	58.0	91.0	143.9	223.9	15.4*	608.4*
Females	64.3	86.4	131.9	208.9	329.2	21.7*	473.7*
Persons	49.8	71.8	111.4	175.6	275.1	18.5*	519.1*
Rate difference[f]							
Males	330.4	450.5	566.4	761.9	834.4	-0.5*	-61.7*
Females	600.9	756.4	995.3	1,275.1	1,292.2	-0.5*	-60.9*
Persons	465.3	602.8	780.7	1,027.4	1,075.4	-0.4*	-60.5*
Rate ratio[g]							
Males	10.3	8.8	7.2	6.3	4.7	44.0*	186.4*
Females	10.4	9.8	8.6	7.1	4.9	63.4*	147.6*
Persons	10.3	9.4	8.0	6.9	4.9	54.8*	164.9*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(c) Per cent change between 1994–1996 and 2006–2008 based on the annual rate of change over the period.

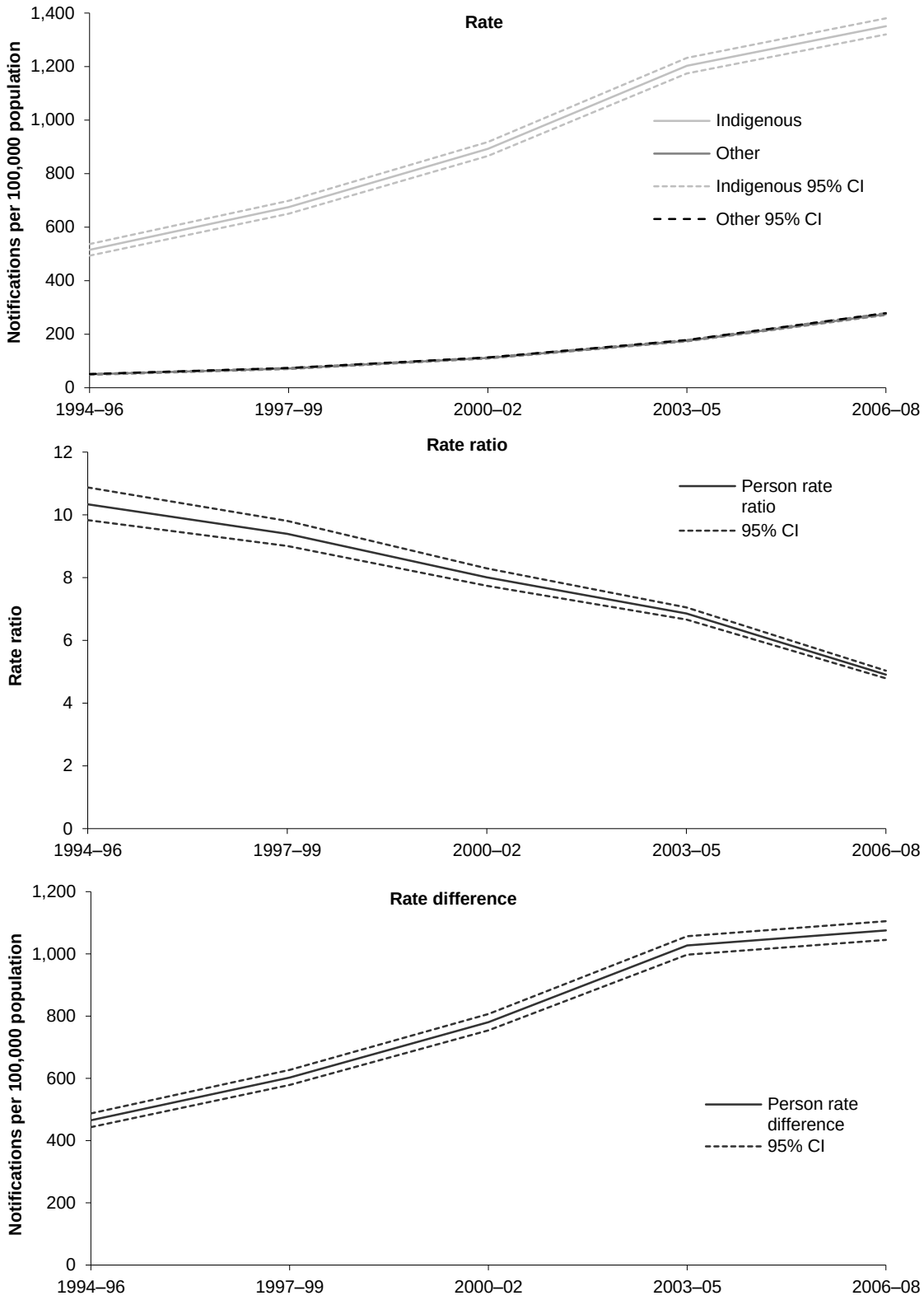
(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Directly age-standardised using the Australian 2001 standard population using 5-year age groups up to 75+

(f) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(g) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.1: Age-standardised notification rates, rate differences and rate ratios for chlamydia, WA, SA and NT, 1994–1996 to 2006–2008

Syphilis

- Over the period 1994–1996 to 2006–2008 in Western Australia, South Australia and the Northern Territory combined, there were significant decreases in the annual change of notification rates for syphilis among Indigenous Australians (from around 10 to 8 notifications per 100,000 over the time period). The fitted trend line shows an average yearly decline in the age-standardised rate of around 3 per 100,000 which is equivalent to a 14% reduction in the rate over the period (Table 1.11.7).
- There were significant increases in notification rates for syphilis among other Australians males during the same period. The fitted trend line showed an average yearly increase in the rate of around 0.4 per 100,000 which was equivalent to a 186% increase in the rate over the period (Table 1.11.7 and Figure 1.11.2).
- There was a significant decline in notification rate ratios between Indigenous and other Australians for syphilis over the 12-year period. The fitted trend showed an average yearly decline in the rate ratio of around 4 which was equivalent to a 60% reduction in the rate ratio over the period. These declines were statistically significant for both males and females.

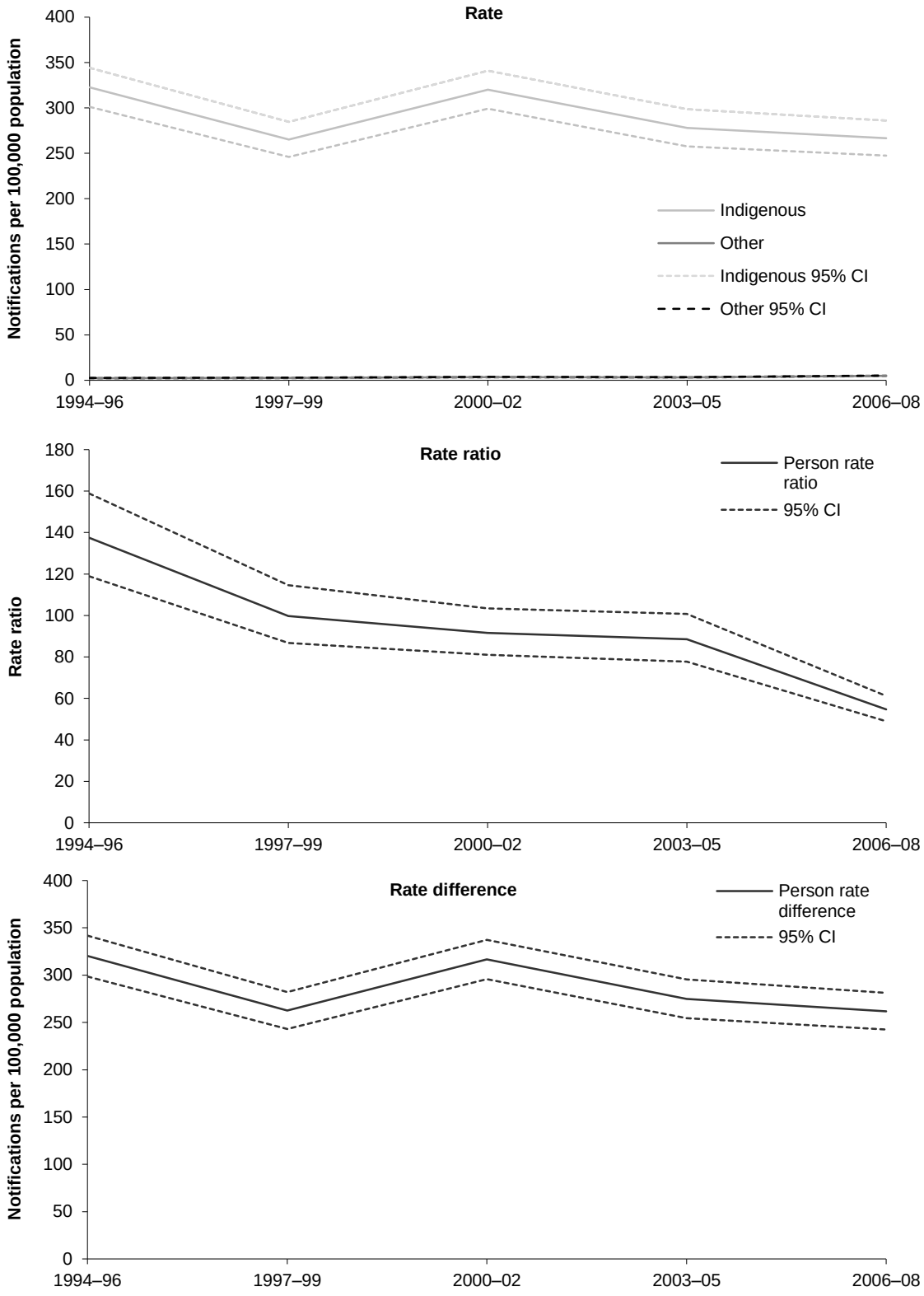
Table 1.11.7: Crude and age-standardised notification rates, rate differences and rate ratios for syphilis[a], WA, SA and NT, 1994–1996 to 2006–2008[b]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[c]	Per cent change over period[d]
Indigenous notifications							
Males	669	542	685	552	527	-9.1	-19.1
Females	647	506	657	552	560	-4.3	-9.2
Persons	1,318	1,049	1,342	1,109	1,106	-12.1	-12.9
Other Australian notifications[e]							
Males	136	195	250	239	440	21.7*	223.7*
Females	99	79	114	102	111	1.6	22.2
Persons	237	275	371	341	551	23.1*	136.7*
Indigenous crude rate per 100,000							
Males	349.5	263.5	310.5	235.4	212.7	-10.1*	-40.3*
Females	334.0	243.9	295.4	233.2	223.7	-7.7*	-32.3*
Persons	342.2	253.9	302.9	235.4	222.1	-8.6*	-35.3*
Indigenous age-standardised rate per 100,000[f]							
Males	342.3	300.3	349.4	299.4	278.4	-4.3	-17.5
Females	304.6	235.9	294.0	260.3	253.8	-2.6	-11.8
Persons	322.6	265.2	320.0	278.0	266.7	-3.3	-14.3
Other Australian age-standardised rate per 100,000[e][f]							
Males	2.7	3.7	4.7	4.4	7.7	0.4*	186.3*
Females	2.0	1.5	2.2	1.9	2.0	0.0	9.9
Persons	2.3	2.7	3.5	3.1	4.9	0.2*	110.1*
Rate difference[g]							
Males	339.6	296.5	344.7	295.1	270.7	-6.5	-19.1
Females	302.6	234.4	291.8	258.4	251.8	-2.4	-12.0
Persons	320.3	262.6	316.5	274.9	261.8	-5.9	-15.2
Rate ratio[h]							
Males	128.1	80.2	74.6	68.6	36.2	-4.6*	-71.2*
Females	153.7	154.2	134.3	135.2	127.2	-2.6*	-21.8*
Persons	137.5	99.7	91.5	88.5	54.7	-3.5*	-60.0*

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Data includes all nominations of syphilis, including cases of more than 2 years or unknown duration.
(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years
(c) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(d) Per cent change between 1994–1996 and 2006–2008 based on the annual rate of change over the period.
(e) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.
(f) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+
(g) Notification rate for Indigenous Australians divided by the notification rate for other Australians.
(h) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.2: Age-standardised notification rates, rate differences and rate ratios for syphilis, WA, SA and NT, 1994–1996 to 2006–2008

Gonorrhoea

- In Western Australia, South Australia and the Northern Territory combined, there were significant increases in notification rates for gonorrhoea among Indigenous Australians during the period 1994–1996 to 2006–2008. The fitted trend line shows an average yearly increase in the age-standardised rate of around 43 per 100,000 which is equivalent to a 61% increase in the rate over the period (Table 1.11.8). There were significant increases in notification rates for both Indigenous males and females.
- There were also increases in notification rates for gonorrhoea among other Australians during the same period. Rates showed a significant increase for males (98% increase over the period) but not for females.
- Notification rate ratios between Indigenous and other Australians for gonorrhoea showed no significant changes for males or females over the 12-year period (Figure 1.11.3).
- There were significant increases in the notification rate differences between Indigenous and other Australians for gonorrhoea over the period, with an average yearly increase in the rate difference of around 42 per 100,000 (61% increase). These increases were statistically significant for both males and females.

Table 1.11.8: Crude and age-standardised notification rates, rate differences and rate ratios for gonorrhoea, WA, SA and NT, 1994–1996 to 2006–2008[a]

	1994–1996	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[b]	Per cent change over period[c]
Indigenous notifications							
Males	2,595	2,645	3,066	3,730	4,261	147.2*	79.4*
Females	1,850	2,881	3,416	4,163	4,505	219.7*	166.3*
Persons	4,457	5,529	6,482	7,968	8,881	376.2*	118.2*
Other Australian notifications[d]							
Males	968	1,373	1,608	1,767	1,969	79.9*	115.5*
Females	397	821	809	613	649	9.9	34.8
Persons	1,377	2,208	2,459	2,389	2,645	90.6*	92.1*
Indigenous crude rate per 100,000							
Males	1,355.6	1,286.1	1,389.9	1,590.7	1,720.0	34.5*	35.6*
Females	955.0	1,388.5	1,535.8	1,758.8	1,799.7	68.7*	100.6*
Persons	1,157.2	1,338.3	1,463.2	1,691.1	1,783.2	53.5*	64.7*
Indigenous age-standardised rate per 100,000[e]							
Males	1,200.3	1,137.6	1,223.2	1,368.3	1,493.0	27.2*	31.7*
Females	771.9	1,132.1	1,251.5	1,411.6	1,466.1	55.6*	100.8*
Persons	982.7	1,130.8	1,234.7	1,399.4	1,494.8	43.1*	61.4*
Other Australian age-standardised rate per 100,000[d][e]							
Males	18.5	26.0	30.3	32.7	34.6	1.3*	98.7*
Females	7.7	16.1	15.8	11.9	12.0	0.1	26.7
Persons	13.2	21.1	23.5	22.5	23.7	0.7*	78.6*
Rate difference[f]							
Males	1,181.8	1,111.6	1,192.9	1,335.5	1,458.4	25.9*	30.7*
Females	764.2	1,116.0	1,235.7	1,399.8	1,454.1	55.4*	101.6*
Persons	969.5	1,109.7	1,211.2	1,377.0	1,471.1	42.3*	61.1*
Rate ratio[g]							
Males	65.0	43.8	40.4	41.8	43.1	-1.5	-32.9
Females	99.9	70.5	79.2	118.8	122.0	3.1	43.2
Persons	74.2	53.5	52.6	62.3	63.0	-0.5	-8.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1994–1996 to 2006–2008.

(a) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(c) Per cent change between 1994–1996 and 2006–2008 based on the annual rate of change over the period.

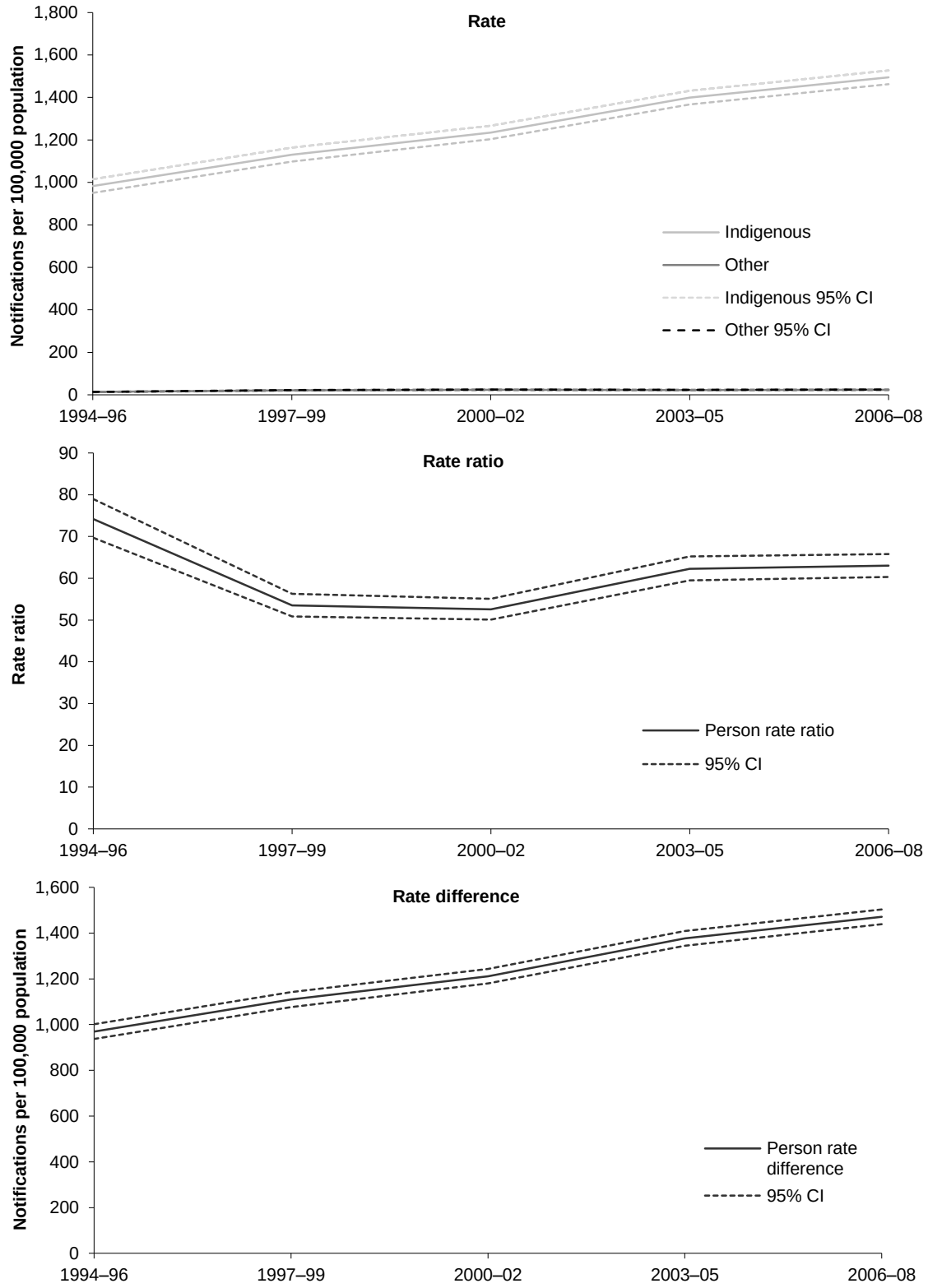
(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.3: Age-standardised notification rates, rate differences and rate ratios for gonorrhoea, WA, SA and NT, 1994–1996 to 2006–2008

Hepatitis C (newly acquired)

Time trends data for hepatitis C notifications are presented for the period 1997–1999 to 2006–2008, as complete and consistent data on hepatitis C notifications are not available before 1997 in the three states and territories.

- In Western Australia, South Australia and the Northern Territory combined, there were no significant increases in notification rates for hepatitis C among Indigenous females during the period 1997–1999 to 2006–2008 (Table 1.11.9). There were small increases in the age-standardised rates of hepatitis C notifications for Indigenous Australians during this period.
- There were small non-significant decreases in the rate of hepatitis C notifications for other Australians over the same period.
- Notification rate ratios between Indigenous and other Australians for hepatitis C showed small increases for both males and females over the period 1997–1999 to 2006–2008 (an increase of 80% for males and 47% for females). The rate difference between Indigenous and other Australian notifications for hepatitis C also showed slight increases for both males and females (Figure 1.11.4).

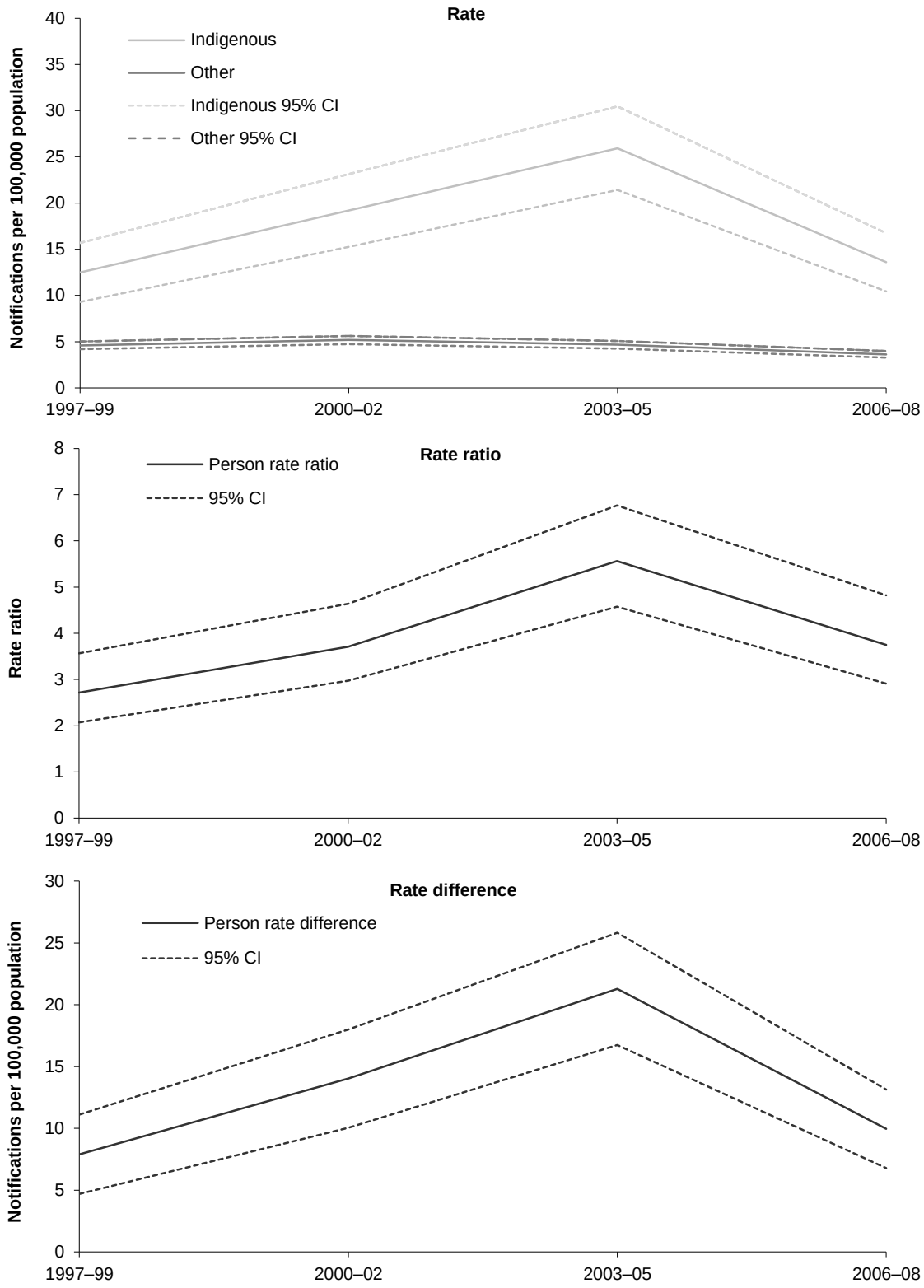
Table 1.11.9: Crude and age-standardised notification rates, rate differences and rate ratios for hepatitis C (newly acquired), WA, SA and NT, 1997–1999 to 2006–2008[a]

	1997–1999	2000–2002	2003–2005	2006–2008	Annual change[b]	Per cent change over period[c]
Indigenous notifications						
Males	34	61	85	47	2.1	67.9
Females	28	37	49	28	0.4	15.7
Persons	62	98	134	75	2.5	44.4
Other Australian notifications[d]						
Males	301	332	296	253	-6.0	-21.9
Females	178	201	191	144	-3.7	-23.1
Persons	480	533	487	397	-9.8	-22.5
Indigenous crude rate per 100,000						
Males	16.5	27.7	36.2	19.0	0.5	35.3
Females	13.5	16.6	20.7	11.2	-0.1	-7.8
Persons	15.0	22.1	28.4	15.1	0.2	15.8
Indigenous age-standardised rate per 100,000[e]						
Males	14.2	24.5	32.3	16.8	0.5	40.3
Females	10.8	14.0	19.6	10.4	0.1	13.9
Persons	12.5	19.2	25.9	13.6	0.3	29.4
Other Australian age-standardised rate per 100,000[d][e]						
Males	5.6	6.3	5.6	4.5	-0.1	-26.7
Females	3.5	4.0	3.7	2.7	-0.1	-28.2
Persons	4.6	5.2	4.7	3.6	-0.1	-27.3
Rate difference[f]						
Males	8.6	18.2	26.7	12.3	0.7	84.5
Females	7.3	10.1	15.9	7.7	0.2	33.9
Persons	7.9	14.0	21.3	10.0	0.4	62.4
Rate ratio[g]						
Males	2.5	3.9	5.8	3.7	0.2	80.2
Females	3.1	3.5	5.3	3.8	0.1	47.4
Persons	2.7	3.7	5.6	3.7	0.2	66.6

* Represents results with statistically significant increases or declines at the $p < 0.05$ level over the period 1997–1999 to 2006–2008.

(a) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years.
(b) Average annual change in rates, rate ratios and rate differences determined using linear regression analysis.
(c) Per cent change between 1997–1999 and 2006–2008 based on the annual rate of change over the period.
(d) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.
(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+.
(f) Notification rate for Indigenous Australians divided by the notification rate for other Australians.
(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

Source: AIHW analysis of NNDSS data.



Source: AIHW analysis of NNDSS data.

Figure 1.11.4: Age-standardised notification rates, rate differences and rate ratios for hepatitis C (newly acquired), WA, SA and NT, 1997–1999 to 2006–2008

HIV

- There were apparent increases in the rate of HIV notifications among Indigenous Australians over the period 1998–2000 to 2007–2008, but this trend was not significant (Table 1.11.10, Figure 1.11.5).
- Over the same period, there were significant increases in notification rates for HIV among other Australians. The fitted trend implies an average yearly increase in the age-standardised rate of around 0.1 per 100,000 which is equivalent to a 38% increase in the rate over the period.
- There were no significant changes in the notification rate ratios and rate differences between Indigenous and other Australians for HIV between 1998–2000 and 2007–2008.

Table 1.11.10: Crude and age-standardised notification rates, rate differences and rate ratios for HIV, NSW, Vic, Qld, WA, SA and NT combined,1998–2000 to 2007–2008[(a)(b)]

	1998–2000	2001–03	2004–06	2007–08	Annual change[(c)]	Per cent change over period[(d)]
Indigenous notifications	34	61	58	36	0.2	7.3
Other Australian notifications[(e)]	2,082	2,388	2,766	1,984	7.0	3.4
Indigenous crude rate per 100,000	2.7	4.5	4.0	3.5	0.1	28.3
Indigenous age-standardised rate per 100,000[(f)]	3.1	5.0	4.3	4.0	0.1	21.5
Other Australian age-standardised rate per 100,000[(e)]	3.9	4.3	4.9	5.1	0.1*	38.3*
Rate difference[(g)]	-0.7	0.7	-0.6	-1.1	-0.1	110.7
Rate ratio[(h)]	0.8	1.2	0.9	0.8	0.0	-14.7

*Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level..

(a) Calendar year reporting. Data are presented in 2 or 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(d) Per cent change between 1998–2000 and 2007–2008 based on the annual rate of change over the period.

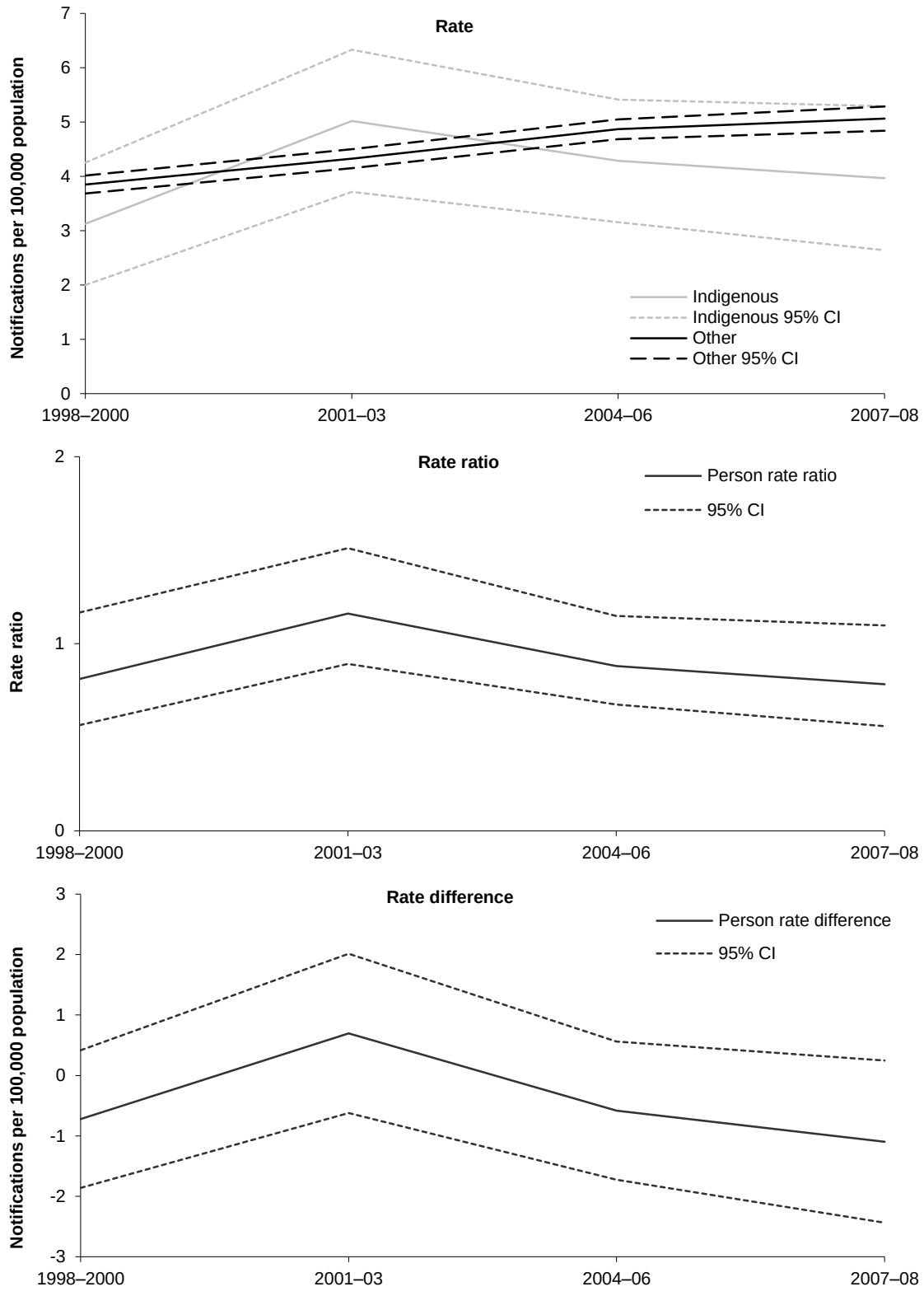
(e) 'Other' includes notifications for non-Indigenous people and those for whom Indigenous status was not stated.

(f) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(h) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Source: AIHW analysis of NCHECR data.



Source: AIHW analysis of NCHECR data.

Figure 1.11.5: Age-standardised notification rates, rate differences and rate ratios for HIV, NSW, Vic, Qld, WA, SA and NT combined,1998–2000 to 2007–2008

AIDS

- There was no significant change in the rate of AIDS notifications among Indigenous Australians over the period 1998–2000 to 2007–2008 (Table 1.11.11, Figure 1.11.6).
- Over the period 1998–2000 to 2007–2008, there were no significant changes in notification rates for AIDS among other Australians.
- There were non-significant increases in both notification rate ratios and rate differences between Indigenous and other Australians for AIDS between 1998–2000 and 2007–2008.

Table 1.11.11: Age-standardised notification rates, rate differences and rate ratios for AIDS, Vic, Qld, WA, SA and NT, 1998–2000 to 2007–08[(a)(b)]

	1998–2000	2001–03	2004–06	2007–08	Annual change[(c)]	Per cent change over period[(d)]
Indigenous crude rate per 100,000	1.4	1.5	1.5	0.4	-0.1	-69.3
Indigenous age-standardised rate per 100,000[(e)]	1.5	1.6	1.9	0.4	-0.1	-65.5
Other Australian age-standardised rate per 100,000[(e)(f)]	0.9	0.9	0.8	0.7	0.0	-32.4*
Rate difference[(g)]	0.6	0.7	1.1	-0.3	-0.1	-120.1
Rate ratio[(h)]	1.6	1.8	2.4	0.6	-0.1	-47.6

* Represents results with statistically significant differences in the Indigenous/other Australian comparisons at the $p < 0.05$ level

(a) Calendar year reporting. Data are presented in 2 or 3-year groupings because of small numbers each year.

(b) Rates are calculated using the sum of notifications divided by the sum of the populations for the relevant years

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

(d) Per cent change between 1998–2000 and 2007–2008 based on the annual rate of change over the period.

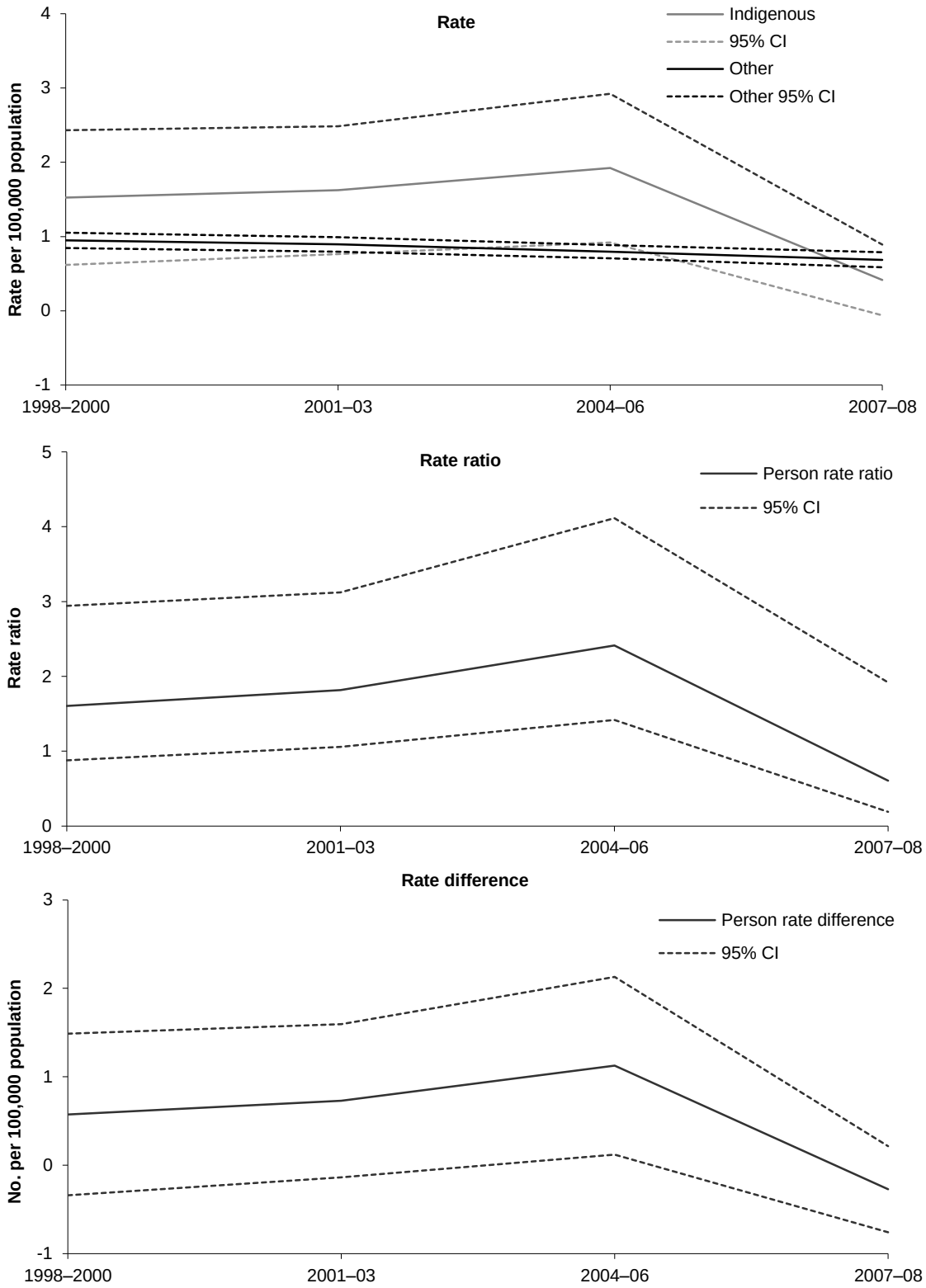
(e) Directly age-standardised using the Australian 2001 standard population using 5–year age groups up to 75+

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

(g) Notification rate for Indigenous Australians minus the notification rate for other Australians.

(h) Notification rate for Indigenous Australians divided by the notification rate for other Australians.

Source: AIHW analysis of NCHECR data.



Source: AIHW analysis of NCHECR data.

Figure 1.11.6: Age-standardised notification rates, rate differences and rate ratios for AIDS, Vic, Qld, WA, SA and NT, 1998–2000 to 2007–08

Data quality issues

National Notifiable Diseases Surveillance System

Notifications

Incidence of sexually transmissible infections is one indicator of unsafe sexual practices. It does not measure all cases, just those involving sexually transmissible infections.

Notification statistics do not measure the incidence or prevalence of these infections in the community. Under-reporting of these infections can occur at a number of stages:

- a person infected may not have symptoms
- a person may not seek medical care
- no testing performed
- a false negative result may occur
- there may be a positive test result but for some reason a notification may not occur
- the case may not be reported to the NNDSS (for more information see Figure 1 in NNDSS 2008).

The level of under-reporting can vary by disease, jurisdiction and by time. The method of surveillance can vary between jurisdictions with different requirements for notification by medical practitioners, laboratories and hospitals. These can also change over time.

Notification statistics can provide insights into the health of the population which has been diagnosed with a notifiable illness and changes over time.

Notification statistics do not necessarily capture the mode of transmission – NNDSS data on the diseases discussed in this indicator are known to include infections acquired through non-sexual modes of transmission. For example, although data on hepatitis C are included in this indicator, sexual transmission is not considered the main route of transmission as hepatitis C primarily occurs among those with a history of injecting drug use.

Under-identification

The incompleteness of Indigenous identification means the number of notifications recorded as Indigenous is likely to be an underestimate of Aboriginal and Torres Strait Islander notifications rates. In 2007-08, Indigenous status was not reported in 54% cases of chlamydia, 25% cases of syphilis, 29% of cases of gonorrhoea and 13% of cases of hepatitis C (newly acquired).

The completeness of Indigenous identification in notifiable disease registries varies between the states and territories. Information on the occurrence of sexually transmitted infections is included in this indicator if information on Indigenous status was reported for at least 50% of diagnoses in a state or territory health jurisdiction for the period 2007-08.

Numerator and denominator

Rate and ratio calculations rely on good population estimates. The changes in the completeness of identification of Indigenous people in notification records may take place at different rates from changes in the identification of Indigenous people in the population estimates. Denominators used here are sourced from *Experimental estimates and projections: Aboriginal and Torres Strait Islander Australians 1991 to 2021*(ABS 2009).

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

References

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List of tables

List of figures