

Bloodborne viral and sexually transmitted infections
in Aboriginal and Torres Strait Islander people:

Annual Surveillance Report

2014



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in collaboration with Australian networks in surveillance for HIV, viral hepatitis and sexually transmissible infections

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Preface

This surveillance report provides information on the occurrence of blood borne viral and sexually transmissible infections (STIs) among the Aboriginal and Torres Strait Islander population in Australia. The report is published by the Kirby Institute for the purposes of stimulating and supporting discussion on ways to minimise the risk of transmission as well as the personal and social consequences of these infections within Aboriginal and Torres Strait Islander communities.

This *Report* is published annually as an accompanying document to the report *HIV, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report* and is overseen by National Aboriginal Community Controlled Health Organisation (NACCHO) and the Annual Surveillance Report Advisory Committee.

The report is produced in a format that is intended to be accessible to a wide range of health service providers and consumers, and particularly Aboriginal and Torres Strait Islander health services and communities. It is available in hard copy and at <http://www.kirby.unsw.edu.au>

Unless specifically stated otherwise, all data provided in this report are to the end of 2013, as reported by 31 March 2014. Data in the report are provisional and subject to future revision.

The report could not have been prepared without the collaboration of a large number of organisations involved in health services throughout Australia. The ongoing contribution of these organisations, listed from page 3 onwards, is gratefully acknowledged.

Acknowledgements

Groups and committees involved in the development of the Surveillance and Monitoring Plan and this associated Report, as well as the individuals and organisations that provided data for inclusion in this report are listed below.

National organisations

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- Australasian Society for HIV Medicine, Sydney, NSW
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- Australian Federation of AIDS Organisations, Sydney, NSW
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- National Aboriginal Community Controlled Health Organisation, ACT
- National Association of People with HIV Australia, Sydney, NSW
- National Centre for Immunisation Research and Surveillance of Vaccine Preventable Diseases
- The Children's Hospital at Westmead and University of Sydney, Sydney, NSW
- National Drug and Alcohol Research Centre, UNSW, Sydney, NSW
- National Serology Reference Laboratory, Australia, Fitzroy, VIC

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National Aboriginal Community Controlled Health Organisation:

- Mr Mark Saunders

Medical and epidemiological terms

Chlamydia: A sexually transmissible infection caused by a bacterium (*Chlamydia trachomatis*). The infection is asymptomatic in about 80% of cases. In those with symptoms, the infection cause inflammation of the urethra, causing some pain and penile discharge, and in females the main symptoms are intermenstrual bleeding and dysuria. Complications of infection are particularly serious for females and can include pelvic inflammatory disease, ectopic pregnancy and infertility. Chlamydia is fully curable by a single dose of antibiotics.

Donovanosis: A sexually transmissible infection caused by a bacterium (*Calymmatobacterium granulomatis*). The most common symptom is large, painless ulcers of the genitals, the groin or the anal region. The lesions can progress and become complicated by other bacterial infections if untreated, ultimately leading to serious damage to the affected part of the body, and even becoming life-threatening. Donovanosis is fully curable by 3 to 4 doses of antibiotics over a month. Donovanosis occurs in central and northern Australia, and is now very rare.

Gonorrhoea: A sexually transmissible infection caused by a bacterium (*Neisseria gonorrhoea*). The infection is asymptomatic in about 80% of women, and 50% of men. Symptoms are similar to those of chlamydia, as are the complications. Most males with urethral gonorrhoea will eventually develop symptoms. Gonorrhoea is fully curable by a single dose of antibiotics.

HBV (hepatitis B virus) infection: An infection caused by a virus that is transmissible by sexual and blood contact, as well as from mother to child at birth. Newly diagnosed HBV infection means that a person previously not known to have the infection has been tested and now found to have the infection. Newly acquired infection means the person has become infected within the past two years.

HCV (hepatitis C virus) infection: An infection caused by a virus that is transmissible by blood contact as well as from mother to child. Newly diagnosed HCV infection means that a person previously not known to have the infection has been tested and now found to have the infection. Newly acquired means the person has become infected within the past two years.

HIV (human immunodeficiency virus) infection: An infection caused by a virus that is transmissible by sexual and blood contact, as well as from mother to child. HIV infection is the cause of AIDS. Newly diagnosed HIV infection means that a person previously not known to have the infection has been tested and now found to have the infection. Newly acquired HIV infection means the person has become infected within the past year.

Infectious syphilis: A sexually transmissible infection caused by a bacterium (*Treponema pallidum*). The main symptoms in the early stage are a painless sore at the site of infection within the first few weeks, followed by a rash over the next several months. In the absence of treatment, there will then be a period of several years without any symptoms, with a chance of a range of complications over decades that can involve the skin, bone, the central nervous system and cardiovascular system. Infectious syphilis is fully curable with a single injection of long acting penicillin.

For more information on these infections, see the National Management Guidelines for Sexually Transmitted Infections 7th Edition.

Age specific rate: The proportion of cases in a particular age group who have the infection, usually expressed per 100 000 cases in the specified age group.

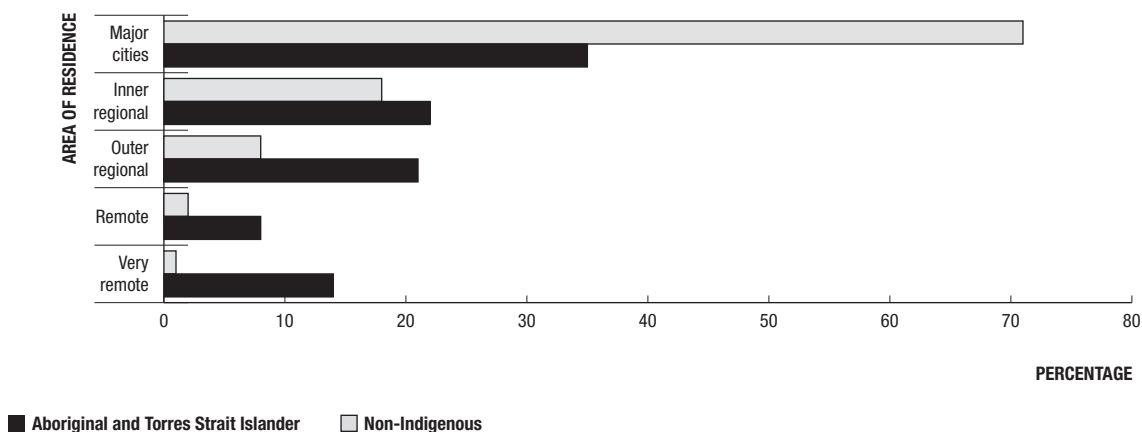
Example: Age-specific notification rate of diagnosis of gonorrhoea among males aged 20 – 29 years

$$\frac{\text{Number of diagnoses of gonorrhoea among males aged 20 – 29 years}}{\text{Number of males aged 20 – 29 years}} \times 100\,000$$

Age standardised rate of infection: The proportion of notifications in a particular population who have the infection, adjusted by a mathematical technique to account for the age structure so that comparisons can be made across populations.

Area of residence: Area of residence, indicated by postcode, is classified into one of five areas: major cities, inner regional, outer regional, remote and very remote. In 2013, 65% of the Aboriginal and Torres Strait Islander population lived in outer regional, remote and very remote areas combined and 35% in major cities (Figure 1); compared with 29% and 71% of the non-Indigenous population respectively (Figure 1) (See *Methodological Notes* for further information).

Figure 1 Area of residence, 2013, by Aboriginal and Torres Strait Islander status



Source: Australian Bureau of Statistics 2011

Completeness of data on Aboriginal and Torres Strait Islander status

Incomplete information on Aboriginal and Torres Strait Islander identification has the potential to underestimate the true extent of these infections in the Aboriginal and Torres Strait Islander population.

In 2013, all jurisdictions reported Aboriginal and Torres Strait Islander status for greater than 50% of diagnoses of HIV, infectious syphilis, gonorrhoea, newly acquired HBV and newly acquired HCV diagnoses. However Aboriginal and Torres Strait Islander status was reported for less than 50% of diagnoses in the following jurisdictions (Figure 2, 3):

- **Chlamydia:** Australian Capital Territory, New South Wales and Victoria
- **Newly diagnosed HBV:** New South Wales, Victoria and Queensland
- **Newly diagnosed HCV:** Australian Capital Territory, Victoria and Queensland.

Time trends in diagnoses of specific infections by jurisdiction were included in the *Surveillance and Evaluation Report 2013* if information on Aboriginal and Torres Strait Islander status was available for at least 50% of diagnoses of the infection in every one of the past five years. Therefore there may be jurisdictions who met the 50% threshold in 2013 but not in other years, and thus their data were not included in this report (Table 2).

Figure 2 Reporting of Aboriginal and Torres Strait Islander status at notification of selected sexually transmissible infections, by State/Territory, 2013

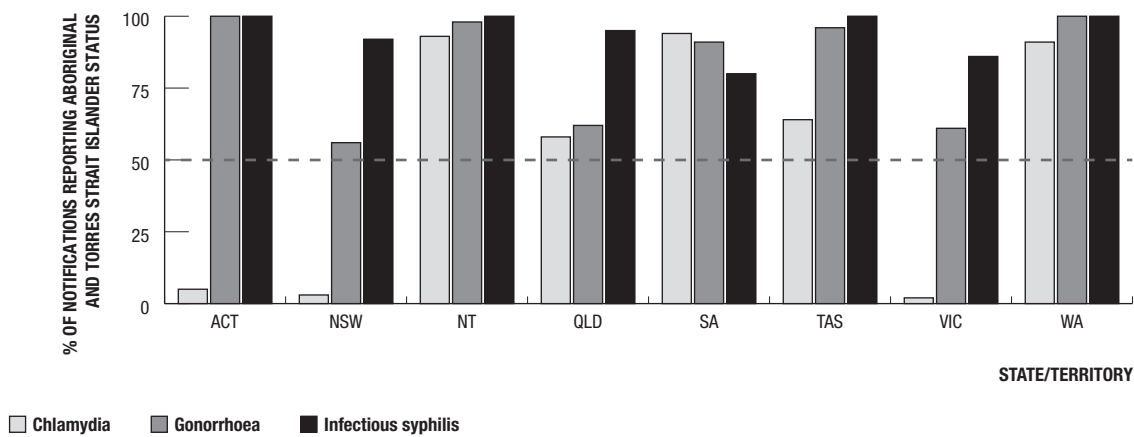
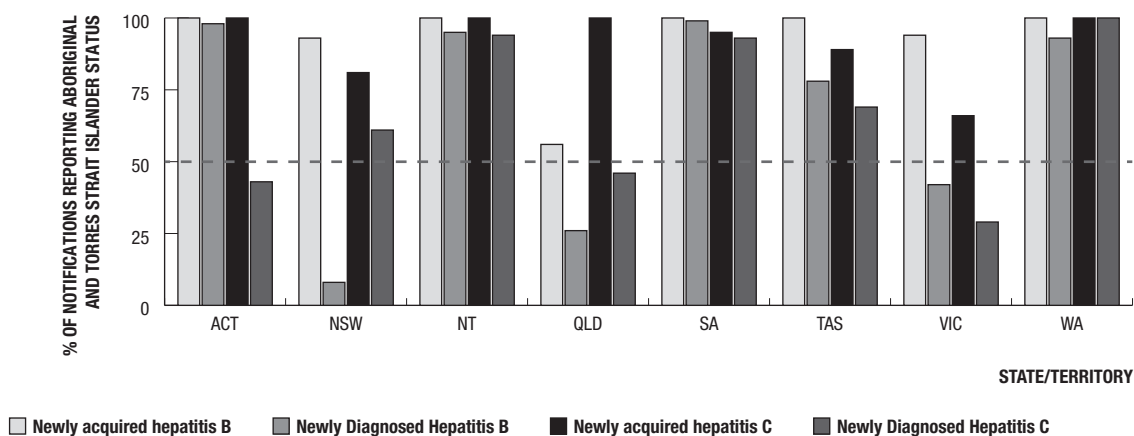


Figure 3 Reporting of Aboriginal and Torres Strait Islander status at notification of viral hepatitis diagnoses, by State/Territory, 2013



Summary

- Overall, the Aboriginal and/or Torres Strait Islander population continue to be overrepresented in notifications of STIs and viral hepatitis.
- Chlamydia and gonorrhoea notifications continue to be reported at disproportionately high rates among the Aboriginal and Torres Strait Islander population, with 28% of gonorrhoea notifications among the Aboriginal and Torres Strait Islander population.
- Overall notifications of chlamydia and gonorrhoea have plateaued since 2010, with variation by jurisdiction - increasing in Northern Territory and South Australia in 2013, and declining in Queensland and Western Australia since 2011.
- The elimination of donovanosis from Australia is on track, with no cases detected in 2011; one in 2012; and none in 2013.
- Infectious syphilis notifications decreased in the Aboriginal and Torres Strait Islander population in 2013, particularly in 15 – 19 year olds and in Northern Territory, Queensland and Western Australia. There has been an increase in syphilis in the non-Indigenous population.
- Young Aboriginal and Torres Strait Islander people aged 15 – 19 years and Aboriginal and Torres Strait Islander people living in outer regional, remote and very remote communities continue to experience substantially higher rates of chlamydia, gonorrhoea and infectious syphilis.
- In 2013, new HIV diagnoses were notified at a higher rate in the Aboriginal and/or Torres Strait Islander population than the non-Indigenous Australian-born population. A higher proportion of diagnoses in the past five years in the Aboriginal and/or Torres Strait Islander population are due to injecting drug use (12%) than the non-Indigenous Australian-born population (3%), and heterosexual contact (21% vs. 13%).
- Notifications of newly diagnosed HBV and HCV infections are reported at disproportionately high rates among the Aboriginal and Torres Strait Islander population.
- There was a decline in rates of newly diagnosed HBV and an increase in the notification rate of newly diagnosed HCV infections in the Aboriginal and Torres Strait Islander population.

Sexually transmissible infections

- Chlamydia continued to be the most frequently reported notifiable disease in Australia with 82 537 notifications in 2013. Of these, 6 629 (8%) were among the Aboriginal and Torres Strait Islander population, 34 344 (41%) were among the non-Indigenous population and Indigenous status was not reported for 41 564 (51%) notifications.
- The chlamydia notification rate in the Aboriginal and Torres Strait Islander population in 2013 of 1 207 per 100 000 was 3 times higher than the rate of 379 per 100 000 in the non-Indigenous population.
- 81% of chlamydia notifications in 2013 in both populations occurred in the 15 - 19 and 20 - 29 year age groups.
- Male to female ratios of chlamydia notifications for the Aboriginal and Torres Strait Islander population and the non-Indigenous population were 0.5:1 and 0.7:1, respectively.
- Chlamydia notifications reported from remote and very remote areas accounted for 45% of all notifications in the Aboriginal and Torres Strait Islander population.
- Of the 14 947 notifications of gonorrhoea in 2013, 4 052 (27%) were among the Aboriginal and Torres Strait Islander population, 6 567 (44%) were among the non-Indigenous population and Indigenous status was not reported for 4 197 (29%) notifications.
- The rate of gonorrhoea notifications in the Aboriginal and Torres Strait Islander population in 2013 was 694 per 100 000, 14 times higher than the rate of 48 per 100 000 in the non-Indigenous population.

- Male to female ratios of gonorrhoea notifications for Aboriginal and Torres Strait Islander and the non-Indigenous population were 0.8:1 and 4:1, respectively.
- There were no donovanosis notifications in Australia in 2011, one in 2012, and none in 2013, demonstrating success in the efforts to eliminate this disease from Australian populations.
- Nationally, there were 1 764 notifications of infectious syphilis in 2013; 142 (8%) among the Aboriginal and Torres Strait Islander population, 1 457 (83%) among the non-Indigenous population and Indigenous status was not reported for 165 (9%) notifications.
- The notification rate of infectious syphilis in the Aboriginal and Torres Strait Islander population in 2013 was 18 per 100 000, close to 3 times higher than the rate of 7 per 100 000 in the non-Indigenous population.
- The notification rate of infectious syphilis declined in 2011 – 2013, after an increase in the notification rate of infectious syphilis in the Aboriginal and Torres Strait Islander population in 2010 attributed to an outbreak of syphilis in some Queensland remote communities. In the Northern Territory there has been a substantial decline since 2010 and a decline in Western Australia and South Australia since 2011, and Queensland since 2012.

HIV infection

- There were a total of 1 236 notifications of newly diagnosed HIV infection in 2013; 26 diagnoses were among the Aboriginal and Torres Strait Islander population.
- In the 10 years from 2004 – 2013, there were 231 notifications of newly diagnosed HIV infection in the Aboriginal and Torres Strait Islander population.
- In 2013, the notification rate of newly diagnosed HIV infection in the Aboriginal and Torres Strait Islander population (4.9 per 100 000) was 1.3 times higher than the non-Indigenous Australian-born population (3.9 per 100 000).
- Among notifications of newly diagnosed HIV infection in 2009 - 2013, the most frequently reported route of HIV transmission was sexual contact between males in both the Aboriginal and Torres Strait Islander (51%) and non-Indigenous Australian-born populations (76%).
- A higher proportion of notifications in 2009 – 2013 from the Aboriginal and Torres Strait Islander populations were attributed to injecting drug use (12% vs. 3%) and heterosexual contact (21% vs. 13%) and among females (20% vs 5%) respectively compared with the non-Indigenous Australian-born population.

HBV infection

- A total of 7 151 cases of newly diagnosed HBV infection were notified in Australia in 2013; of these 206 (3%) were among the Aboriginal and Torres Strait Islander population, 2 693 (38%) were among the non-Indigenous population and Indigenous status was not reported for 4 252 (59%) notifications.
- In 2013, the notification rate of newly diagnosed HBV infection for the Aboriginal and Torres Strait Islander population was around 2 times higher than the non-Indigenous population (72 per 100 000 versus 32 per 100 000).
- In the period 2009 – 2013, there was a 28% decline in the notification rate of newly diagnosed HBV infection in the Aboriginal and Torres Strait Islander population (from 100 per 100 000 in 2009, to 72 per 100 000 in 2013), with a 10% increase in rates in the non-Indigenous population (from 29 per 100 000 in 2009, to 32 per 100 000 in 2013).
- There were 172 newly acquired HBV infections notified in 2013; 13 (8%) were among the Aboriginal and Torres Strait Islander population, 130 (76%) were among the non-Indigenous population and Indigenous status was not reported for 29 (17%) notifications.
- In 2013, the notification rate of newly acquired HBV infection in the Aboriginal and Torres Strait Islander population was 1.9 per 100 000 compared to 0.7 per 100 000 in the non-Indigenous population.

HCV infection

- A total of 10 715 cases of newly diagnosed HCV infection were reported in Australia in 2013; 796 (7%) occurred among the Aboriginal and Torres Strait Islander population, 3 596 (34%) among the non-Indigenous population and Indigenous status was not reported for 6323 (59%) notifications.
- The rate of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population was 142 per 100 000, 3 times higher than the 41 per 100 000 in the non-Indigenous population.
- There was a 29% increase in the notification rate of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population whereas the rate in the non-Indigenous population remained steady.

Table 1 Aboriginal and Torres Strait Islander population in Australia, 2013, by State/Territory

| State/Territory | Estimated resident population Number ¹ |
|-----------------|---|
| ACT | 6561 |
| NSW | 216 212 |
| NT | 70 702 |
| QLD | 198 900 |
| SA | 38 951 |
| TAS | 25 281 |
| VIC | 49 904 |
| WA | 91 800 |
| Total | 698 311 |

¹ Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001-2026

Source: Australian Bureau of Statistics

Table 2 Number and rate¹ of notifications of sexually transmissible infections and viral hepatitis in Australia², 2013, by Aboriginal and Torres Strait Islander status

| Notifications of sexually transmissible infections and viral hepatitis | Aboriginal and Torres Strait Islander | | Non-Indigenous | | Excluded jurisdictions ⁴ |
|--|---------------------------------------|-------------------|---------------------|-------------------|-------------------------------------|
| | Number ¹ | Rate ² | Number ³ | Rate ² | |
| Chlamydia | 6629 | 1207 | 34 344 | 379 | ACT, NSW, VIC |
| Gonorrhoea | 4052 | 694 | 6661 | 48 | NSW |
| Infectious syphilis | 142 | 18 | 1622 | 7 | Nil |
| HIV infection | 26 | 5 | 1194 | 4 | Nil |
| Newly acquired HBV infection | 13 | 2 | 130 | 1 | Nil |
| Newly diagnosed HBV infection | 206 | 72 | 2693 | 32 | NSW, VIC, QLD |
| Newly acquired HCV infection | 72 | 10 | 273 | 2 | Nil |
| Newly diagnosed HCV infection | 796 | 142 | 3596 | 41 | ACT, NSW, VIC, QLD |

¹ Health jurisdictions in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses in each of the past five years.

² Age standardised rate per 100 000 population.

³ Includes diagnoses in cases whose Aboriginal and Torres Strait Islander status was not reported.

⁴ Jurisdictions in which Aboriginal and Torres Strait Island status was reported for less than 50% of diagnoses

Source: State/Territory health authorities; National Notifiable Diseases Surveillance System

Main Findings

Chlamydia

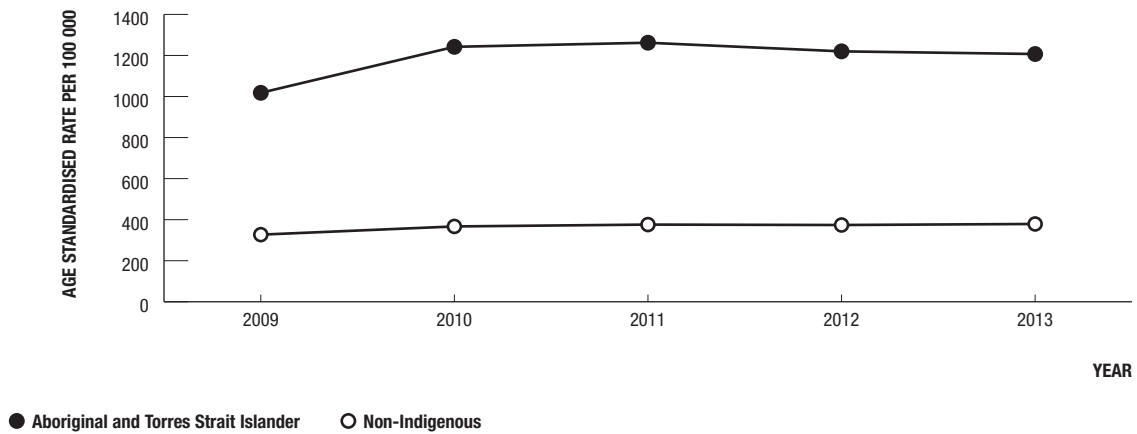
- Chlamydia continued to be the most frequently reported notifiable condition in Australia in 2013. There were a total of 82 537 notifications in 2013, 6 629 (8%) were among the Aboriginal and Torres Strait Islander population, 34 344 (41%) were among the non-Indigenous population and Indigenous status was not reported for 41 564 (51%) notifications.
- The chlamydia notification rate for the Aboriginal and Torres Strait Islander population of 1 207 per 100 000 was 3 times that of the non-Indigenous notification rate at 379 per 100 000 population.
- The chlamydia notification rate in Australia in both the Aboriginal and Torres Strait Islander population has plateaued since 2010, with variation by jurisdiction - increasing in Northern Territory and South Australia in 2013, and declining in Queensland and Western Australia since 2011.
- Most notifications of chlamydia diagnoses are among young people. In 2013, 81% of notifications were in 15 – 29 year olds among both the Aboriginal and Torres Strait Islander population and non-Indigenous population.
- In major cities, the chlamydia notification rate in the Aboriginal and Torres Strait Islander population was 2 times higher than that among the non-Indigenous population, 2 times higher in inner regional areas, 5 times higher in outer regional areas, 6 times higher in remote areas, and 4 times higher in very remote areas.

Chlamydia continues to be the most frequently reported notifiable condition in Australia in 2013. There were a total of 82 537 chlamydia notifications in 2013; of these 6 629 (8%) were among the Aboriginal and Torres Strait Islander population, 34 344 (41%) were among the non-Indigenous population and Indigenous status was not reported for 41 564 (51%) cases.

In the period 2009 – 2013, Aboriginal and Torres Strait Islander status was not reported for more than 50% of notifications each year in the Australian Capital Territory, New South Wales, and Victoria and as such notification data for chlamydia excludes these jurisdictions. Hereinafter notification data for the period 2009 – 2013 refers to notification data from the Northern Territory, Queensland, South Australia, Tasmania and Western Australia.

The age-standardised chlamydia notification rate for the Aboriginal and Torres Strait Islander population in 2013 of 1 207 per 100 000 population was 3 times that of the non-Indigenous population at 379 per 100 000 population (Figure 4). Since 2010, the notification rate of chlamydia in the Aboriginal and Torres Strait Islander population and non-Indigenous population has plateaued (Figure 4).

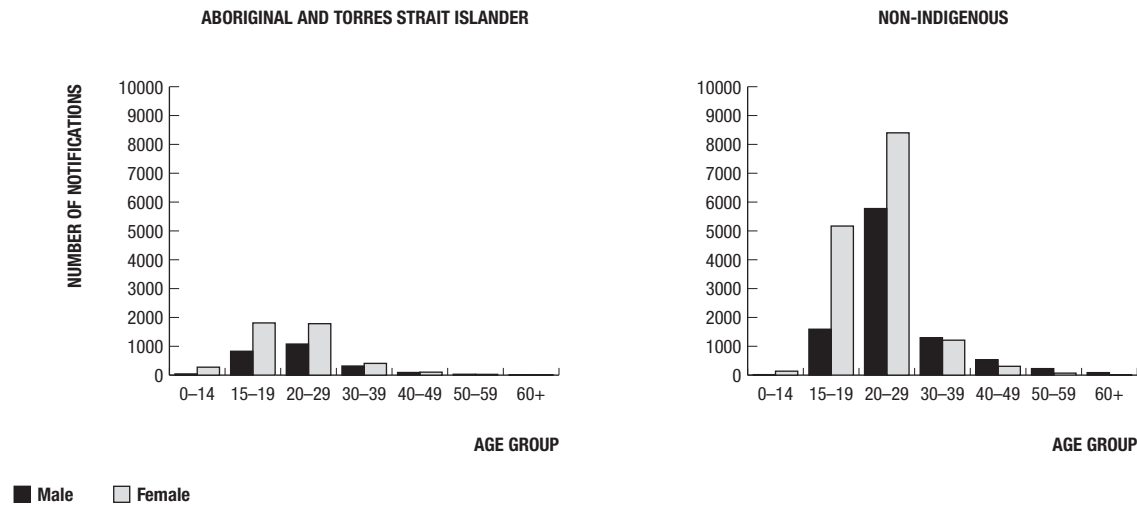
Figure 4 Notation rates of chlamydia infection by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, QLD, SA, TAS, and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Chlamydia diagnoses are notified predominantly among young people. In 2013, 81% of diagnoses were in 15 – 29 year olds in both Aboriginal and Torres Strait Islander and non-Indigenous populations (Figure 5). In 2013, 2 329 and 4 300 chlamydia notifications were among Aboriginal and Torres Strait Islander males and females respectively, providing a male to female ratio of 0.5:1 compared to 0.7:1 in the non-Indigenous population.

Figure 5 Number of notifications of chlamydia infections in 2013 by Aboriginal and Torres Strait Islander status¹, sex and age group



¹ Jurisdictions (NT, QLD, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

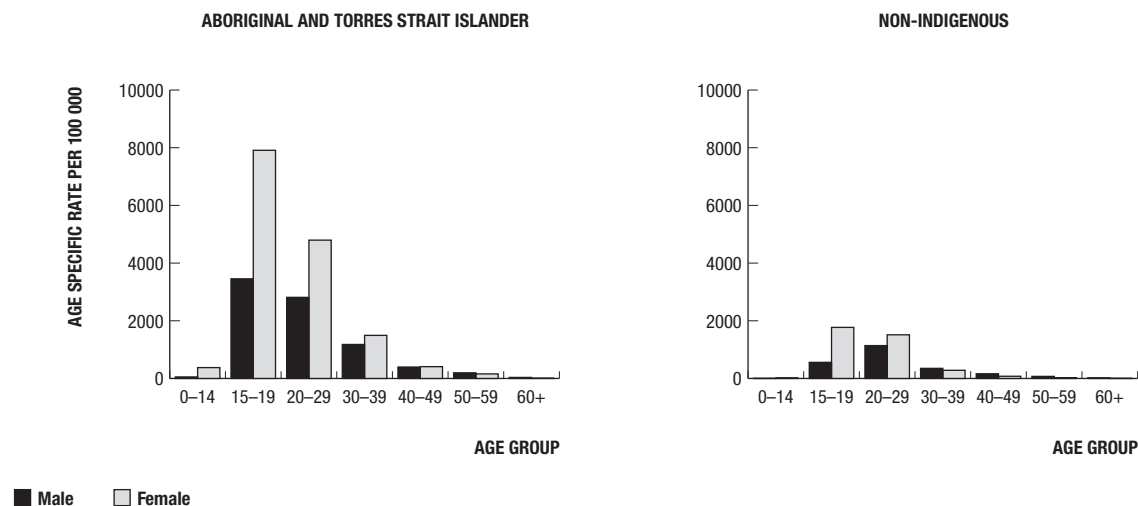
The chlamydia notification rate in the Aboriginal and Torres Strait Islander population in the 15 – 19 and the 20 – 29 year age groups in 2013 was more than 4 times and 3 times higher respectively, than in the non-Indigenous population (Figure 6, 7). In these age groups, the highest rates were in Aboriginal and Torres Strait Islander females, whereas the greatest difference was in 15 – 19 year old males where notification rates in the Aboriginal and Torres Strait Islander population were 6 times higher than the non-Indigenous population (Figure 6,7).

The higher notification rates in Aboriginal and Torres Strait Islander females aged 15 – 19 and 20 – 29 years may reflect a greater disease burden and/or greater access to health services and subsequent testing in females.

From 2009 – 2013, the chlamydia notification rate in the Aboriginal and Torres Strait Islander population in the 15 – 19 year and 20 – 29 age group increased between 2009 – 2011, but then declined between 2011 – 2013 (Figure 7).

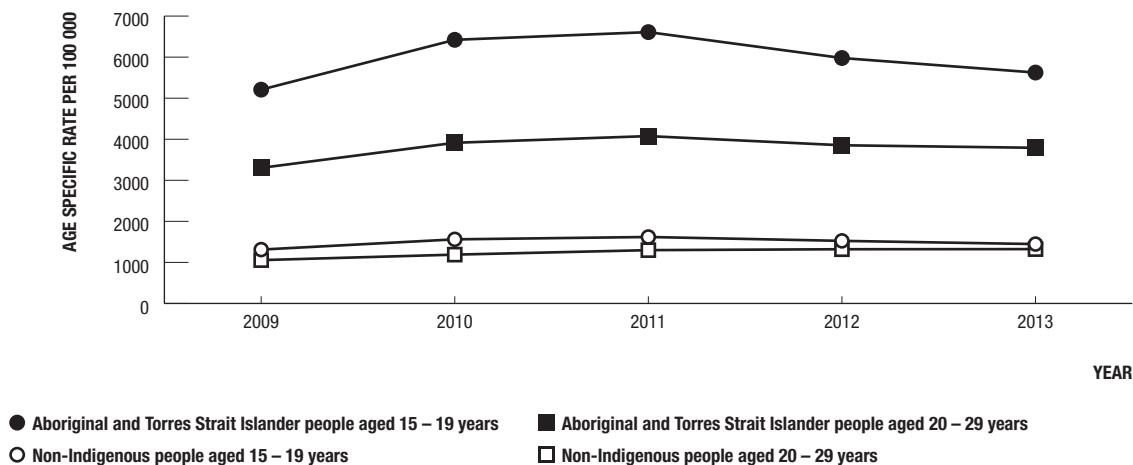
In the non-Indigenous population a similar trend was observed in the 15 – 19 year age group, but in the 20 – 29 year age group the rate increased steadily from 2009 – 2013 (Figure 7).

Figure 6 Notification rates of chlamydia infection in 2013 by Aboriginal and Torres Strait Islander status¹, sex and age group



¹ Jurisdictions (NT, QLD, SA, TAS, and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

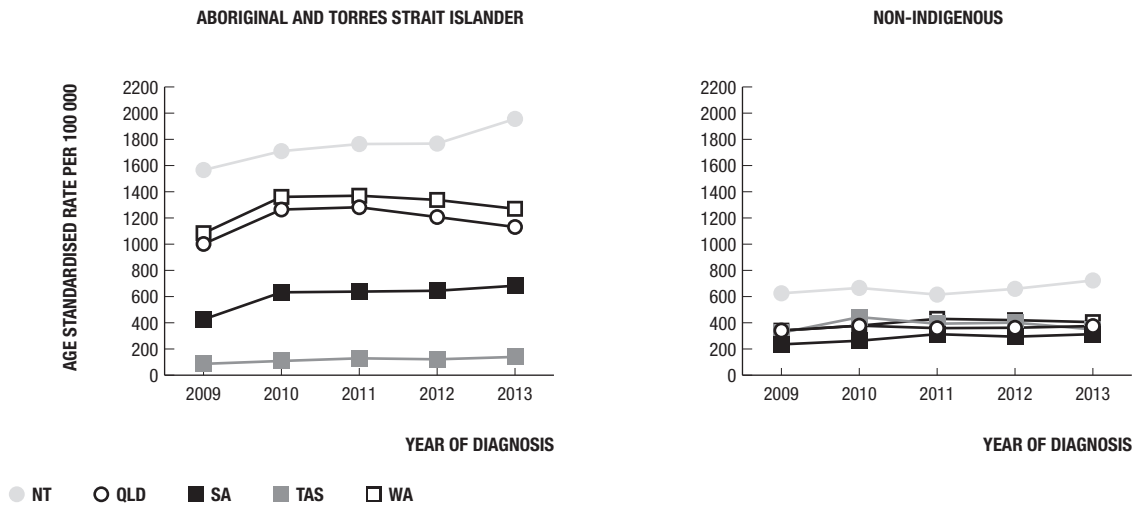
Figure 7 Notification rates of chlamydia infection in selected age groups Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, QLD, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The age-standardised chlamydia notification rate from 2009 – 2013 in the Aboriginal and Torres Strait Islander population increased in all jurisdictions from 2009 – 2010 but diverged thereafter; increasing in the Northern Territory, South Australia and Tasmania, and decreasing in Queensland and Western Australia. In the non-Indigenous population the chlamydia notification rate has increased in all jurisdictions from 2009 – 2013. The increase in the Northern Territory was most likely due to a large increase in testing.

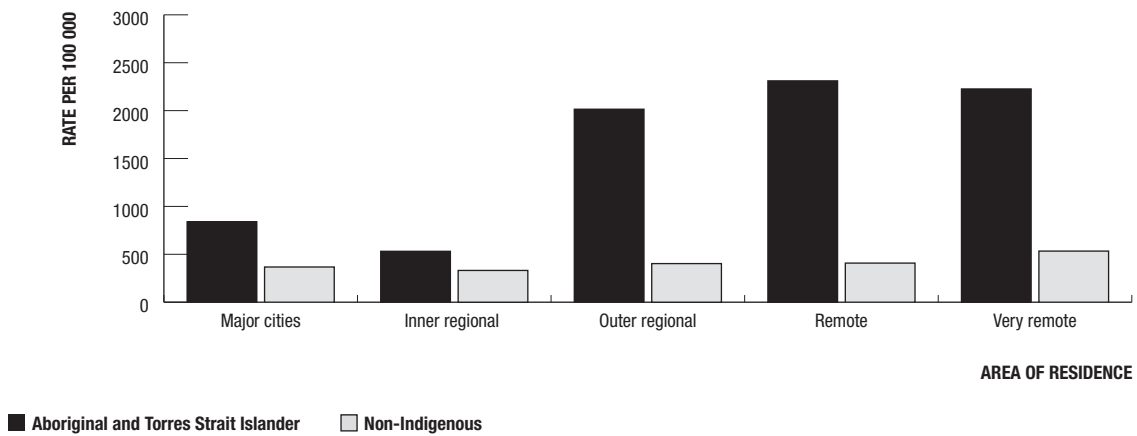
Figure 8 Notification rates of chlamydia infection by Aboriginal and Torres Strait Islander status, State/Territory¹ and year



¹ Jurisdictions (NT, QLD, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the chlamydia notification rate in the Aboriginal and Torres Strait Islander population resident in major cities (840 per 100 000) was 2 times higher than the rate (367 per 100 000) in the non-Indigenous population; 2 times higher in inner regional centres; 5 times higher in outer regional areas; 6 times higher in remote areas and 4 times higher in very remote areas (Figure 9).

Figure 9 Notification rates of chlamydia infection in 2013 by Aboriginal and Torres Strait Islander status¹ and area of residence



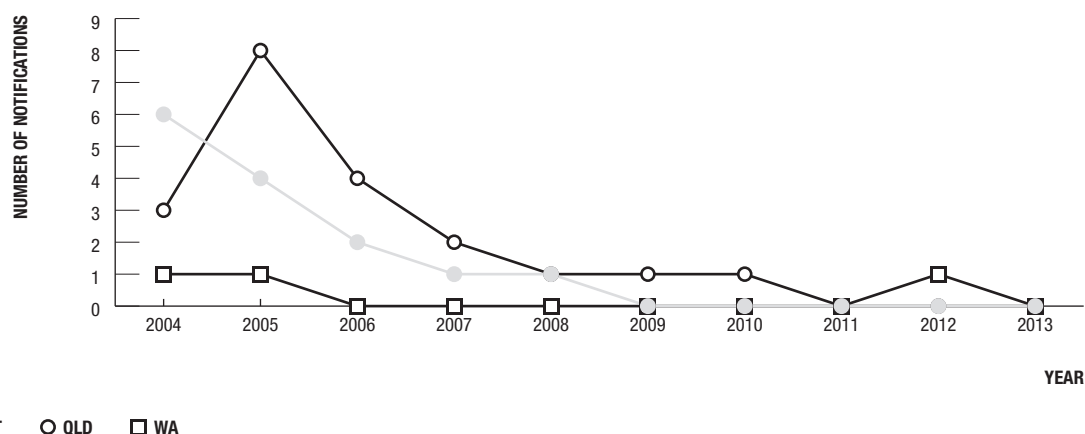
¹ Jurisdictions (NT, QLD, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Donovanosis

- Since 2007 there have been fewer than 3 notifications of donovanosis per year nationally, with zero in 2011, one in 2012 and zero in 2013. The National Donovanosis Eradication (Elimination) Project was implemented in 2001 - 2004, following the introduction of improved methods of diagnosis and treatment of donovanosis. The project was carried out employing strategies such as targeted surveillance, high quality education and support of primary health care workers in their management of genital ulcerative disease, intermittent or short course oral medication and new laboratory techniques, for the elimination of donovanosis.

The decline in the annual number of notifications of donovanosis from 13 in 2005 to zero in 2013 may be attributed to improved case ascertainment and treatment (Figure 10). There were no notifications of donovanosis in New South Wales, South Australia, Tasmania, Victoria and the Northern Territory in the past 5 years, and no notifications in Queensland in the past 3 years. In Western Australia there were no notifications between 2006 – 2011, with one in 2012 and none in 2013.

Figure 10 Number of notifications of newly diagnosed donovanosis infections by year



1 Jurisdictions (NT, QLD and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Gonorrhoea

- There were a total of 14 910 notifications of gonorrhoea in Australia in 2013; 4 052(27%) were among the Aboriginal and Torres Strait Islander population, 6 853 (45%) among the non-Indigenous population and Indigenous status was not reported for 4 197 (28%) diagnoses.
- In 2013, the gonorrhoea notification rate in the Aboriginal and Torres Strait Islander population was 14 times that of the non-Indigenous population (694 vs. 48 per 100 000 population).
- In 2013, 73% of cases among Aboriginal and Torres Strait Islander population were diagnosed among people in the age group 15 – 29 years compared with 52% in the non-Indigenous population.
- The male to female ratio of gonorrhoea notifications in 2013 in the Aboriginal and Torres Strait Islander population was 0.8:1 suggesting transmission predominantly through heterosexual contact. In contrast the male to female ratio of 4:1 in the non-Indigenous population suggests transmission occurring predominantly through sex between males.
- In 2013, gonorrhoea notification rates in the Aboriginal and Torres Strait Islander population were substantially higher than in the non-Indigenous population in all areas of residence, especially in outer regional, remote and very remote areas of Australia.

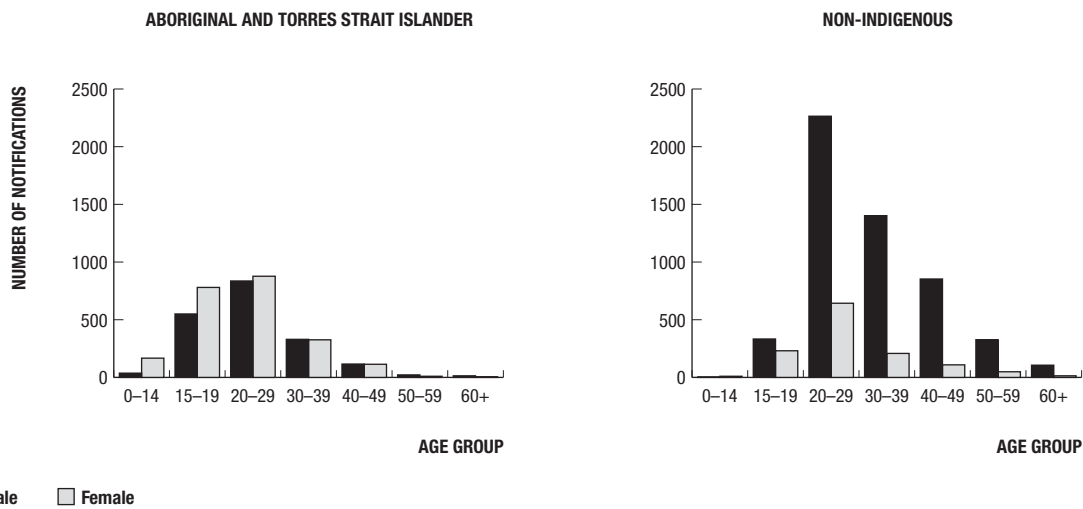
Of 14 910 gonorrhoea notifications in 2013; 6 853 (45%) were in the non-Indigenous population, 4 052(27%) in the Aboriginal and Torres Strait Islander population and Indigenous status was not reported for 4197 (28%) notifications.

In the period 2009 – 2013, Aboriginal and Torres Strait Islander status was not reported for more than 50% of notifications per year in New South Wales, and as such notification data for gonorrhoea excludes this jurisdiction. Hereinafter notification data for the period 2009 – 2013 refers to data notified from the Northern Territory, Queensland, South Australia, Tasmania, Victoria, the Australian Capital Territory and Western Australia.

Differences in age at diagnoses exist between the Aboriginal and Torres Strait Islander population and the non-Indigenous population. In 2013, 73% of gonorrhoea notifications among the Aboriginal and Torres Strait Islander population were in 15 – 29 year olds and 33% in 15 – 19 year olds, compared with 52% and 8% in the respective age groups in the non-Indigenous population (Figure 11).

In 2013, 1 841 and 2 211 notifications of gonorrhoea were made among Aboriginal and Torres Strait Islander males and females respectively, giving a male to female ratio of 0.8:1 suggesting transmission predominantly through heterosexual contact (Figure 11). In comparison, there were 5 150 notifications of gonorrhoea in males and 1 433 in females in the non-Indigenous population in 2013; giving a male to female ratio of 4:1, suggesting transmission occurring predominantly by sex between males (Figure 11).

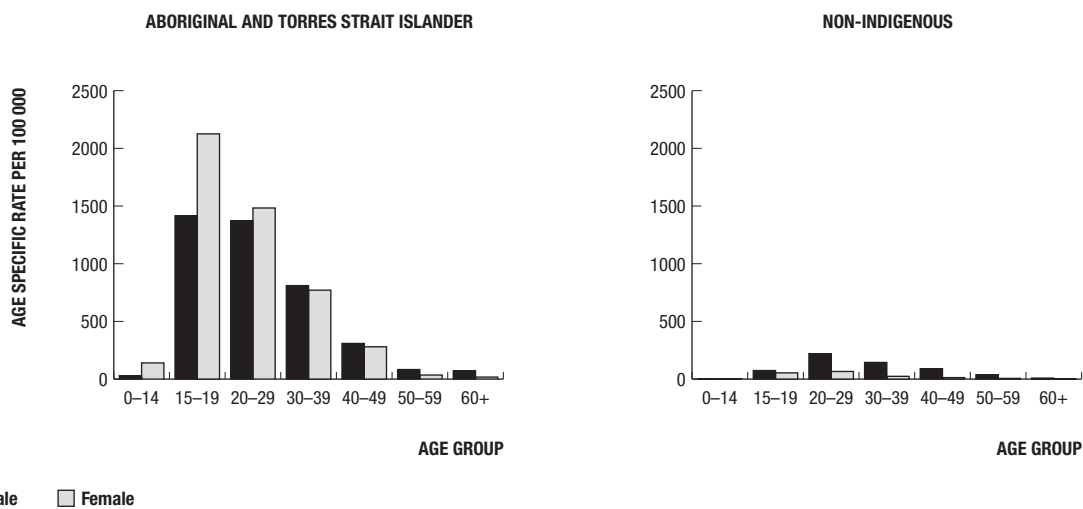
Figure 11 Number of notifications of newly diagnosed gonorrhoea infections by Aboriginal and Torres Strait Islander status¹, sex and age group, 2013



¹ Jurisdictions (NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In the age groups 15 – 19 and 20 – 29 years, the gonorrhoea notification rate was 37 and 10 times higher respectively among the Aboriginal and Torres Strait Islander population than the non-Indigenous population (Figure 12).

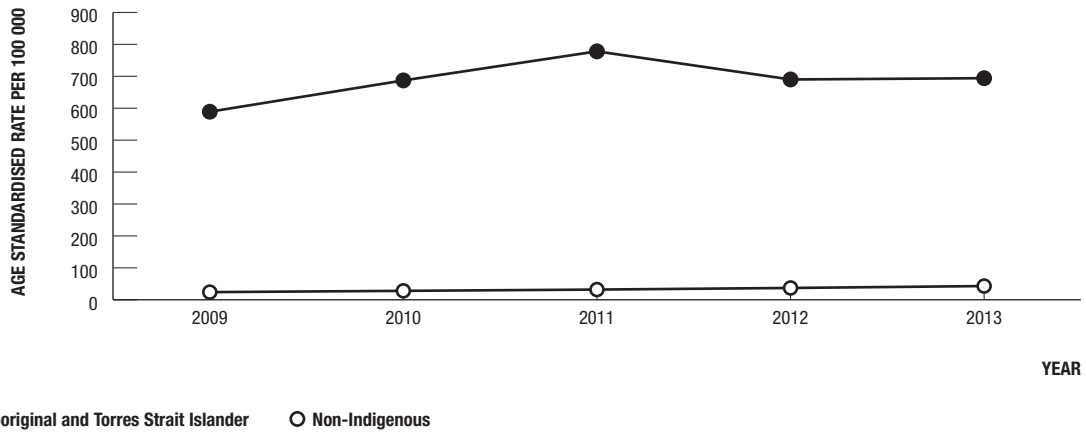
Figure 12 Notification rates of gonorrhoea infection in 2013 by Aboriginal and Torres Strait Islander status¹, sex and age group



¹ Jurisdictions (NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The gonorrhoea notification rate in the Aboriginal and Torres Strait Islander population increased from 589 per 100 000 in 2009 to 778 per 100 000 in 2011, and then decreased to 694 per 100 000 in 2013. In the non-Indigenous population the gonorrhoea notification rate increased steadily by 100% from 24 per 100 000 to 48 per 100 000 in the period 2009 – 2013 (Figure 15), with similar increases in non-Indigenous males (38 per 100 000 in 2009 to 77 per 100 000 in 2013) and non-Indigenous females (10 per 100 000 in 2004 to 19 per 100 000 in 2013).

Figure 13 Notification rates of gonorrhoea infection in 2013 by Aboriginal and Torres Strait Islander status¹ and year

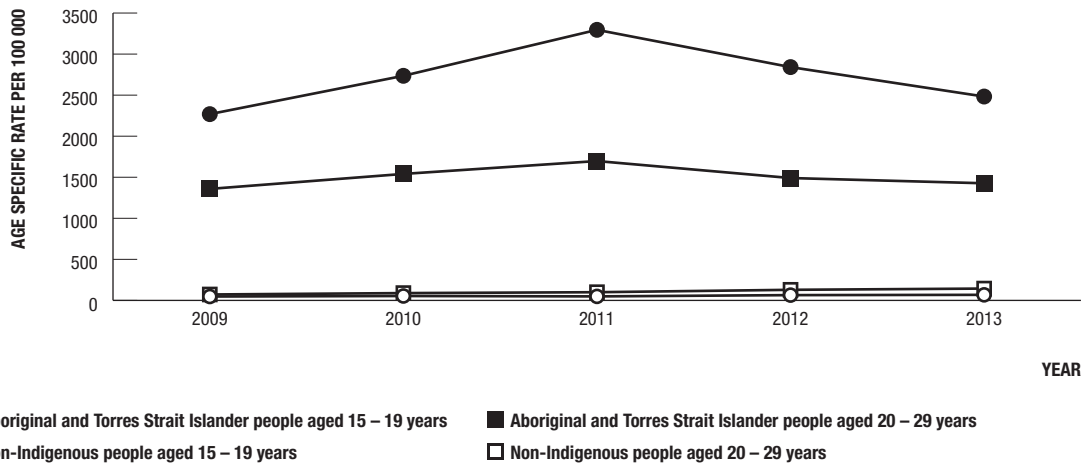


¹ Jurisdictions (NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

From 2009 – 2013, the gonorrhoea notification rate in the Aboriginal and Torres Strait Islander population increased by 9% in the 15 – 19 year age group and by 5% in the 20 – 29 year age group (peaking in 2011 and declining thereafter), whereas in the non-Indigenous population the rate increased steadily by 43% and 100% in respective age groups (Figure 14).

The increase in gonorrhoea notifications in the non-indigenous population may be influenced by the move toward routine duplex testing for both chlamydia and gonorrhoea even when chlamydia has only been requested, resulting in large and increasing numbers of low risk people being tested for gonorrhoea, and an increasing potential for false positive gonorrhoea tests. Recent trends in gonorrhoea notifications in the non-Indigenous population and comparisons made to the Aboriginal and Torres Strait Islander population should therefore be interpreted with caution.

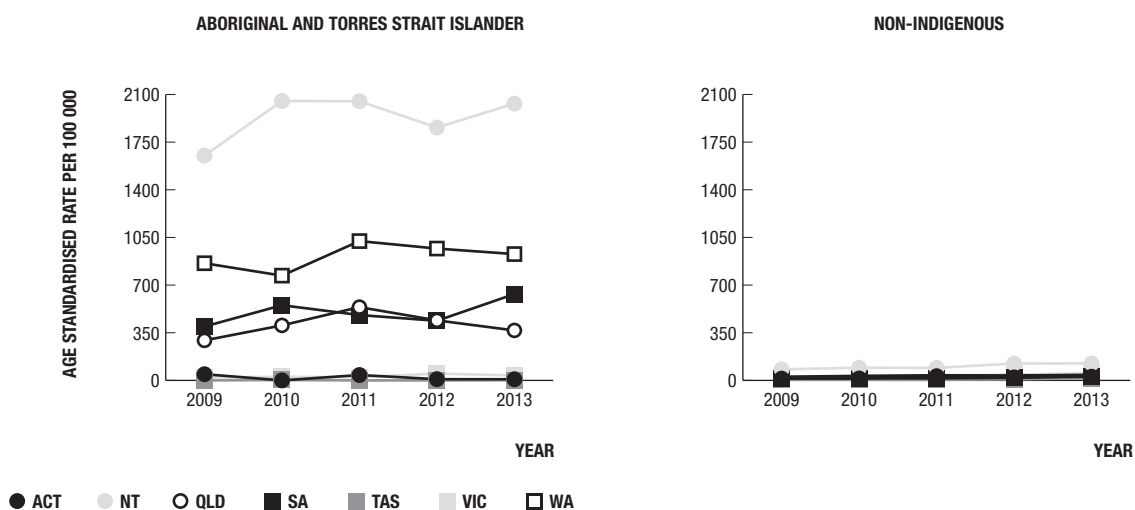
Figure 14 Notification rates of gonorrhoea infection in selected age groups by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

From 2009 – 2013, the age-standardised gonorrhoea notification rate in the Aboriginal and Torres Strait Islander population fluctuated within jurisdictions; with rates in Queensland and Western Australia peaking in 2011 and then declining, and in the Northern Territory and South Australia peaking in 2010 and fluctuating thereafter (Figure 15).

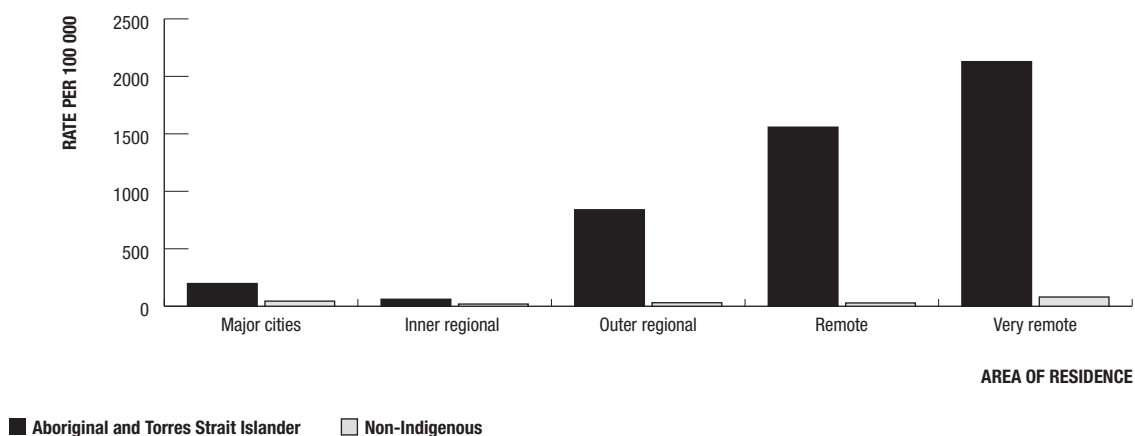
Figure 15 Notification rates of gonorrhoea infection by Aboriginal and Torres Strait Islander status, State/Territory¹ and year



¹ Jurisdictions (NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, in the Aboriginal and Torres Strait Islander population resident in major cities, inner regional, outer regional, remote and very remote areas, the population rate of gonorrhoea was 4 times, 3 times, 27 times, 54 times, and 26 times higher than the rate in the non-Indigenous population, respectively (Figure 16).

Figure 16 Notification rates of gonorrhoea infection in 2013 by Aboriginal and Torres Strait Islander status¹ and area of residence



¹ Jurisdictions (NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Infectious syphilis

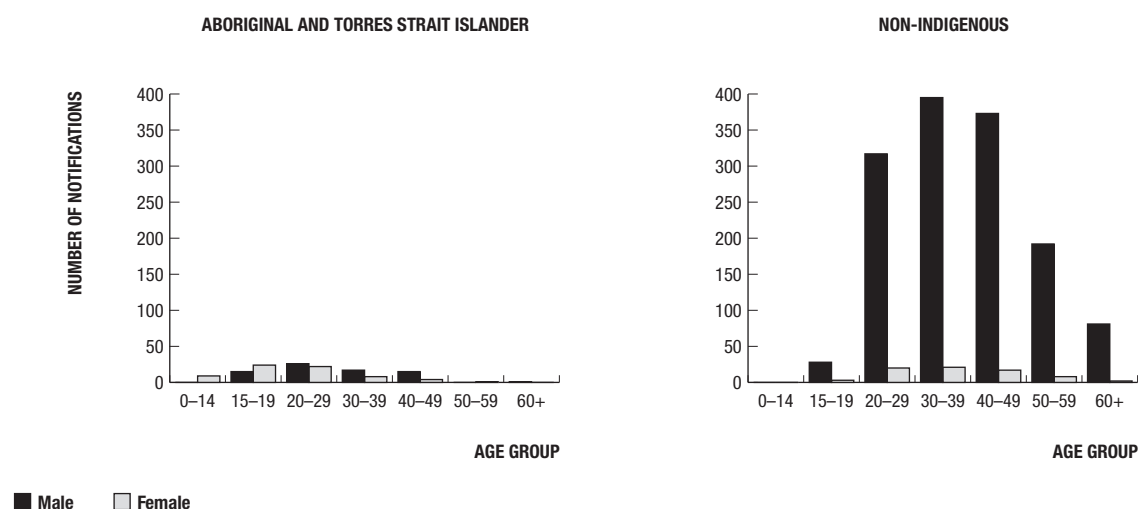
- Notifications of infectious syphilis have been reported nationally since 2004.
- There were a total of 1 764 infectious syphilis notifications nationally in 2013, with 142 (8%) among the Aboriginal and Torres Strait Islander population, 1 457 (83%) among the non-Indigenous population and a further 165 (9%) cases for which Indigenous status was not reported.
- In 2013, the infectious syphilis notification rate in the Aboriginal and Torres Strait Islander population was close to 3 times higher than the non-Indigenous population (18 vs. 7 per 100 000 population).
- The infectious syphilis notification rate in the Aboriginal and Torres Strait Islander population increased in 2010, particularly in Queensland and among 15 – 19 year olds, attributed to an outbreak of syphilis in some Queensland remote communities. In 2011 – 2013, notifications of infectious syphilis decreased in Aboriginal and Torres Strait Islander communities. However the trend varies across jurisdictions; with a substantial decline in the Northern Territory since 2010 and a decline in Western Australia and South Australia since 2011, and Queensland since 2012.
- The number of infectious syphilis notifications among Aboriginal and Torres Strait Islander males and females in 2013 was 74 and 68 (male to female ratio of 1.1:1) respectively, whereas in the non-Indigenous population there were 1 531 notifications in males and 79 in females in 2013 (male to female ratio of 19:1). This suggests transmission occurs predominantly through heterosexual contact in the Aboriginal and Torres Strait Islander population, and through sex between males in the non-Indigenous population.
- In 2013, 82% and 53% of infectious syphilis notifications in the Aboriginal and Torres Strait Islander and non-Indigenous populations respectively occurred among people aged less than 40 years of age.
- In 2013, the infectious syphilis notification rate among Aboriginal and Torres Strait Islander population increased as remoteness of residence increased, whereas in the non-Indigenous population the rate was highest in major cities and inner regional areas.

Accurate and complete systems for the notification of infectious syphilis exist nationally, enabling greater than 91% of all infectious syphilis diagnoses to be notified by Aboriginal and Torres Strait Islander status.

In 2013, there were 1 764 infectious syphilis notifications nationally, with 142 (8%) cases among the Aboriginal and Torres Strait Islander population, 1 457 cases (83%) among the non-Indigenous population and a further 165 cases (9%) for which Indigenous status was not reported.

In 2013, 52% of notifications of infectious syphilis in the Aboriginal and Torres Strait Islander population were among males, compared with 94% in the non-Indigenous population (Figure 17). The male to female ratio among the Aboriginal and Torres Strait Islander cases indicates transmission of infectious syphilis predominantly through heterosexual contact and through sex between males in the non-Indigenous population.

Figure 17 Number of notifications of newly diagnosed infectious syphilis in 2013 by Aboriginal and Torres Strait Islander status¹, sex and age group

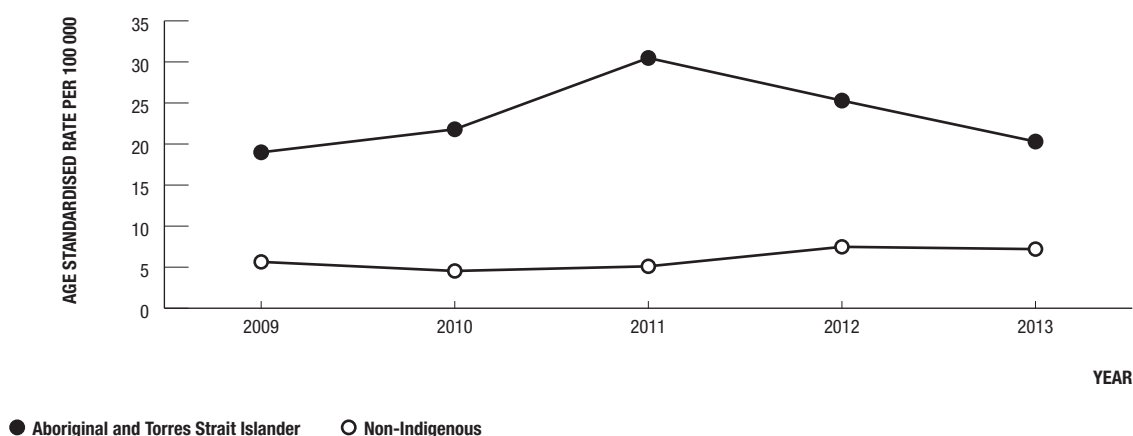


¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the age-standardised infectious syphilis notification rate in the Aboriginal and Torres Strait Islander population was nearly 3 times that of the non-Indigenous population (18 vs. 7 per 100 000 population) (Figure 18).

In the Aboriginal and Torres Strait Islander population the number of infectious syphilis notifications increased from 122 cases in 2009 to 204 in 2011, and then decreased to 173 in 2012 and 142 in 2013.

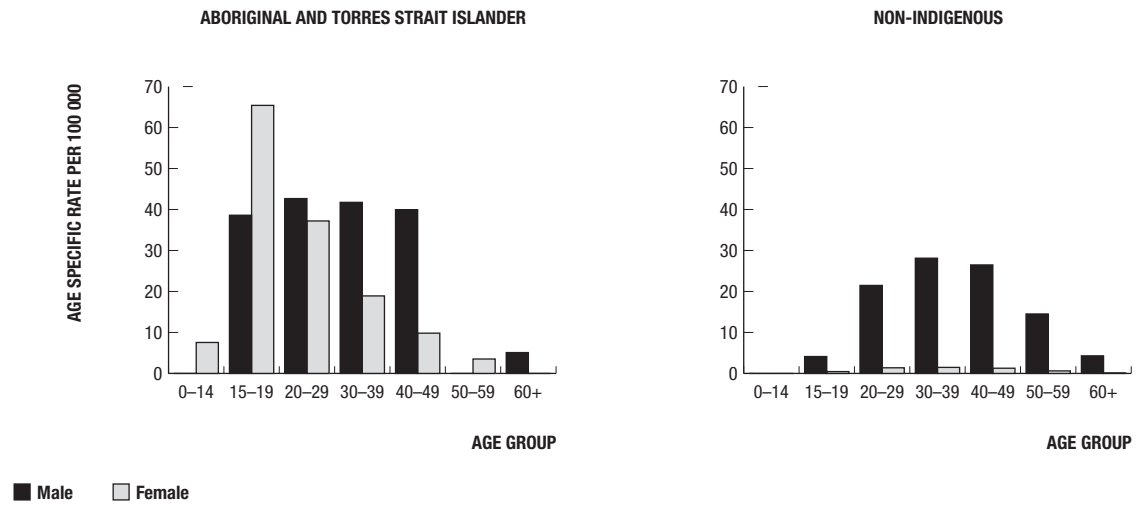
Figure 18 Notification rates of infectious syphilis by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

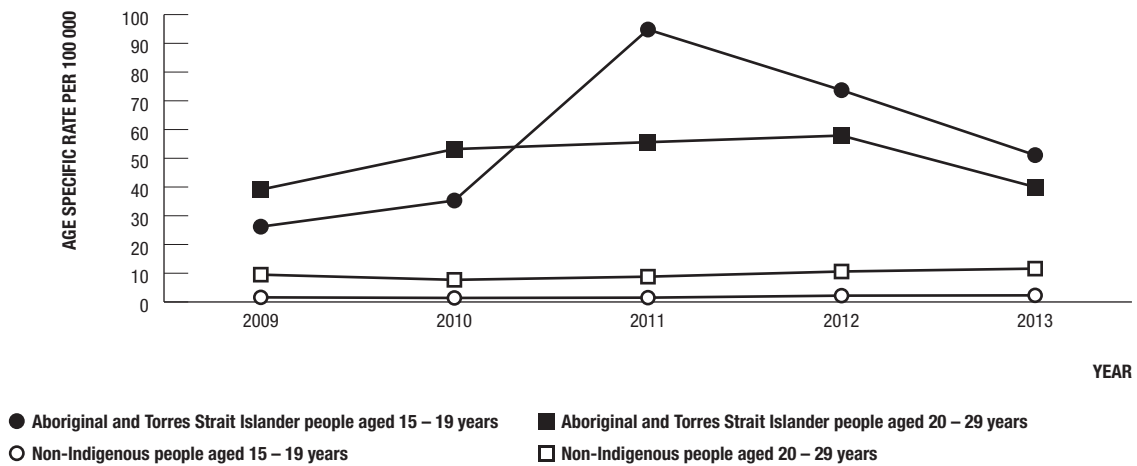
In 2013, the infectious syphilis notification rate was highest in the 15 – 19 year age groups for Aboriginal and Torres Strait Islander population, and 30 – 39 years for the non-Indigenous population (Figure 19).

Figure 19 Notification rates of infectious syphilis in 2013 by Aboriginal and Torres Strait Islander status¹, sex and age group



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Figure 20 Notification rates of infectious syphilis in selected age groups in 2013 by Aboriginal and Torres Strait Islander status¹

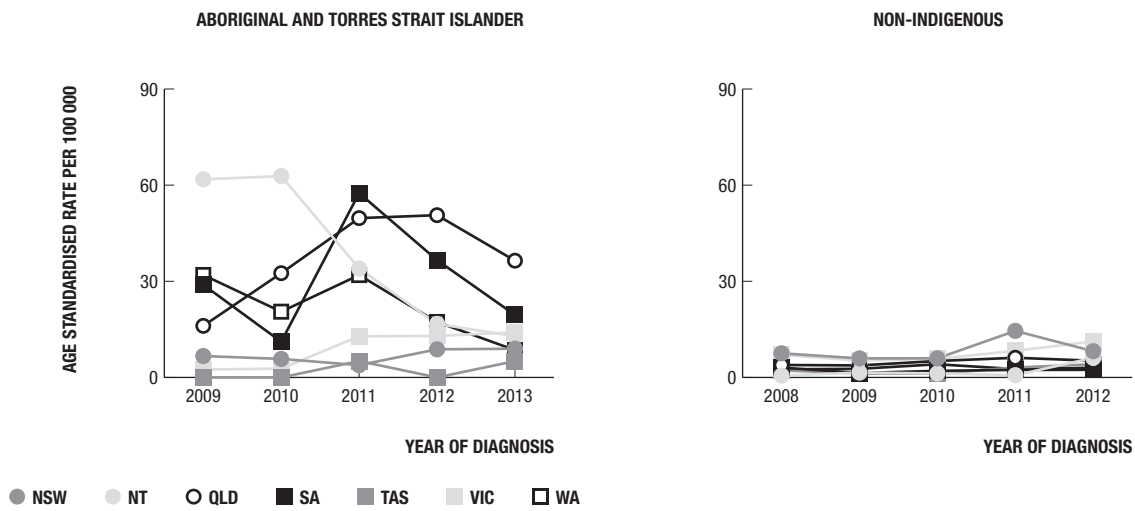


¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the majority of 142 infectious syphilis notifications in the Aboriginal and Torres Strait Islander population occurred in Queensland (65%), New South Wales (11%), Northern Territory (8%), Western Australia (6%), South Australia (5%) and Victoria (4%). In contrast the majority of 1 622 infectious syphilis notifications in the non-Indigenous population occurred in Victoria (40%), New South Wales (38%) and Queensland (15%).

From 2009 – 2013, the age-standardised notification rate of infectious syphilis in the Aboriginal and Torres Strait Islander population decreased steadily by 79% in the Northern Territory (62 in 2009 to 13 per 100 000 in 2013), by 73% in Western Australia (32 in 2009 to 9 per 100 000 in 2013) but increased by 126% in Queensland, particularly between 2009 – 2011 (16 in 2009 to 50 per 100 000 in 2011), and declined in 2012 – 2013 at 36 per 100 000 (Figure 21).

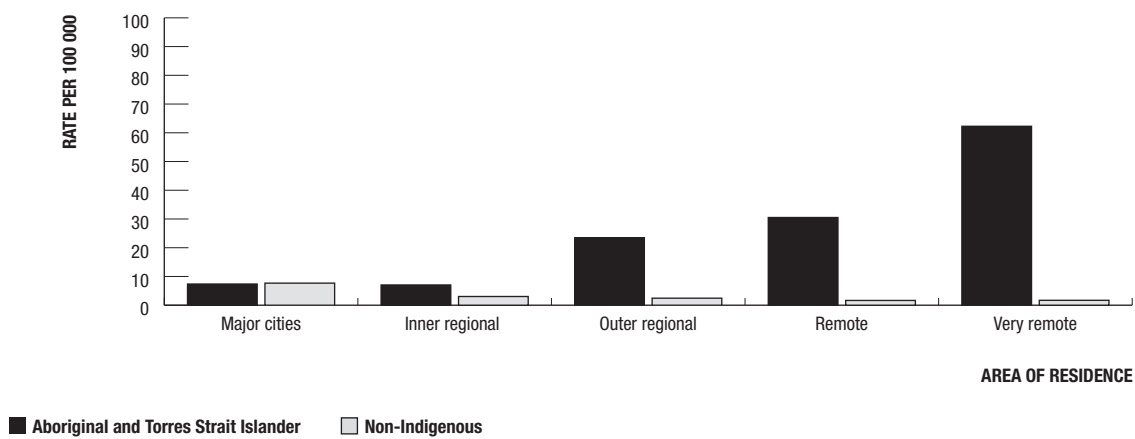
Figure 21 Notification rates of infectious syphilis by Aboriginal and Torres Strait Islander status, State/Territory¹ and year



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the infectious syphilis notification rate in the Aboriginal and Torres Strait Islander population was similar to that of the non-Indigenous population in major cities (7.4 versus 7.7 per 100 000) but 2 times higher in inner regional areas, increasing to 12, 16 and 31 times the rate in outer regional, remote and very remote areas of Australia, respectively (Figure 22).

Figure 22 Notification rates of infectious syphilis in 2013 by Aboriginal and Torres Strait Islander status¹ and area of residence



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Bacterial STIs reported in persons aged less than 16 years

The occurrence of STIs among the Aboriginal and Torres Strait Islander population aged less than 16 years linked to child sexual assault is a sensitive issue and often unnecessarily linked. The occurrence of chlamydia, gonorrhoea and infectious syphilis among people aged 15 years or younger is described, based on cases notified to the National Notifiable Diseases Surveillance System and is summarised only for those jurisdictions in which Aboriginal and Torres Strait Islander status was reported for at least 50% of notifications in each year over the past five years.

From 2009 – 2013, a total of 3 320 and 3 455 cases of chlamydia were reported among Aboriginal and Torres Strait Islander and the non-Indigenous populations aged less than 16 years respectively. In the same period 1 892 and 204 cases of gonorrhoea and 54 and 6 cases of infectious syphilis were reported in the Aboriginal and Torres Strait Islander and non-Indigenous populations aged less than 16 years respectively. Within the Aboriginal and Torres Strait Island population, the majority of these notifications (95% for chlamydia, 94% for gonorrhoea and 94% for infectious syphilis) were among people aged 13 to 15 years. A similar pattern of diagnosis occurred among the non-Indigenous young population where 97% of chlamydia, 92% of gonorrhoea and 67% of infectious syphilis notifications were among people aged 13 to 15 years. The majority of diagnoses of STIs in the young Aboriginal and Torres Strait Islander population occurred in areas of known high endemicity of STIs, and where screening for STIs is routinely carried out. Caution should be taken in describing these data as related to child sexual assault; as it is likely that a significant proportion of these notifications are the result of early sexual debut and/or sex with peer-aged partners.

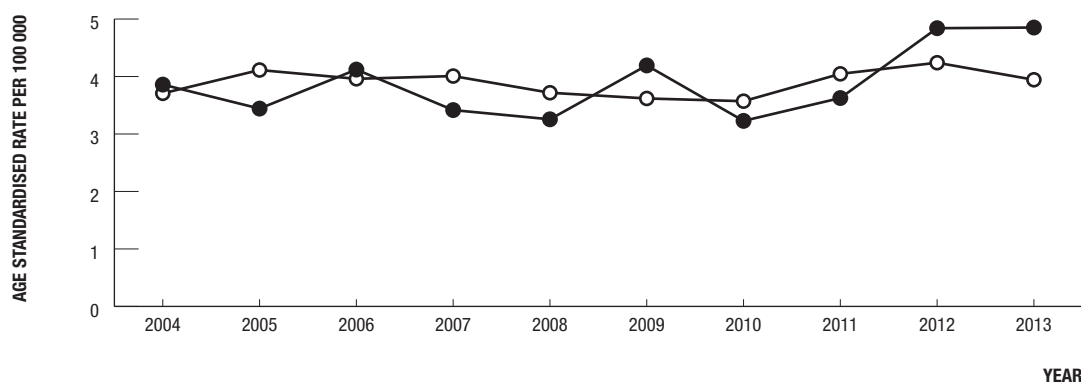
HIV infection

- A total of 1 236 notifications of newly diagnosed HIV infection were reported in 2013 including 26 which were identified as Aboriginal and Torres Strait Islander. In 2013, the notification rate of newly diagnosed HIV infection was higher for the Aboriginal and Torres Strait Islander population (4.9 per 100 000) compared to the non-Indigenous population (3.9 per 100 000).
- During the period 2004 – 2013, 231 notifications of newly diagnosed HIV infections were among the Aboriginal and Torres Strait Islander population; 79% were among males, the median age at diagnosis was 33 years, 28% of cases were classified as newly acquired cases, and 33% were classified as a delayed HIV diagnosis (CD4+ cell count of <350 cells/μl).
- In the period 2009 – 2013, a higher proportion of notifications of newly diagnosed HIV infection among the Aboriginal and Torres Strait Islander population were attributed to injecting drug use (12% vs. 3%) and heterosexual contact (21% vs. 13%) and in females (20% vs 5%), as compared with the non-Indigenous Australian-born population.

All jurisdictions report accurate and complete data sets for newly diagnosed HIV infection. Accurate and complete systems for the notification of newly diagnosed HIV infection exist nationally which enables greater than 99% of all newly diagnosed HIV infections to be notified by Aboriginal and Torres Strait Islander status.

In 2013, of the 1 236 notifications of newly diagnosed HIV infections, 1 210 were identified as non-Indigenous and 26 as Aboriginal and Torres Strait Islander. The age-standardised notification rate of newly diagnosed HIV infection was higher in the Aboriginal and Torres Strait Islander population (4.9 per 100 000) than that of the non-Indigenous population (3.9 per 100 000) (Figure 23).

Figure 23 Notification rates of newly diagnosed HIV infection in the Australian-born population, by Aboriginal and Torres Strait Islander status¹ and year



● Aboriginal and Torres Strait Islander ○ Non-Indigenous

¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Of the 231 notifications of newly diagnosed HIV infections among the Aboriginal and Torres Strait Islander population in the 10 year period 2004 – 2013, 79% were diagnosed among males, the median age at diagnosis was 33 years, 28% of cases were classified as newly acquired cases and 33% were classified as a delayed HIV diagnosis (CD4+ cell count of <350 cells/μl) (Table 3)

National surveillance for newly diagnosed HIV infection in Aboriginal and Torres Strait Islander people

Table 3 Characteristics of cases of newly diagnosed HIV infection in Aboriginal and Torres Strait Islander people, 2004 – 2013, by year. Number of cases, median age and percent (number) of total cases by sex, newly acquired infection, HIV status at diagnosis, State/Territory and HIV exposure category

| Characteristic | Year of HIV diagnosis | | | | | | | | | | Total ^{1,2} |
|--|-----------------------|----------|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|----------------------|
| | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | |
| Total cases | 22 | 20 | 23 | 19 | 19 | 24 | 22 | 23 | 33 | 26 | 231 |
| Males (%) | 72.7 | 85.0 | 73.9 | 84.2 | 79.0 | 83.3 | 68.2 | 73.9 | 81.8 | 84.6 | 78.8 |
| Median age (years) | 29 | 33 | 31 | 33 | 36 | 37 | 35 | 33 | 27 | 37 | 33 |
| Newly acquired HIV infection (%)¹ | 31.8 (7) | 15.0 (3) | 30.4 (7) | 26.3 (5) | 31.6 (6) | 29.2 (7) | 22.7 (5) | 21.7 (5) | 30.3 (10) | 34.6 (9) | 27.7 (64) |
| Late and advanced HIV infection status at HIV diagnosis (%)^{2,3} | | | | | | | | | | | |
| Late HIV diagnosis | 4.5 | 5.0 | 13.0 | 26.3 | 21.1 | 12.5 | 18.2 | 4.3 | 9.1 | 15.4 | 12.6 |
| Advanced HIV infection | 31.8 | 10.0 | 8.7 | 10.5 | 15.8 | 33.3 | 9.1 | 34.8 | 21.2 | 26.9 | 20.8 |
| State/Territory (%) | | | | | | | | | | | |
| Australian Capital Territory | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| New South Wales | 4 | 3 | 9 | 8 | 8 | 9 | 7 | 5 | 11 | 8 | 72 |
| Northern Territory | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 2 | 2 | 1 | 8 |
| Queensland | 5 | 9 | 6 | 5 | 2 | 8 | 8 | 8 | 14 | 9 | 74 |
| South Australia | 2 | 0 | 0 | 1 | 4 | 2 | 1 | 1 | 1 | 2 | 14 |
| Tasmania | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 | 4 |
| Victoria | 4 | 2 | 2 | 3 | 0 | 1 | 3 | 1 | 5 | 5 | 26 |
| Western Australia | 5 | 6 | 6 | 2 | 4 | 3 | 2 | 5 | 0 | 0 | 33 |
| HIV exposure category (%)⁴ | | | | | | | | | | | |
| Men who have sex with men | 52.4 (11) | 35.0 (7) | 47.8 (11) | 47.4 (9) | 47.4 (9) | 52.6 (10) | 60.0 (12) | 63.6 (14) | 71.9 (23) | 24.0 (6) | 50.9 (112) |
| Men who have sex with men, and injecting drug use | 0.0 (0) | 25.0 (5) | 4.3 (1) | 15.8 (3) | 5.3 (1) | 15.8 (3) | 5.0 (1) | 0.0 (0) | 3.1 (1) | 20.0 (5) | 9.1 (20) |
| Injecting drug use ⁵ | 19.0 (4) | 15.0 (3) | 21.7 (5) | 15.8 (3) | 36.8 (7) | 10.5 (2) | 20.0 (4) | 4.5 (1) | 6.3 (2) | 24.0 (6) | 16.8 (37) |
| Heterosexual contact | 28.6 (6) | 25.0 (5) | 26.1 (6) | 21.1 (4) | 10.5 (2) | 21.1 (4) | 15.0 (3) | 27.3 (6) | 18.8 (6) | 32.0 (8) | 22.7 (50) |
| Haemophilia/coagulation disorder | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) |
| Receipt of blood/tissue | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) |
| Mother with/at risk of HIV infection | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 4.5 (1) | 0.0 (0) | 0.0 (0) | 0.5 (1) |
| Health care setting | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) |
| Other/undermined exposure | 4.5 (1) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 0.0 (0) | 20.8 (5) | 9.1 (2) | 4.3 (1) | 3.0 (1) | 3.8 (1) | 4.8 (11) |

1. Newly acquired HIV infection was defined as newly diagnosed infection with a negative or indeterminate HIV antibody test result or a diagnosis of primary HIV infection within one year of HIV diagnosis.
2. Late diagnosis and advanced infection for HIV diagnoses in 2004 only. Total percentage with late HIV diagnosis and advanced HIV infection in 2004 – 2013 only.
3. Late HIV diagnosis was defined as newly diagnosed HIV infection with a CD4+ cell count of 200 or more to less than 350 cells/μl, and advanced HIV infection as newly diagnosed infection with a CD4+ cell count of less than 200 cells/μl.
4. The "Other/undetermined" exposure category was excluded from the calculation of the percentage of cases attributed to each HIV exposure category.
5. Excludes men who have sex with men.

Source: State/Territory health authorities

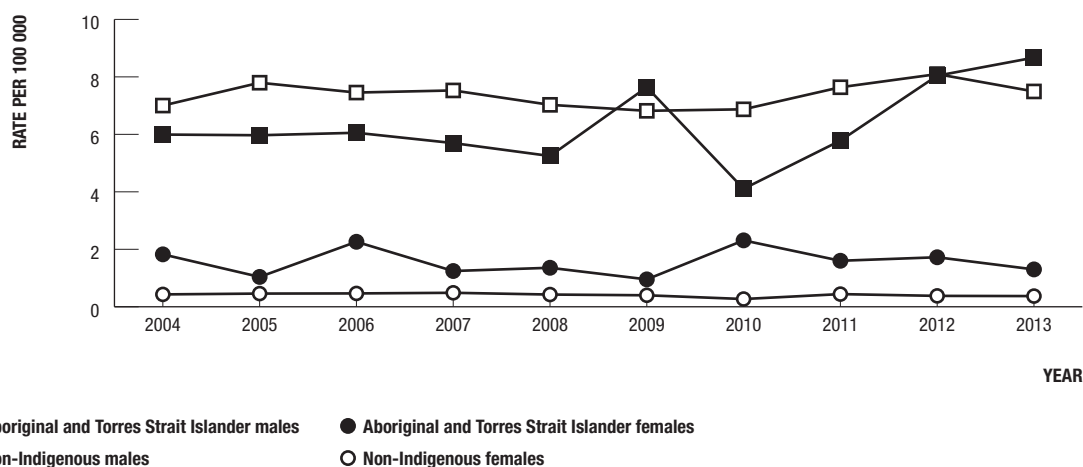
For the purposes of a longer term trend analysis of HIV diagnosis in the Aboriginal and Torres Strait Islander population we have analysed data for the period 2004 – 2013 and compared this to data for the non-Indigenous Australian-born population.

In 2004 – 2013, the age-standardised notification rate of newly diagnosed HIV infection in the Aboriginal and Torres Strait Islander population was 3.9 per 100 000 in 2004, rates then fluctuated until 2011 and then increased in 2012 – 2013, reaching 4.9 per 100 000 in 2013. In the non-Indigenous Australian-born population, the rate remained stable; 3.7 per 100 000 in 2004 and 3.9 per 100 000 in 2013. The notification rates of newly diagnosed HIV infection in the Aboriginal and Torres Strait Islander population are based on small numbers, and may reflect localised occurrences rather than national patterns.

For males, the notification rate of newly diagnosed HIV infection in the Aboriginal and Torres Strait Islander population fluctuated, with a decline in 2010 and an increase in 2012 – 2013 (6.0 in 2004, 4.1 in 2010 and 8.7 per 100 000 in 2013) and non-Indigenous Australian-born males (7.0 in 2004 to 7.5 in 2013 per 100 000) (Figure 24).

The notification rate of newly diagnosed HIV infection among Aboriginal and Torres Strait Islander females fluctuated between 1.8 per 100 000 population in 2004 to 1.3 per 100 000 population in 2013, but were higher than non-Indigenous Australian-born females where the rate of HIV diagnosis remained stable (0.4 in 2004 and 0.4 per 100 000 in 2013) (Figure 24).

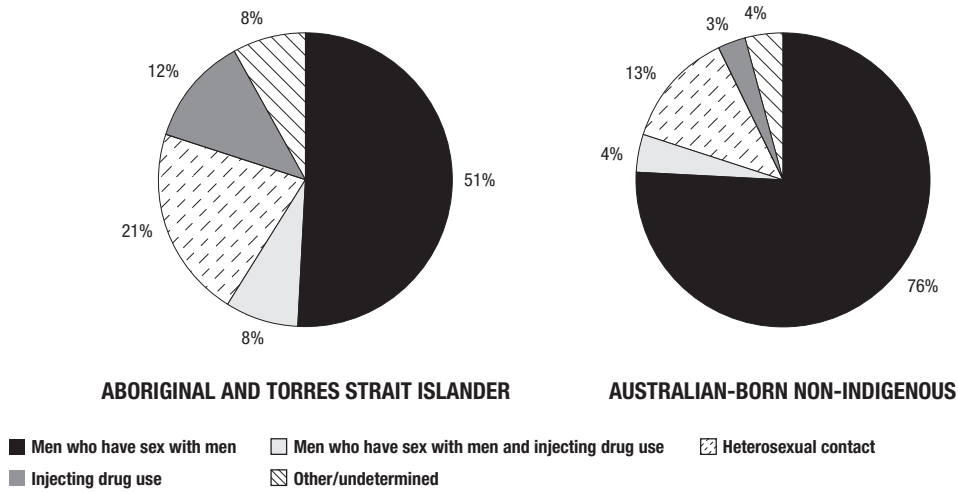
Figure 24 Notification rates of newly diagnosed HIV infection in the Australian-born population, by Aboriginal and Torres Strait Islander status¹, sex and year



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In the period 2009 – 2013, a higher proportion of notifications of newly diagnosed HIV infection among the Aboriginal and Torres Strait Islander population were attributed to injecting drug use (12% vs. 3% respectively) and a similar proportion to heterosexual contact (21% vs. 13% respectively) and in females (20% vs 5%) as compared with the non-Indigenous Australian only population (Figure 25).

Figure 25 Notification rates of newly diagnosed HIV infection in the Australian-born population, by Aboriginal and Torres Strait Islander status¹ and HIV exposure category



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

During the period 2009 – 2013, notifications of newly diagnosed HIV infection among the Aboriginal and Torres Strait Islander population were reported from Queensland (37%), New South Wales (31%), Victoria (12%) and Western Australia (8%) (Table 3).

In 2013, the notification rate of newly diagnosed HIV infection was highest among those resident in major cities in both the Aboriginal and Torres Strait Islander population and the non-Indigenous population (Figure 26). The rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population was 6 per 100 000 in major cities, compared to 0 per 100 000 in remote areas. The rate of HIV diagnosis in the non-Indigenous population was 6 per 100 000 in major cities compared to 3 per 100 000 in the remote areas (Figure 26 and Table 4).

Figure 26 Notification rates of newly diagnosed HIV infection in 2013 in the Australian-born population, by Aboriginal and Torres Strait Islander status and area of residence

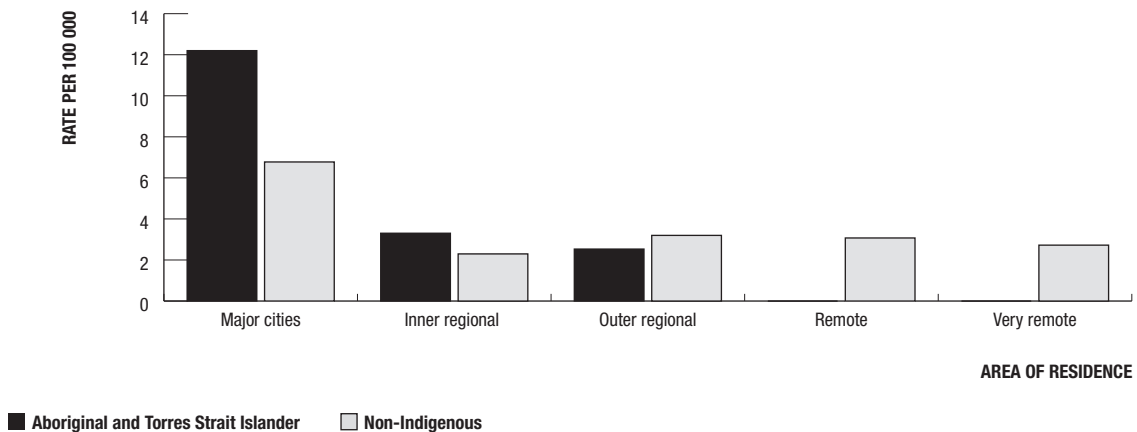


Table 4 Rate of diagnosis of HIV infection¹, 2009 – 2013, by area of residence, Aboriginal and Torres Strait Islander status and year

| Area of residence | Aboriginal and Torres Strait Islander status | Year of diagnosis | | | | |
|-------------------|--|-------------------|----------|----------|----------|----------|
| | | 2009 | 2010 | 2011 | 2012 | 2013 |
| Major cities | Aboriginal and Torres Strait Islander | 8 | 6 | 5 | 9 | 6 |
| | non-Indigenous ² | 6 | 6 | 6 | 6 | 6 |
| Inner regional | Aboriginal and Torres Strait Islander | 1 | 2 | 2 | 4 | 2 |
| | non-Indigenous ² | 2 | 2 | 2 | 2 | 2 |
| Outer regional | Aboriginal and Torres Strait Islander | 2 | 3 | 3 | 3 | 5 |
| | non-Indigenous ² | 3 | 3 | 3 | 4 | 4 |
| Remote | Aboriginal and Torres Strait Islander | 0 | 2 | 0 | 2 | 2 |
| | non-Indigenous ² | 2 | 1 | 1 | 3 | 3 |
| Very remote | Aboriginal and Torres Strait Islander | 2 | 1 | 4 | 0 | 1 |
| | non-Indigenous ² | 4 | 3 | 2 | 9 | 4 |
| Total | Aboriginal and Torres Strait Islander | 4 | 3 | 3 | 5 | 4 |
| | non-Indigenous² | 5 | 5 | 5 | 6 | 5 |

In the Oceania region, Australia is among the countries with the lowest prevalence of HIV infection in its population aged 15 - 49 years. Australia's nearest neighbour, Papua New Guinea, has the highest HIV prevalence in its population aged 15 - 49 years. It is important to view this data in the context of family and cultural connections between some Torres Strait Islander communities and Papua New Guinea population (Figure 27 and Table 5)

Figure 27 HIV prevalence in selected countries

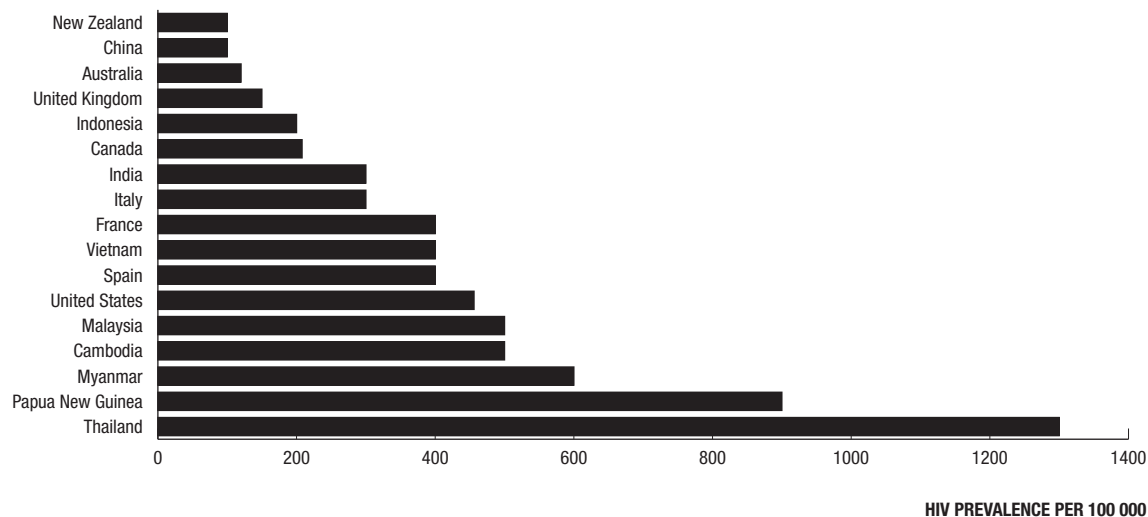


Table 5 Estimated HIV prevalence in selected countries

| Country | HIV prevalence | |
|--------------------------------|-------------------|-------------------|
| | 2013 ¹ | Rate ² |
| Africa | | |
| Mauritius ³ | 9 635 | 743 |
| Somalia ³ | 32 313 | 308 |
| South Africa ³ | 6 274 091 | 11 842 |
| Sudan South ³ | 153 108 | 1 355 |
| Zambia ³ | 1 110 409 | 7 638 |
| Zimbabwe ³ | 1 390 293 | 9 826 |
| Asia Pacific | | |
| Australia | 26 800 | 116 |
| Cambodia ³ | 75 248 | 497 |
| China ⁴ | 780 000 | <100 |
| Indonesia ³ | 641 359 | 257 |
| Japan ⁴ | 7 900 | <100 |
| Malaysia ³ | 86 324 | 290 |
| Myanmar ³ | 192 465 | 361 |
| New Zealand ⁵ | 2 600 | <100 |
| Papua New Guinea ³ | 31 945 | 436 |
| Philippines ⁵ | 15 000 | <100 |
| Republic of Korea ³ | 15 000 | <100 |
| Thailand ³ | 435 284 | 650 |
| Vietnam ³ | 248 646 | 277 |
| Europe | | |
| France ⁵ | 160 000 | 400 |
| Germany ⁶ | 77 513 | <100 |
| Italy ³ | 122 018 | 204 |
| Spain ³ | 150 424 | 322 |
| United Kingdom ³ | 126 660 | 198 |
| North America | | |
| Canada ³ | 71 000 | 300 |
| United States ⁷ | 1 144 500 | 406 |

1 Estimated number of people living with HIV/AIDS.

2 Rate per 100 000 population.

3 Estimated HIV prevalence in people in all age in 2013.

4 Estimated HIV prevalence in people in all age in 2011.

5 Estimated HIV prevalence in people aged 15 – 49 years in 2011.

6 Estimated HIV prevalence in people in all age in 2012.

7 Estimated HIV prevalence for people aged ≥13 in 2010.

Newly diagnosed HBV Infection

- There were a total of 7 151 notifications of newly diagnosed HBV infection in Australia in 2013; of these 206 (3%) were among the Aboriginal and Torres Strait Islander population, 2 693 (38%) were among the non-Indigenous population and a further 4 252 (59%) notifications for which Indigenous status was not reported.
- In 2013, the notification rate of newly diagnosed HBV infection for the Aboriginal and Torres Strait Islander population was close to 2 times higher than the non-Indigenous population (72 per 100 000 versus 32 per 100 000).
- In the period 2009 – 2013, there was a 28% decline in the notification rate of newly diagnosed HBV infection in the Aboriginal and Torres Strait Islander population (from 100 per 100 000 in 2009 to 72 per 100 000 in 2013), with a 10% increase in rates in the non-Indigenous population (from 29 per 100 000 in 2009 to 32 per 100 000 in 2013).
- Aboriginal and Torres Strait Islander aged 30 – 49 years experienced substantially higher rates of newly diagnosed HBV infection compared to other age groups.

Newly acquired HBV infections

- There were 172 newly acquired HBV infections notified in 2013; 13 (8%) were among the Aboriginal and Torres Strait Islander population, 130 (76%) were among the non-Indigenous population and a further 29 (17%) notifications for which Indigenous status was not reported.
- In 2013, the notification rate of newly acquired HBV infection for the Aboriginal and Torres Strait Islander and non-Indigenous populations were 1.9 and 0.7 per 100 000, respectively.
- In the period 2009 – 2013, the notification rate of newly acquired HBV infection remained stable in the Aboriginal and Torres Strait Islander and non-Indigenous populations.
- In 2013, 69% and 95% of notifications of newly acquired HBV infection in the Aboriginal and Torres Strait Islander and non-Indigenous populations respectively, were in those aged 20 years of age and over.

Newly diagnosed HBV infections

This section focuses on newly diagnosed HBV infection which means that a person previously not known to have the infection has been tested and now found to have the infection. These diagnoses include newly acquired infections (previous negative test in the past 2 years) plus those with a previous test more than 2 years or the time period is unknown.

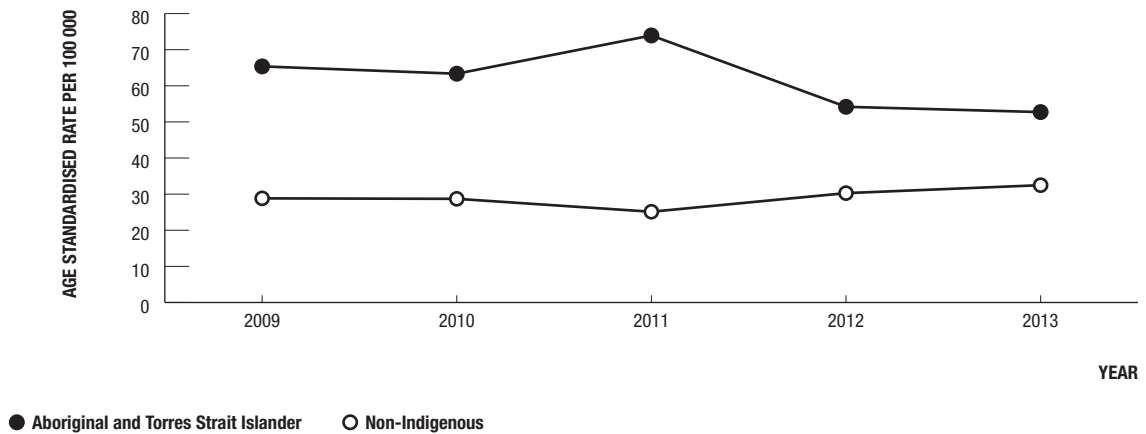
There were a total of 7 151 notifications of newly diagnosed HBV infection in Australia in 2013; of these 206 (3%) were among the Aboriginal and Torres Strait Islander population, 2 693 (38%) were among the non-Indigenous population and a further 4 252 (59%) were notifications for which Indigenous status was not reported.

In the period 2009 – 2013, Aboriginal and Torres Strait Islander status was reported in less than 50% of notifications per year in New South Wales, Queensland and Victoria and as such notification data for newly diagnosed HBV excludes these jurisdictions. Hereinafter notification data for the period 2009 – 2013 refers to data notified from the Northern Territory, South Australia, Tasmania, the Australian Capital Territory and Western Australia.

In 2013, the age-standardised notification rate of newly diagnosed HBV infection for the Aboriginal and Torres Strait Islander population was close to 2 times higher than the non-Indigenous population (72 per 100 000 versus 32 per 100 000) (Figure 28).

In the period 2009 – 2013, there was a decline in the notification rates of newly diagnosed HBV infection in the Aboriginal and Torres Strait Islander population (from 100 per 100 000 in 2009 to 72 per 100 000 in 2013), with rates remaining steady in the non-Indigenous population (Figure 28).

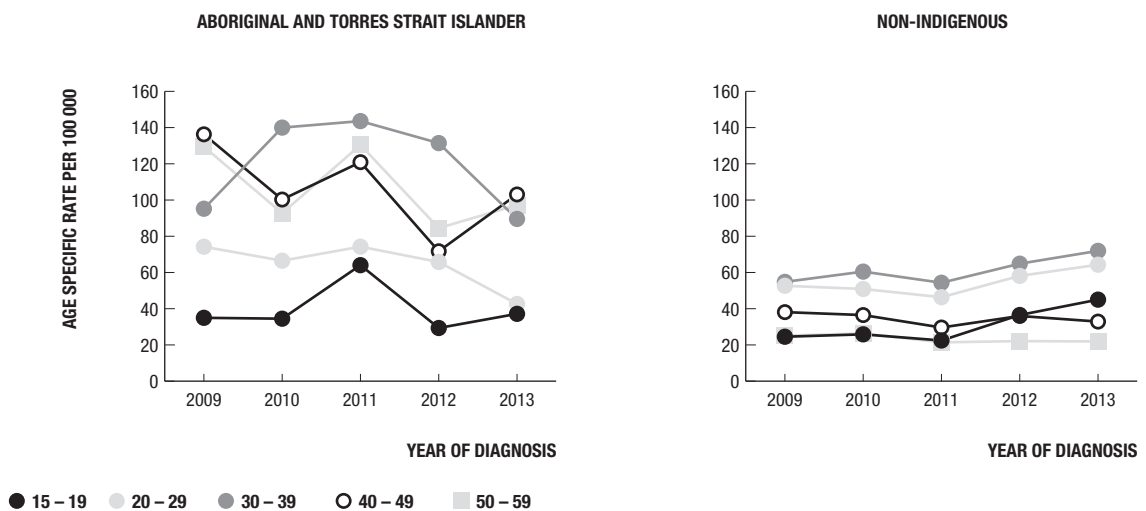
Figure 28 Notification rates of newly diagnosed HBV infection by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, SA, TAS, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, Aboriginal and Torres Strait Islander people aged 30 – 49 years experienced substantially higher rates of newly diagnosed HBV infection than other age groups (Figure 29).

Figure 29 Notification rates of newly diagnosed HBV infection by Aboriginal and Torres Strait Islander status¹, age and year



¹ Jurisdictions (NSW, NT, SA, TAS, & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Newly acquired HBV infection

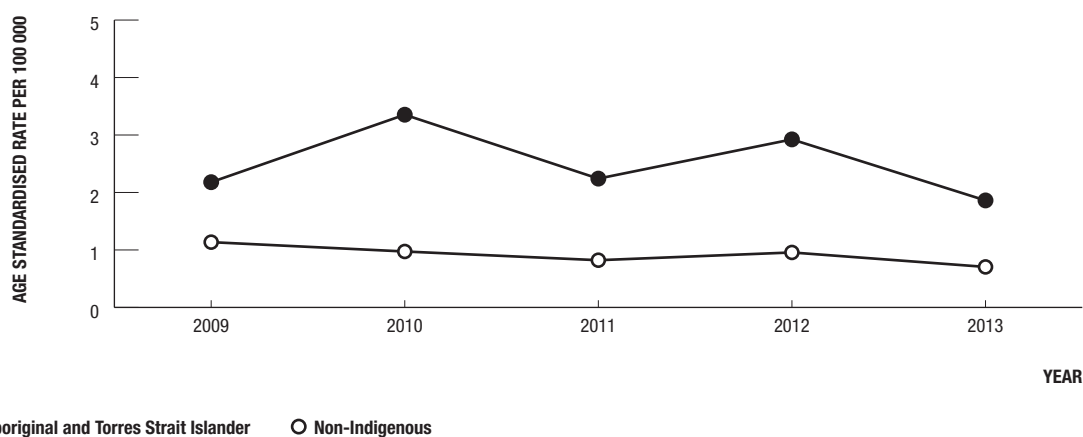
This section focuses on **newly acquired HBV infection** which means that a person previously known not to have the infection within the last two years has been tested and now found to have the infection

Information on Aboriginal and Torres Strait Islander status was reported for more than 50% of notifications of newly acquired HBV infection in all jurisdictions.

In 2013, 13 notifications of newly acquired HBV infection were diagnosed in the Aboriginal and Torres Strait Islander population and 130 in the non-Indigenous population.

In the period 2009 – 2013 the age-standardised notification rate of newly acquired HBV infection in the Aboriginal and Torres Strait Islander population remained stable at around 2 per 100 000 and also remained stable at around 1 per 100 000 in the non-Indigenous population over the same time period (Figure 30).

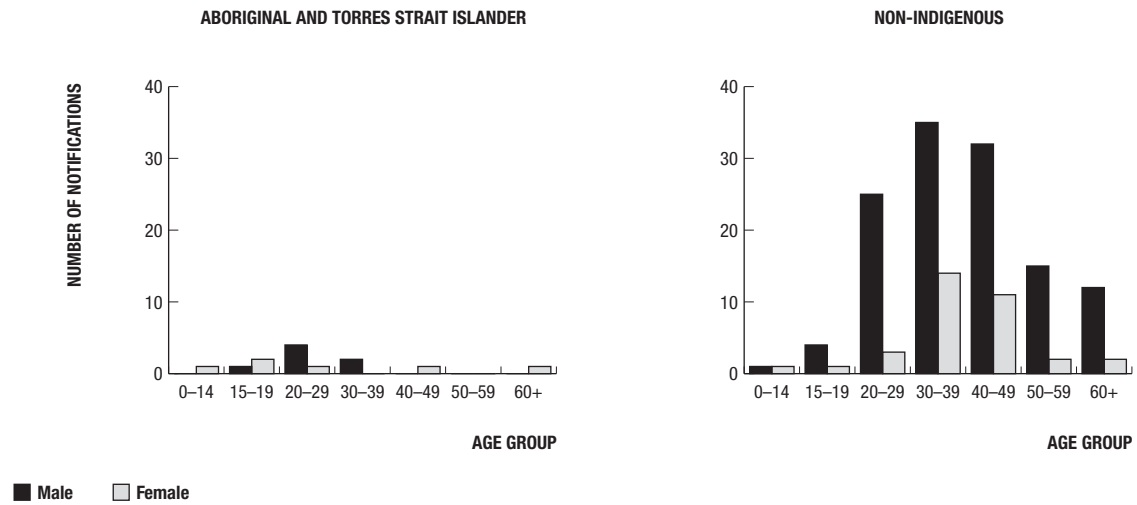
Figure 30 Notification rates of newly acquired HBV infection by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the majority of notifications of newly acquired HBV infection in both the Aboriginal and Torres Strait Islander (69%) and the non-Indigenous population (95%) occurred in people aged over 20 years. In 2013, the male to female ratio of newly acquired HBV infection in the Aboriginal and Torres Strait Islander population was 1.2:1 compared with 3.7:1 in the non-Indigenous population (Figure 31).

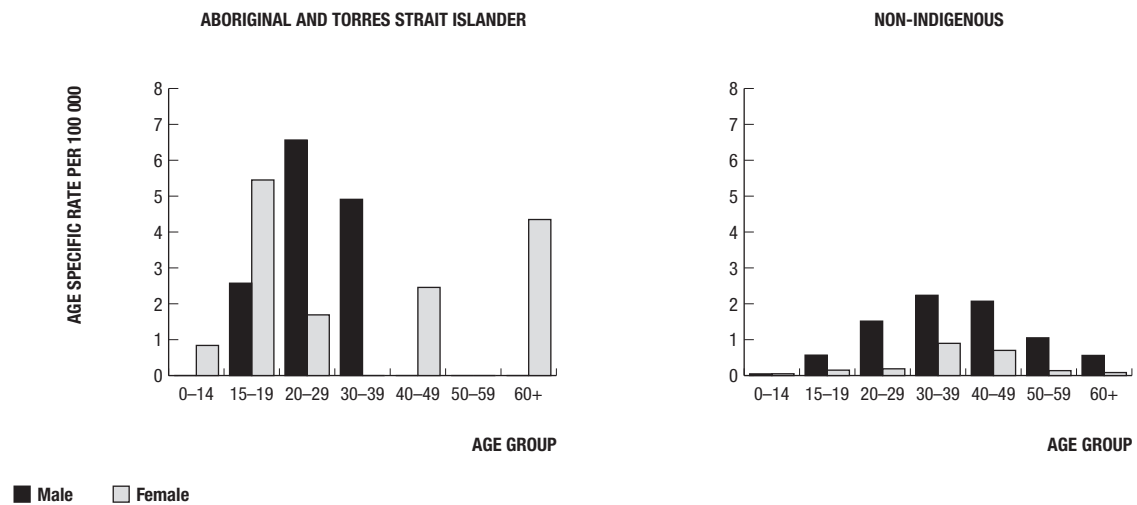
Figure 31 Number of notifications of newly acquired HBV infection in 2013, by Aboriginal and Torres Strait Islander



1 Jurisdictions (NSW, NT, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the notification rate of newly acquired HBV infection in the Aboriginal and Torres Strait Islander population was higher in all age groups than the rates in non-Indigenous population (Figure 32).

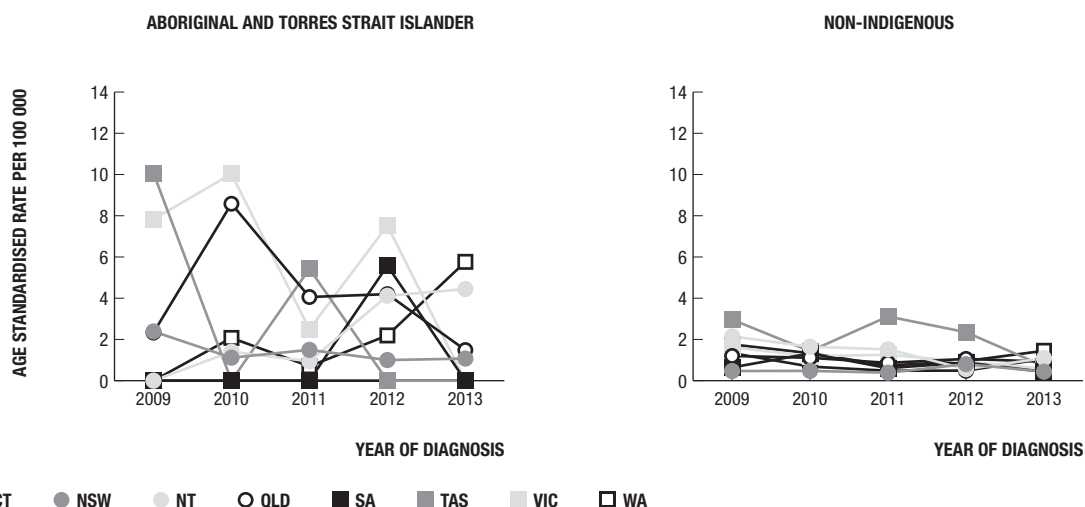
Figure 32 Notification rates of newly acquired HBV infection in 2013, by Aboriginal and Torres Strait Islander status¹, sex and age group



1 Jurisdictions (NSW, ACT, NT, QLD, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

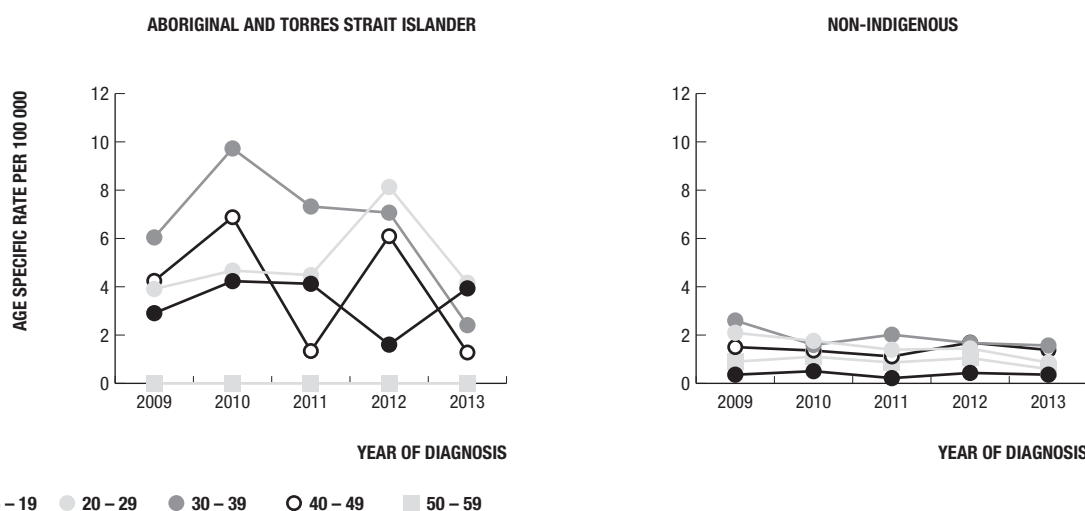
The age-standardised notification rate of newly acquired HBV infection in the Aboriginal and Torres Strait Islander population fluctuated over time in individual jurisdictions (Figure 33) and overall within age groups (Figure 34).

Figure 33 Notification rates of newly acquired HBV infection by Aboriginal and Torres Strait Islander status, State/Territory¹ and year



¹ Jurisdictions (NSW, ACT, NT, QLD, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

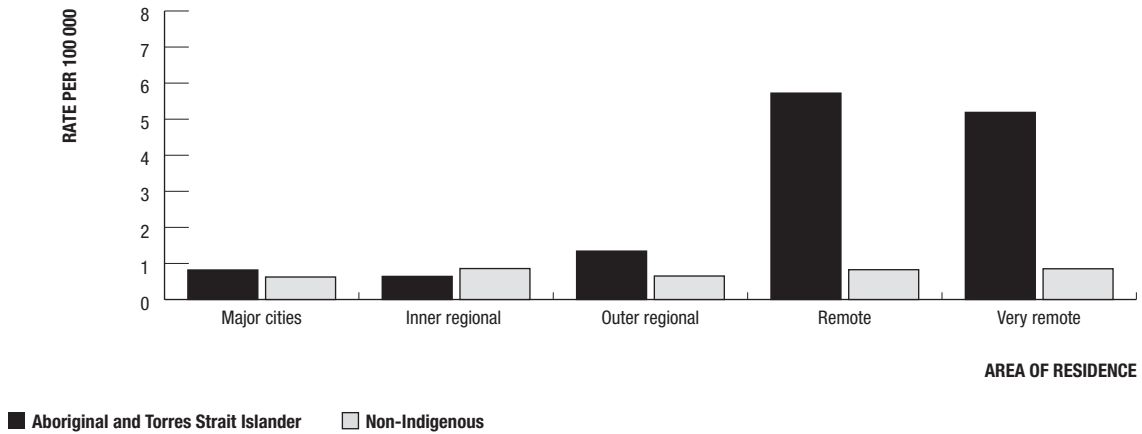
Figure 34 Notification rates of newly acquired HBV infection in selected age groups by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NSW, ACT, NT, QLD, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the notification rate of newly acquired HBV infection in the Aboriginal and Torres Strait Islander population was similar to that of the non-Indigenous population in major cities (0.8 versus 0.6 per 100 000) and inner regional areas (0.6 and 0.9 per 100 000) respectively, but was 2 times higher in outer regional areas. This increased to 7 and 6 times the notification rate as compared with the non-Indigenous population in remote and very remote areas of Australia respectively (Figure 35).

Figure 35 Notification rates of newly acquired HBV infection in 2013, by Aboriginal and Torres Strait Islander status¹ and area of residence



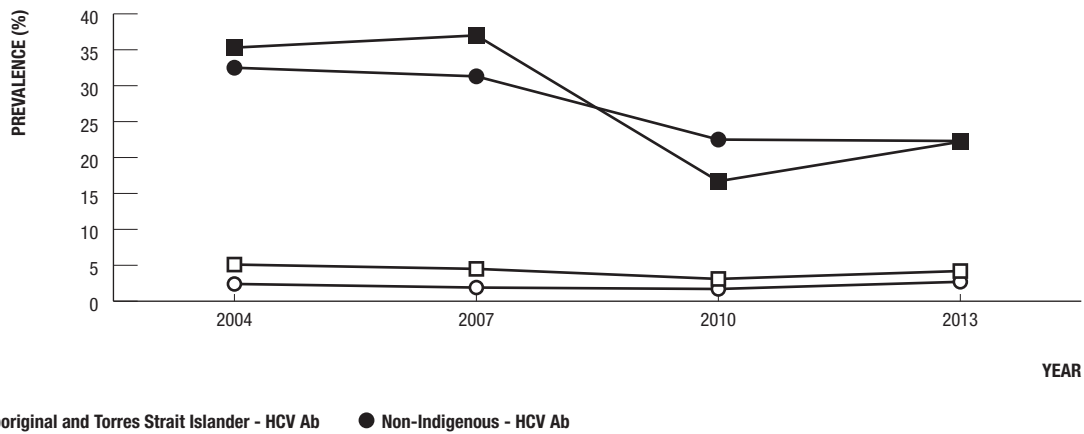
¹ Jurisdictions (NSW, ACT, NT, QLD, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

A survey repeated every 4 – 5 years among Australian prison entrants showed that the prevalence of HBV infection was close to 2 times greater than non-Indigenous entrants each survey (4.2% versus 2.7% respectively) (Figure 36). Also at the end of 2011, an estimated 20 290 Aboriginal and Torres Strait Islander people were living with chronic HBV (3.7% of the population) compared with 41 531 non-Indigenous Australian-born people (0.3% of the population) (MacLachlan 2013).

The higher rates of newly diagnosed HBV infections in the Aboriginal and Torres Strait Islander population than the non-Indigenous population could reflect historical transmission primarily perinatal or in early childhood, with some additional transmission through sex and blood contact in adolescence and adulthood. Aboriginal and Torres Strait Islander people also have higher rates of risk factors for adult HBV acquisition, including through injecting (Ward 2011), and incarceration (ABS Prisoners in Australia Report 2012), which may account for higher rates of newly acquired infection. In 2012, imprisonment rates for the Aboriginal and Torres Strait Islander population were reported to be 15 times higher than the non-Indigenous population.

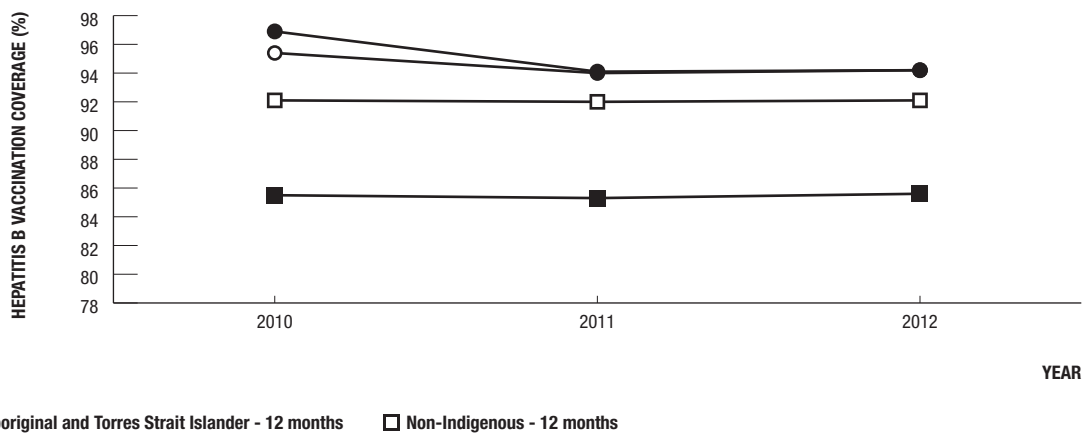
The discrepancy in diagnoses rates between the Aboriginal and Torres Strait Islander population and the non-Indigenous population may be reduced in the cohort of universal neonatal vaccines (whom are now aged up to 25 years in the Northern Territory, and 15 years elsewhere in the country). However in 2010 – 2012, HBV immunisation coverage rates were lower for the Aboriginal and Torres Strait Islander children than non-Indigenous for the 12 months age group, with little or no difference at 24 months of age (Figure 37). The lower rates at 12 months suggest issues around timeliness of completion of the course in Aboriginal and Torres Strait Islander children, which may lead to increased risk of disease acquisition.

Figure 36 Hepatitis B and hepatitis C antibody prevalence among a sample of incoming Australian prisoners by Aboriginal and Torres Strait Islander status and year



Source: National Prison Entrants' Bloodborne Virus Survey

Figure 37 Hepatitis B vaccination coverage estimates at 12 and 24 months, by Aboriginal and Torres Strait Islander status and year



Source: Communicable Disease Intelligence, Immunisation coverage annual reports

Newly diagnosed HCV infections

- A total of 10 715 cases of newly diagnosed HCV infection were reported in Australia in 2013; 796 (7%) occurred among the Aboriginal and Torres Strait Islander population, 3 596 (34%) were among the non-Indigenous population and a further 6 323 (59%) cases for which Indigenous status was not reported.
- The rate of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population was 142 per 100 000, 3 times higher than the 41 per 100 000 in the non-Indigenous population.
- There was a 29% increase in the notification rate of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population whereas the rate in the non-Indigenous population remained steady.

Newly acquired HCV infection

- In 2013, the majority of notifications of newly acquired HCV infection among the Aboriginal and Torres Strait Islander population and non-Indigenous population were attributed to injecting drug use.

Newly diagnosed HCV infections

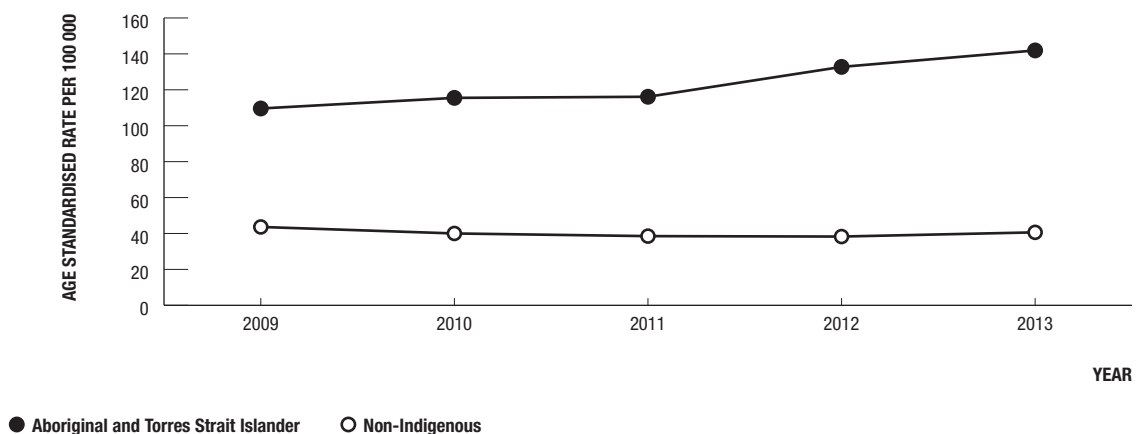
This section focuses on newly diagnosed HCV infection which means that a person previously not known to have the infection has been tested and now found to have the infection. These diagnoses include newly acquired infections (previous negative test in the past 2 years) plus those with a previous test more than 2 years or the time period is unknown.

In 2013, there were 796 notifications of newly diagnosed HCV infection among the Aboriginal and Torres Strait Islander population, representing 7% of all notifications.

In the period 2009 – 2013, Aboriginal and Torres Strait Islander status was reported in less than 50% of notifications per year in the Australian Capital Territory, New South Wales, Victoria and Queensland and as such notification data for HCV excludes these jurisdictions. Hereinafter notification data for the period 2009 – 2013 refers to data notified from the Northern Territory, South Australia, Tasmania, and Western Australia.

In the period 2009 – 2013, the age-standardised notification rate of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population increased from 110 in 2009 to 142 in 2013, whereas the rate in the non-Indigenous population has remained stable at 44 per 100 000 in 2008 and 41 per 100 000 in 2013 (Figure 38).

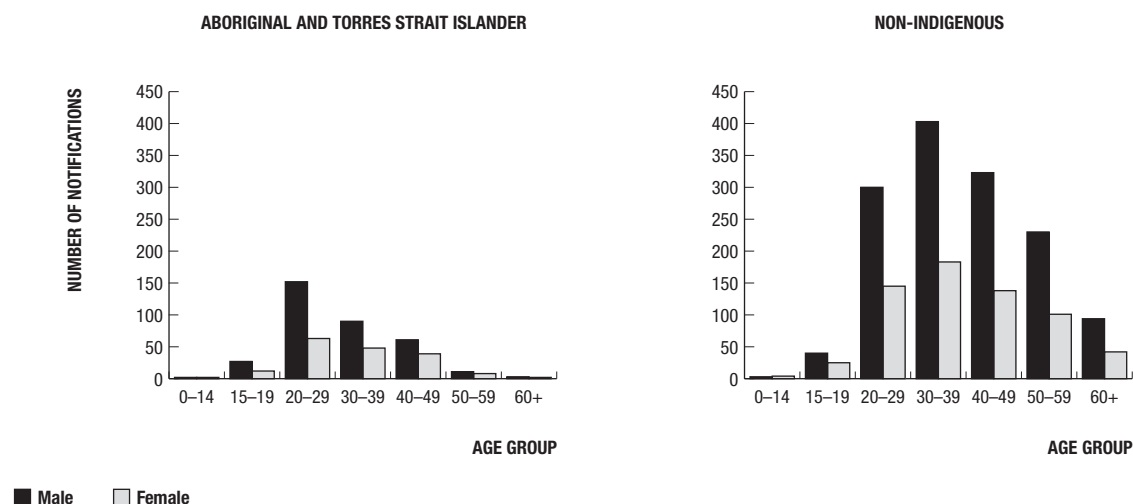
Figure 38 Notification rates of newly diagnosed hepatitis C infection by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, SA, TAS & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the majority (92%) of notifications of newly diagnosed HCV infection in both the Aboriginal and Torres Strait Islander and the non-Indigenous population occurred in people aged over 20 years (Figure 39).

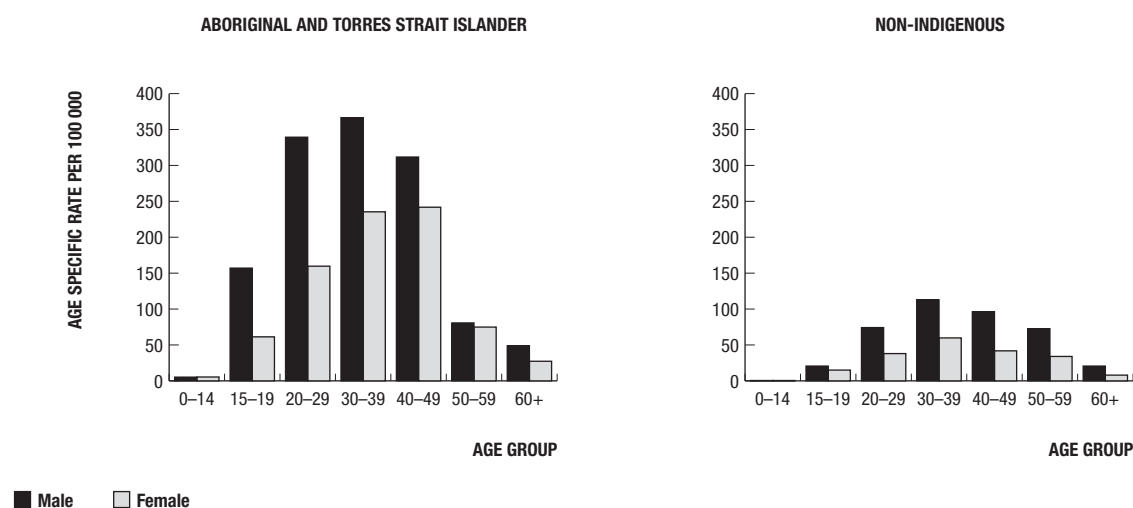
Figure 39 Number of notifications of newly diagnosed hepatitis C infection in 2013, by Aboriginal and Torres Strait Islander status¹, sex and age group



¹ Jurisdictions (NT, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In the Aboriginal and Torres Strait Islander population aged 15 – 19, 20 – 29, 30 – 39 and 40 – 49 years the notification rates of newly diagnosed HCV infection in 2013 were 6, 5, 4, 4 and 4 times higher than the rates in the non-Indigenous population, respectively (Figure 40).

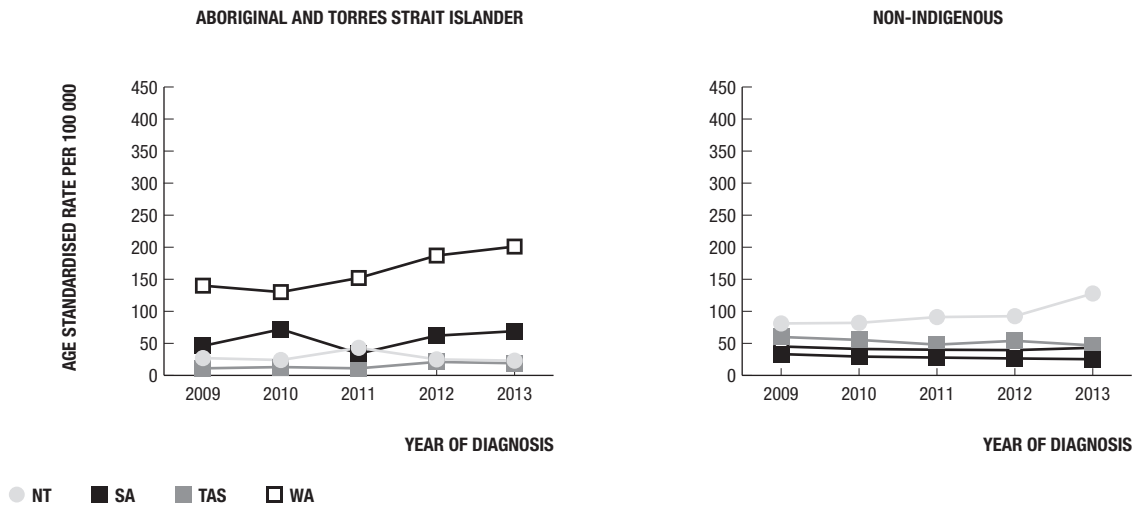
Figure 40 Notification rates of newly diagnosed hepatitis C infection in 2013, by Aboriginal and Torres Strait Islander status¹, sex and age group



¹ Jurisdictions (NT, SA, TAS, and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Between 2009 – 2013, the age-standardised notification rate of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population fluctuated in individual jurisdictions, except in Western Australian where rates have increased steadily since 2010 (Figure 41).

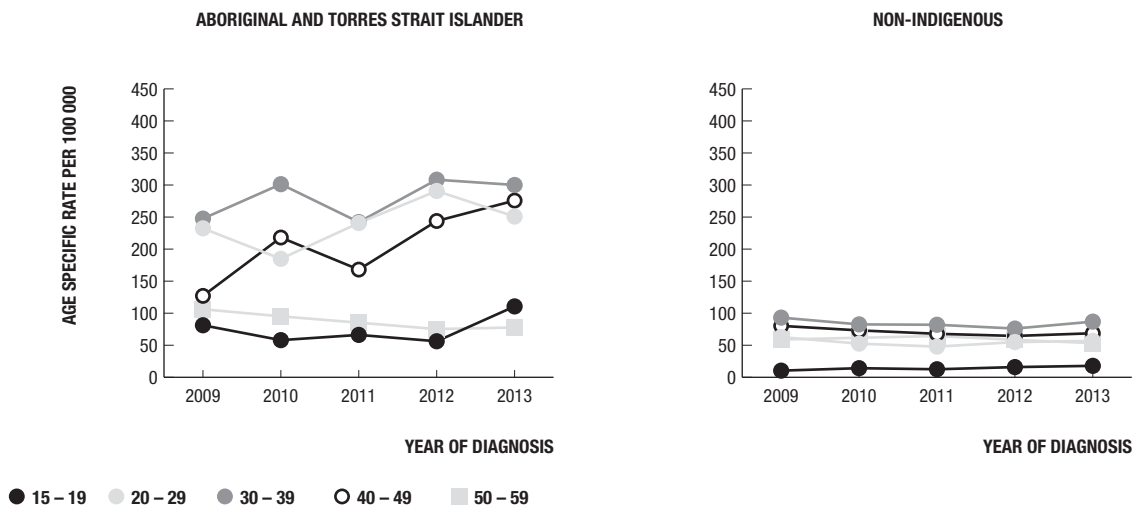
Figure 41 Notification rates of newly diagnosed hepatitis C infection by Aboriginal and Torres Strait Islander status¹, State/Territory and year



¹ Jurisdictions (NT, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Between 2009 – 2013, notification rates of newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population aged 20 – 29, 30 – 39 and 40 – 49 years have increased (Figure 42).

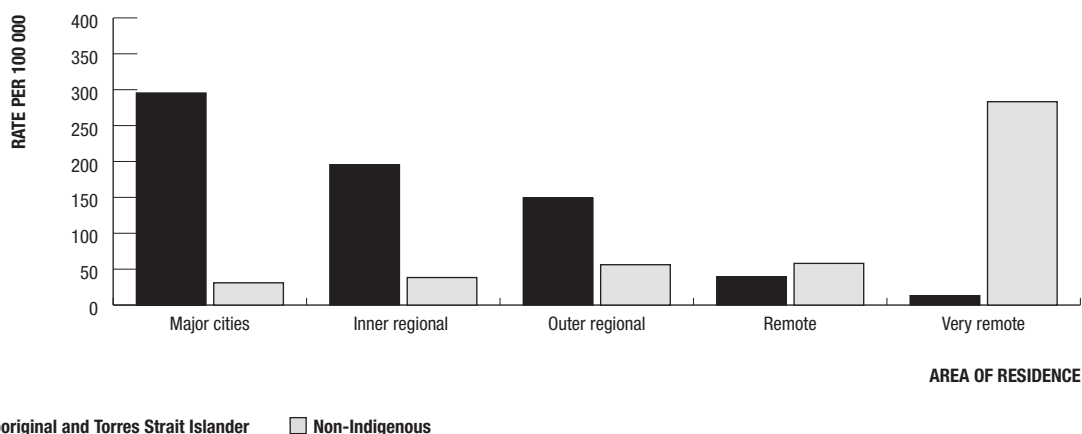
Figure 42 Notification rates of newly diagnosed hepatitis C infection by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2013, the notification rate of newly diagnosed HCV infection among the Aboriginal and Torres Strait Islander population in major cities, inner regional and outer regional areas was 10, 5 and 3 times higher respectively than the rate of diagnosis in the non-Indigenous population resident in the same areas. Notification rates of newly diagnosed HCV infection were lower in remote areas and very remote areas among the Aboriginal and Torres Strait Islander population than the non-Indigenous population, respectively (Figure 43).

Figure 43 Notification rates of newly diagnosed hepatitis C infection in 2013, by Aboriginal and Torres Strait Islander status¹ and area of residence



¹ Jurisdictions (NT, SA, TAS and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The increase in newly diagnosed HCV infection in the Aboriginal and Torres Strait Islander population could be due to increased HCV screening.

Newly acquired HCV infection

This section focuses on **newly acquired HCV** infection which means that a person previously known not to have the infection within the last two years has been tested and now found to have the infection. These data on newly acquired infections should be interpreted with caution as they are likely to under-estimate the true number of newly acquired infections in the community for a number of reasons: infections are rarely symptomatic in the early stages and most cases will therefore remain undetected. Also, even if testing is conducted, it may be difficult to distinguish a newly diagnosed case as newly acquired unless there is a history of a recent negative test prior to the positive diagnosis

Information on Aboriginal and Torres Strait Islander status was reported for more than 50% of notifications of newly acquired HCV infection in all jurisdictions.

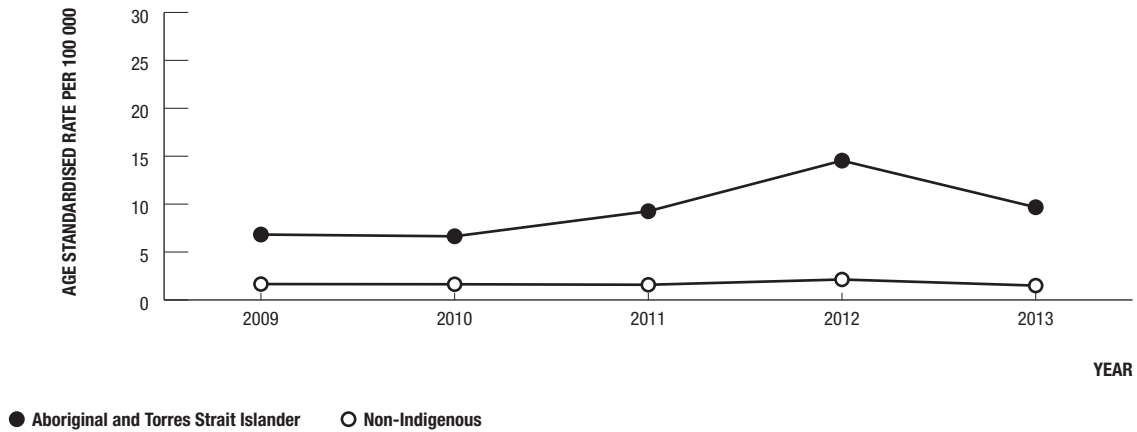
In 2013, 72 notifications of newly acquired HCV infection were diagnosed in the Aboriginal and Torres Strait Islander population and 273 in the non-Indigenous population.

In 2013, the age-standardised notification rate of newly acquired HCV infection in the Aboriginal and Torres Strait Islander population was 6 times that of the non-Indigenous population (10 versus 1.5 per 100 000 respectively) (Figure 44).

In 2013, the majority of notifications of newly acquired HCV infection among the Aboriginal and Torres Strait Islander population (78%) and non-Indigenous population (73%) were attributed to injecting drug use.

In the period 2009 – 2013, the notification rate of newly acquired HCV infection in the Aboriginal and Torres Strait Islander and non-Indigenous populations fluctuated (Figure 44).

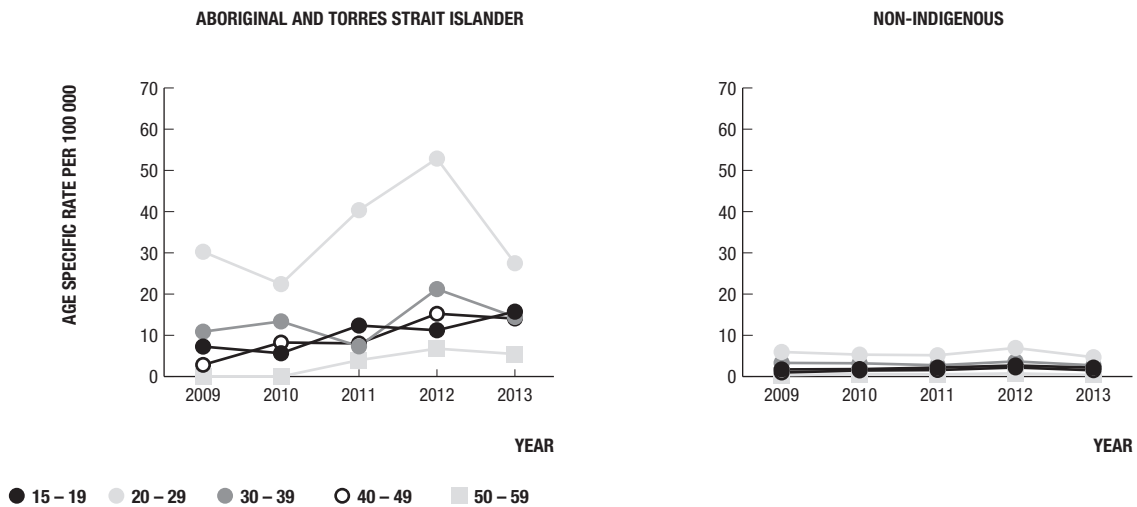
Figure 44 Notification rates of newly acquired hepatitis C infection by Aboriginal and Torres Strait Islander status¹ and year



¹ Jurisdictions (NT, NSW, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In the Aboriginal and Torres Strait Islander population the highest rate of newly acquired HCV infection was in the 20 – 29 age group.

Figure 45 Notification rate of newly acquired hepatitis C infection by Aboriginal and Torres Strait Islander status¹, age and year



¹ Jurisdictions (NT, NSW, QLD, SA, TAS, VIC, ACT & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The higher rates of newly diagnosed and newly acquired HCV infection in the Aboriginal and Torres Strait Islander population as compared with the non-Indigenous population could be due to greater levels of HCV screening in the Aboriginal and Torres Strait Islander population compared to non-Indigenous and/or reflect a greater burden of disease due to injecting risk behaviour (Ward 2011), and/or higher rates of incarceration (ABS Prisoners in Australia Report 2012).

Data routinely collected from the Australian Needle Syringe Program (NSP) Survey provides an insight into the demographics, risk behaviour, and blood-borne virus prevalence among people who inject drugs who attend NSPs. In the period from 2009 – 2013, the proportion of participants identified as Aboriginal and/or Torres Strait Islander remained stable at between 11 – 13%. HCV antibody prevalence was slightly higher among Aboriginal and Torres Strait Islander survey respondents compared to non-Indigenous participants for all years, except for 2010 (Figure 46). In 2013, HCV antibody prevalence was 62% among Aboriginal and Torres Strait Islander

participants compared with 52% of non-Indigenous participants (Figure 46). In 2013, HIV prevalence remained low at 1.3% in the Aboriginal and Torres Strait Islander population, and 2.1% in the non-Indigenous population.

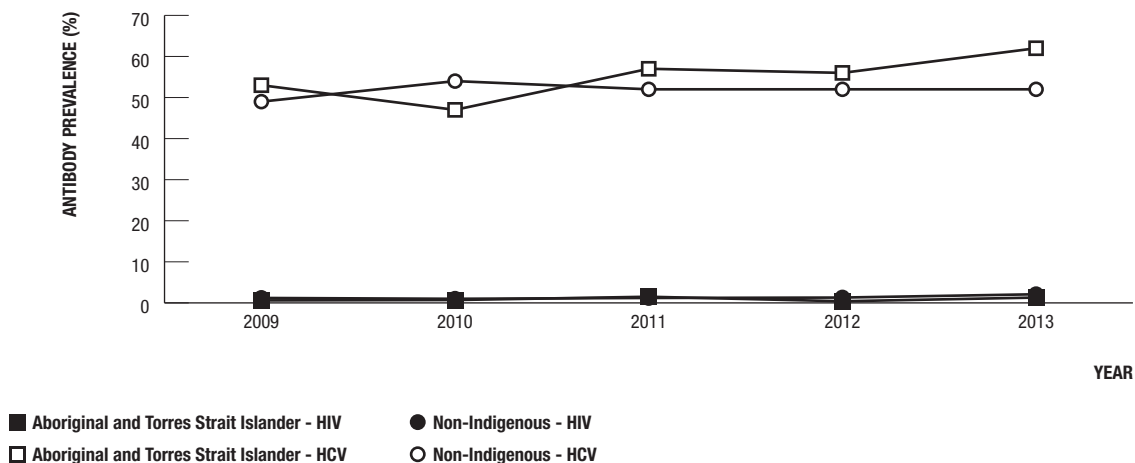
In addition, a study comparing 16,132 unique individuals attending Australian NSPs from 1998 to 2008 (8% Indigenous) (Ward 2011) found:

- Aboriginal and Torres Strait Islander status and female gender were associated with HCV seropositivity.
- Aboriginal and Torres Strait Islander participants reported higher rates of risk behaviour than non-Indigenous participants, including:
 - Receptive sharing of needle syringes (21% vs 16%)
 - Receptive sharing of ancillary injecting equipment (38% vs 33%)
 - Having been injected by others (18% vs 13%)
 - Injecting in public places (54% vs 49%).

When restricted to Aboriginal and Torres Strait Islander participants only, factors independently associated with HCV antibody positivity included:

- Female gender
- Injecting drugs for more than three years
- Injecting in public in the past month
- Receptive sharing of ancillary injecting equipment in the last month
- Having been incarcerated in the preceding year
- Current Opioid Substitution Treatment (OST).

Figure 46 Hepatitis C antibody prevalence and HIV antibody prevalence in Australian NSP Survey, by Aboriginal and Torres Strait Islander status



Source: National Prison Entrants' Bloodborne Virus Survey

Methodological notes

1 National surveillance for STIs

1.1 Notification of STI infections to the National Notifiable Diseases Surveillance System

Diagnoses of specific STIs were notified by State/Territory health authorities to the National Notifiable Disease Surveillance System, maintained by the Australian Government Department of Health. Chlamydia was notifiable in all health jurisdictions except New South Wales prior to 1998; chlamydia was made notifiable in New South Wales in 1998. Gonorrhoea was a notifiable condition in all health jurisdictions and infectious syphilis became notifiable in all jurisdictions in 2004. In most health jurisdictions, diagnoses of STIs were notified by the diagnosing laboratory, the medical practitioner, hospital or a combination of these sources (see Table below).

Table Source of notification of specific sexually transmissible infections to the National Notifiable Diseases Surveillance System by State/Territory

| Diagnosis | ACT | NSW | NT | QLD | SA | TAS | VIC | WA |
|---------------------|----------------------------------|----------------------------------|----------------------|----------------------------------|----------------------|----------------------------------|----------------------|----------------------|
| Gonorrhoea | Doctor Laboratory Hospital | Laboratory | Doctor Laboratory | Doctor Laboratory Hospital | Doctor Laboratory | Doctor Laboratory Hospital | Doctor Laboratory | Doctor Laboratory |
| Infectious Syphilis | Doctor Laboratory Hospital | Doctor Laboratory Hospital | Doctor Laboratory | Doctor Laboratory Hospital | Doctor Laboratory | Doctor Laboratory Hospital | Doctor Laboratory | Doctor Laboratory |
| Chlamydia | Doctor Laboratory Hospital | Laboratory | Doctor Laboratory | Doctor Laboratory Hospital | Doctor Laboratory | Laboratory | Doctor Laboratory | Doctor Laboratory |
| Donovanosis | Not notifiable | Laboratory | Doctor Laboratory | Doctor Laboratory Hospital | Doctor Laboratory | Laboratory | Doctor Laboratory | Doctor Laboratory |

1.2 National surveillance for STI infections among the Aboriginal and Torres Strait Islander population

Notifications of gonorrhoea and infectious syphilis diagnoses was sought through doctors and laboratories in the Australian Capital Territory, New South Wales, the Northern Territory, Queensland South Australia, Victoria and Western Australia. Notifications of chlamydia diagnoses were sought through doctors and laboratories in the Australian Capital Territory, the Northern Territory, Queensland, South Australia, and Western Australia. New South Wales, Tasmania and Victoria were the only health authorities that sought chlamydia notifications through laboratories only.

Population rates of diagnosis of specific STI infections were calculated by year and State/Territory of diagnosis using *Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001 – 2026* available through the Australian Bureau of Statistics.

1.3 Rate of diagnosis of STI infections by area of residence

The rate of diagnosis of STI infections in Australia in 2013 by area of residence and Aboriginal and Torres Strait Islander status was calculated using the 2011 census population distribution, based on the Australian Standard Geographical Classification (ASGC). The ASGC uses Aria+ methodology, which assigns each locality to one of five remoteness classifications based on its distance by road to different categories of service centre. The service centres are categorised according to population size. Hobart and Darwin are not category A service centres (service centres with a population size of 250 000 or above) and therefore are classed as “Inner Regional” and “Outer Regional” areas, respectively, based on their distance to the nearest category A service centre. The five remoteness classifications are: Major cities, Inner Regional, Outer Regional, Remote and Very Remote.

2 National surveillance for newly diagnosed HIV infection

2.1 National HIV Registry

Newly diagnosed HIV infection is a notifiable condition in each health jurisdiction in Australia. Cases of newly diagnosed HIV infection were notified through State/Territory health authorities to the national HIV surveillance centre on the first occasion of diagnosis in Australia. Information sought at notification of HIV infection included State/Territory of diagnosis, name code (based on the first two letters of the family name and the first two letters of the given name), sex, date of birth, Aboriginal and Torres Strait Islander status, date of HIV diagnosis, CD4+ cell count at diagnosis, source of exposure to HIV and evidence of newly acquired HIV infection. Information on country of birth has been reported by all health jurisdictions for cases of HIV infection newly diagnosed in Australia from 1 January 2002. Information on language spoken at home has been reported by health jurisdictions in New South Wales, Victoria and Queensland for cases of HIV infection newly diagnosed from 1 January 2004 and by all jurisdictions from 2008. Reporting of a previous HIV diagnosis overseas was introduced for cases of HIV infection newly diagnosed in Australia from 1 January 2007. Late HIV diagnosis was defined as newly diagnosed HIV infection with a CD4+ cell count of less than 350 cells/ μ l. Advanced HIV diagnosis was defined as newly diagnosed HIV infection with a CD4+ cell count of less than 200 cell/ μ l.

In New South Wales, information on cases of newly diagnosed HIV infection was sought only from the diagnosing doctor prior to 2008. From 2008, information was also sought from the doctors to whom the person with HIV infection was referred, and follow up was carried out for cases for which the information sought at HIV notification was incomplete. These new procedures resulted in more complete information on new HIV diagnoses and reassignment of cases found to have been newly diagnosed in earlier years.

The surveillance systems for newly diagnosed HIV infection are described in Guy *et al* (2007) and McDonald *et al* (1994b). The National Serology Reference Laboratory, Australia (Dax and Vandenbelt 1993), carried out monitoring of HIV antibody testing.

2.2 National surveillance for newly diagnosed HIV infection among the Aboriginal and Torres Strait Islander population

Information on Aboriginal and Torres Strait Islander status was routinely sought at diagnosis of HIV infection in the Northern Territory, Queensland, South Australia, Tasmania and Western Australia from 1985. Information on Aboriginal and Torres Strait Islander status was available for cases of HIV infection newly diagnosed in New South Wales from January 1992, from June 1998 in Victoria and from January 2005 in the Australian Capital Territory. Nationally, information on Aboriginal and Torres Strait Islander status at diagnosis of HIV infection was sought prospectively from May 1995. For HIV diagnoses prior to 1995, Aboriginal and Torres Strait Islander status was obtained retrospectively through health authorities. In 2000 – 2009, Aboriginal and Torres Strait Islander status was reported at HIV diagnosis by State/Territory health authorities other than the Australian Capital Territory prior to January 2005 and Victoria prior to June 1998 in 98% of Australian-born cases. Further information is available in Guthrie *et al* (2000).

Population rates of newly diagnosed HIV infection by Aboriginal and Torres Strait Islander status were calculated using *Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001-2026* (ABS 3238). The area of residence by Aboriginal and Torres Strait Islander status was calculated using the 2011 census population distribution, based on the Australian Standard Geographical Classification. The rate of HIV diagnosis in the non-Indigenous population included only those born in Australia.

3 Global comparisons

The data in Figure 27 were obtained from the following sources:

- Centers for Disease Control and Prevention. HIV Surveillance Report, 2011; vol. 23. <http://www.cdc.gov/hiv/topics/surveillance/resources/reports/>. Published February 2013. Accessed [10 September 2013]
- Health Protection Agency. HIV in the United Kingdom: 2012 Report: London: Health Protection Services, Colindale. November 2012.
- Joint United Nations Programme on HIV/AIDS (UNAIDS). Global report: UNAIDS report on the global AIDS epidemic 2012. UNAIDS, 2012. <http://www.unaids.org>

4 National surveillance for viral hepatitis

4.1 Notification of viral hepatitis to the National Notifiable Diseases Surveillance System

New HBV and HCV diagnoses were notifiable conditions in all health jurisdictions in Australia. Cases were notified by the diagnosing laboratory, medical practitioner, hospital or a combination of these sources, through State/Territory health authorities, to the National Notifiable Diseases Surveillance System. Population rates of diagnosis of viral hepatitis were calculated for each jurisdiction using yearly population estimates, provided by the Australian Bureau of Statistics. HBV infection and HCV infection was classified as newly acquired if evidence was available of acquisition in the 24 months prior to diagnosis (The Department of Health, Communicable Diseases Network Australia (CDNA), Australian national notifiable diseases case definitions. Last updated March 2014).

4.2 National surveillance for viral hepatitis among the Aboriginal and Torres Strait Islander population

Information was sought on Aboriginal and Torres Strait Islander status for diagnoses of prevalent and newly acquired HBV, and prevalent and newly acquired HCV cases notified to the National Notifiable Diseases Surveillance System. Population rates of diagnoses of viral hepatitis were calculated by year and State/Territory of diagnosis (in those jurisdictions for which Aboriginal and Torres Strait Islander status was reported in more than 50% of diagnoses in each year 2009 – 2013) using *Estimates and Projections, Aboriginal and Torres Strait Islander Australians, 2001-2026* (ABS 3238).

4.3 HCV infection and chronic HBV seroprevalence among prison entrants

The National Prison Entrants' Bloodborne Virus Survey (NPEBVS) commenced in Australia in 2004 to provide ongoing data on infectious disease prevalence among people entering prisons from the community. It is a cross-sectional survey of prison entrants that has been conducted over 2 week periods in 2004, 2007, 2010 and 2013. Prison entrants from up to 29 reception prisons across Australia have contributed to the survey. Four states contributed to the survey in 2004: New South Wales, Queensland, Tasmania and Western Australia. By 2010, prisons in the Australian Capital Territory, the Northern Territory, South Australia, Tasmania and Victoria also contributed. All new receptions during the survey periods were invited to participate. Participants completed a short questionnaire on risk behaviour followed by blood testing. Crude prevalence estimates were calculated for HBsAg and anti-HCV.

Collaboration of Australian Prisons

| | |
|-------|---|
| • ACT | Alexander Maconochie Centre |
| • NSW | Metropolitan Reception & Remand Centre (MRCC) Mulawa Correctional Centre Bathurst CC Cessnock CC Grafton CC Goulburn CC Silverwater Women's CC Tamworth CC |
| • NT | Alice Springs CC Darwin CC |
| • QLD | Arthur Gorrie CC Brisbane CC Lotus Glen CC Townsville CC Capricornia CC |
| • SA | Adelaide Remand Centre Adelaide Women's Prison City Watch House Port Augusta Prison Port Lincoln Yatala Labour Prison |
| • TAS | Hobart Remand Centre Launceston Reception Prison Risdon Prison Complex Mary Hutchinson's Women's Prison |
| • VIC | Dame Phyllis Frost Centre Melbourne Assessment Prison |
| • WA | Hakea Prison Bandyrup Women's Prison Roebourne Regional Prison Greenough Regional Prison |

4.4 HBV vaccination coverage at 12 and 24 months

The cohort method is used for calculating coverage at the population level. Cohort immunisation status is assessed at 12 months of age (for vaccines due at 6 months), and 24 months of age (for vaccines due at 12 months). A minimum 3 month lag period is allowed for late notification of immunisations to the Australian Childhood Immunisation Register (ACIR). Indigenous status on the ACIR is recorded as 'Indigenous', 'non-Indigenous' or 'unknown', as reported by the child's carer to Medicare, or by the immunisation provider to the ACIR. For this report children are categorised as: 'Indigenous' and 'non-Indigenous', children with unknown Indigenous status were presumed to be 'non-Indigenous'.

4.5 HIV and HCV seroprevalence among people who inject drugs

All clients attending needle and syringe program (NSP) sites during one week in 2009 (51 sites), 2010 (52 sites), 2011 (52 sites), 2012 (52 sites) and 2013 (50 sites) were asked to complete a brief, self-administered questionnaire and to provide a finger prick blood spot sample for HIV and HCV antibody testing. NSP sites were selected on the basis of large numbers of clients and representation from all State/Territory health jurisdictions. Further information is available in MacDonald et al (1997 and 2000).

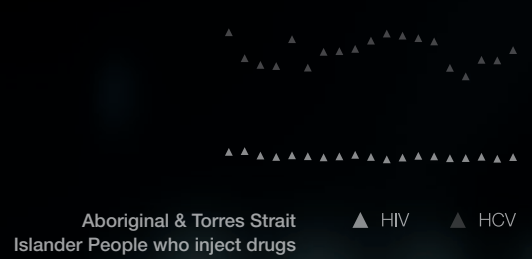
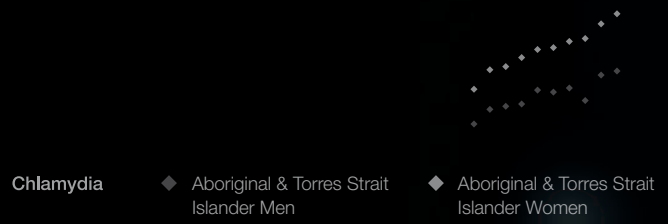
Collaboration of Australian Needle and Syringe Programs

- Directions ACT; Canberra.
- ACON Hunter; Central Coast NSP Services, Gosford, Long Jetty and Woy Woy; First Step Program, Port Kembla and Nowra; Health ConneXions, Liverpool; Hunter Harm Reduction Services, Newcastle; Kirketon Road Centre and Clinic 180, Kings Cross; Mid North Coast Harm Reduction, Coffs Harbour; Murrumbidgee Harm Reduction, Albury and Wagga Wagga; NSW Users and AIDS Association (NUAA), Surry Hills; Northern NSW Harm Reduction, Ballina, Byron Bay, Grafton, Lismore, Murwillumbah, Nimbin, and Tweed Heads; Resource and Education Program for IDUs, Redfern; Central Access Service, Kogarah and Sutherland; South Court Primary Care NSP, Nepean; Western Sydney HIV/Hepatitis C Prevention Service, Blacktown, Mt Druitt and Parramatta.
- Northern Territory AIDS and Hepatitis C Council, Alice Springs, Darwin and Palmerston, NT.
- Biala Community Alcohol and Drug Services, Brisbane; Cairns ATODS NSP, Cairns; Queensland Injectors Health Network (QuIHN), Brisbane, Gold Coast and Sunshine Coast; Kobi House, Toowoomba; West Moreton Sexual Health Service, Ipswich; Townsville ATODS NSP.
- Drug and Alcohol Services South Australia, Adelaide; Hindmarsh Centre, Hindmarsh; Nunkuwarrin Yunti Community Health Centre, Adelaide; South Australia Voice for Intravenous Education (SAVIVE); AIDS Council South Australia, Norwood; Parks Community Health Service, Adelaide; Port Adelaide Community Health Service, Port Adelaide; Noarlunga Community Health Service, Adelaide; Northern Metropolitan Community Health Service NSP and Shopfront, Salisbury.
- Anglicare NSP Service, Hobart and Glenorchy; Clarence Community Health Centre, Clarence; Devonport Community Health Centre, Devonport; Salvation Army Launceston, Launceston.
- Barwon Health Drug and Alcohol Services, Geelong; Health Information Exchange, St Kilda; Health Works, Footscray; Inner Space, Collingwood; North Richmond NSP, North Richmond; Southern Hepatitis/HIV/AIDS Resource and Prevention Service (SHARPS), Melbourne.
- WA AIDS Council Mobile Exchange, Perth; Western Australia Substance Users Association (WASUA), Perth and South Coast.
- St Vincent's Centre for Applied Medical Research (AMR) and NSW State Reference Laboratory for HIV at St Vincent's Hospital, Sydney, NSW.

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