



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

# 2010

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

# 2010

This report was prepared by Simon Graham, Snehal Akre, Melanie Middleton and Ann McDonald, and edited by James Ward

## **National Centre in HIV Epidemiology and Clinical Research Sydney, Australia**

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

**This report was overseen by the Australian Government's Ministerial Advisory Committee on Blood Borne Viruses and Sexually Transmissible Infections and the National Aboriginal Community Controlled Health Organisation (NACCHO) Sexual Health and Blood Borne Virus Advisory Committee**

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## Preface

This surveillance report provides information on the occurrence of bloodborne viral and sexually transmitted infections (STIs) among Aboriginal and Torres Strait Islander people in Australia. The report is published by the National Centre in HIV Epidemiology and Clinical Research for the purposes of stimulating and supporting discussion on ways forward in minimising the transmission risk of bloodborne viruses and STIs 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 the National Aboriginal Community Controlled Health Organisation (NACCHO) Sexual Health and Blood Borne Virus Advisory Committee and the Annual Surveillance Report 2010 Advisory Committee.

The report is produced in a format that is recognised as appropriate for Aboriginal and Torres Strait Islander health services and communities and is available in hard copy and at the internet address <http://www.nchechr.unsw.edu.au>

Unless specifically stated otherwise, all data provided in this report are to the end of 2009, as reported by 31 March 2010. Data in the *Surveillance and Evaluation Report 2010* 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 in the following section, is gratefully acknowledged.







# Acknowledgments

## National Organisations

- Australasian Society for HIV Medicine, Sydney, NSW
- Australian Federation of AIDS Organisations, Sydney, NSW
- Australian Government Department of Health and Ageing, Canberra, ACT
- Australian Institute of Health and Welfare, Canberra, ACT
- Communicable Diseases Network Australia, Canberra, ACT
- Hepatitis Australia, Canberra, ACT
- National Aboriginal Community Controlled Health Organisation, Canberra, ACT
- National Association of People Living with HIV/AIDS, Sydney, NSW

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- AIDS/STD Program, Disease Control, Department of Health, Darwin, NT
- Queensland Health, Brisbane, QLD
- Sexually Transmitted Diseases (STD) Services, Internal Medicine Service, Royal Adelaide Hospital, SA
- Department of Community and Health Services, Hobart, TAS
- STD/Bloodborne Virus Program, Infectious Diseases Unit, Department of Human Services, Melbourne, VIC; The Macfarlane Burnet Institute for Medical Research and Public Health Limited, Prahran, VIC
- Communicable Diseases Control Branch, Department of Health, Perth, WA

## Australian Collaboration for Chlamydia Enhanced Sentinel Surveillance

- Australian Government Department of Health and Ageing, Canberra, ACT
- National Aboriginal Community Controlled Health Organisation, ACT
- National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales, Sydney
- Perinatal and Reproductive Epidemiology Research Unit, incorporating the National Perinatal Statistics Unit, The University of New South Wales, Sydney, NSW
- National Serology Reference Laboratory, Australia, Fitzroy, VIC
- Centre for Population Health, Burnet Institute, Melbourne

## Contributing organisations

- Sexual Health and Family Planning, ACT
- Aboriginal Medical Service Western Sydney; Brindabella Family Practice, Queanbeyan; Charlestown Family Medical Services, Charlestown; Coffs Harbour Sexual Health Service, Coffs Harbour; Durri Aboriginal Corporation Medical Service, Kempsey; Glendale Medical Centre, Glendale; Grafton Sexual Health Clinic, Grafton; Greater Southern Area Health Service; Holden Street Clinic, Gosford; Hunter New England Sexual Health Service; Illawarra Sexual Health, Wollongong; Kirketon Road Centre, Darlinghurst; Lismore/Tweed Heads Sexual Health & AIDS Services, Lismore; Midway Family Medical Centre, Denistone East; Newcastle FPNSW Centre, Cooks Hill; North Sydney Medical Practice, North Sydney; Northern Sydney Sexual Health Service, St Leonards; Orange Sexual Health Service, Orange; Royal Prince Alfred Hospital Sexual Health Clinic, Camperdown; Short Street Sexual Health Clinic; St George Hospital; Sydney Sexual Health Centre, Sydney; Sydney South West Area Health Service – Clinical Sexual Health Services; Sydney West Area Health Service – Clinical Sexual Health Services; Young District Medical Centre, Young, NSW

- Anyinginyi Congress Aboriginal Medical Service; Danila Dilba Health Service, Darwin; Family Planning; Coconut Grove; NT Sexual Health and BBV Unit, NT
- Cairns Sexual Health Services, Cairns Base Hospital, Cairns; Carbal Medical Service, Toowoomba; Chancellor Park Family Medical Practice, Sippy Downs; Eli Waters Medical Centre, Eli Waters; Family Planning Queensland, Toowoomba; Gold Coast Sexual Health Clinic, Miami; Goondir Health Service, Dalby; Kewarra Family Practice, Kewarra Beach; Nambour Medical Centre, Nambour; Princess Alexandra Sexual Health, Princess Alexandra Hospital, Woolloongabba; Townsville Sexual Health Service, Townsville; Turton St Medical Centre, Sunnybank; Yeppoon Family Practice, Yeppoon, QLD
- O'Brien Street Practice, Adelaide; Shine SA (Sexual Health Information Networking and Education Inc), SA
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- Brighton Medical Clinic, Brighton; Family Planning Victoria, Box Hill; Footscray Medical Centre, Footscray; Genesis Medical Centre, Brighton; Goulburn River Group Practice, Seymour; Melbourne Sexual Health Centre, Carlton; Mooroopna Medical Centre, Mooroopna; Victorian Aboriginal Health Service, Fitzroy; Wellness Centre Medical Clinic, Malvern East, VIC
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- 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, QLD; Townsville ATODS NSP, QLD
- 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, SA
- Clarence Community Health Centre, Clarence; Devonport Community Health Centre, Devonport; Salvation Army Launceston, Launceston; Tasmanian Council on AIDS, Hepatitis & Related Diseases (TasCAHRD), Hobart and Glenorchy; The Link Youth Health Service, Hobart, TAS
- Barwon Health Drug and Alcohol Services, Geelong; Bendigo NSP Services, Bendigo; Darebin Community Health Centre, Northcote; Health Information Exchange, St Kilda; Health Works, Footscray; Inner Space, Collingwood; North Richmond NSP, North Richmond; South East Alcohol and Drug Service, Dandenong; Southern Hepatitis/HIV/AIDS Resource and Prevention Service (SHARPS), Melbourne, VIC
- WA AIDS Council Mobile Exchange, Perth; Western Australia Substance Users Association (WASUA), Perth and Bunbury, WA
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## Guide to technical terms

**AIDS (Acquired Immune Deficiency Syndrome):** The late stage of infection with Human Immunodeficiency Virus (HIV). Without treatment, AIDS will develop in about 50% of people with HIV infection within the first ten years. The time to AIDS can range widely, being as short as one year in some people and longer than 15 years in others. The wide availability of effective antiretroviral therapy has dramatically reduced the number of AIDS cases in many countries.

**Chlamydia:** A sexually transmitted infection caused by a type of bacterium. The most common symptom in males is an inflammation of the urethra, causing some pain and penile discharge, and in females the main symptom is a vaginal discharge. Complications of long-term infection are particularly serious for women and can include pelvic inflammatory disease and infertility. Chlamydia is fully curable by a single dose of antibiotics.

**Donovanosis:** A sexually transmitted infection caused by a type of bacterium. The most common symptom is a large, painless ulcer of the genitals, the groin or the anal region, that can progress and become complicated by other bacterial infection if untreated, ultimately leading to serious damage to the affected part of the body, and even become life-threatening. Donovanosis is fully curable by 3 to 4 doses of antibiotics over a month. Donovanosis occurs in central and northern Australia.

**Gonorrhoea:** A sexually transmitted infection caused by a type of bacterium. Symptoms are similar to those of chlamydia, as are the complications. Most men with urethral gonorrhoea have symptoms. Gonorrhoea is fully curable by a single antibiotic injection.

**HBV (hepatitis B virus) infection:** An infection that is transmitted by sexual and blood contact, as well as from mother to child, and is caused by a virus known as HBV. Newly diagnosed hepatitis B virus 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 that is transmitted by blood contact as well as from mother to child. Newly diagnosed hepatitis C virus infection means that a person previously not known to have the infection has been tested and now found to have the infection.

**HIV (Human Immunodeficiency Virus) infection:** An infection that is transmitted 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 transmitted infection caused by a type of bacterium. The main symptoms in the early stage are a small painless sore at the site of infection within the first few weeks, followed by a rash in the next few months. In the absence of treatment, there will then be a period of several years without any symptoms, followed by a range of complications over decades that can involve the skin, bone, intestinal tract, 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 Chin J (2000). *Control of Communicable Diseases Manual*.

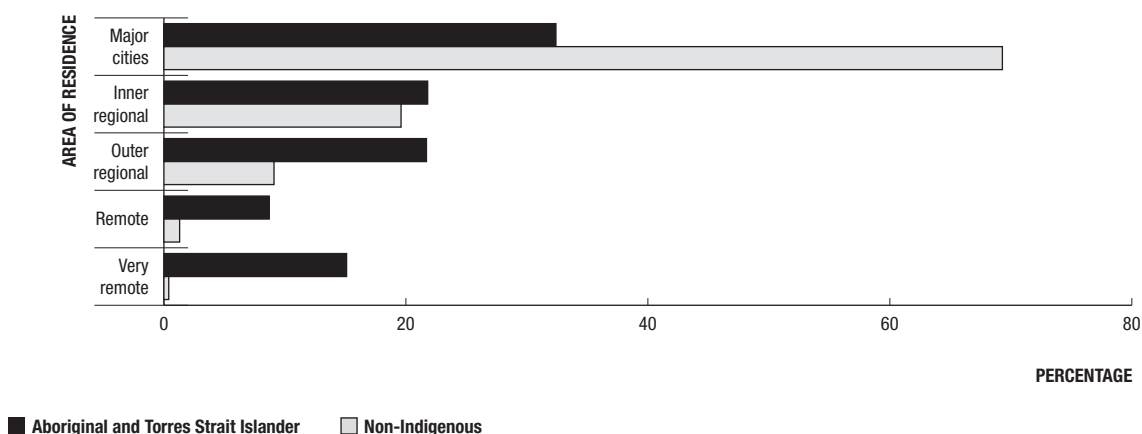
**Age specific rate:** The proportion of people in a particular age group who have the infection, usually expressed per 100 000 people in the specified age group.

Example: Age-specific rate of diagnosis of gonorrhoea among men aged 20 – 29 years  
=  $\frac{\text{Number of diagnoses of gonorrhoea among men aged 20 – 29 years}}{\text{Number of men aged 20 – 29 years}} \times 100\,000$

**Age standardised rate of infection:** The proportion of people in a particular population who have the infection, adjusted by a mathematical technique to account for differences in age structure across populations when comparing rates.

**Area of residence:** Australia's population lives in many different geographic locations. Area of residence, indicated by postcode of residence at diagnosis of the specific blood borne viruses and sexually transmitted infections included in this report, has been classified into 5 remoteness areas: major cities of Australia, inner regional, outer regional, remote and very remote areas. A relatively high proportion of the Aboriginal and Torres Strait Islander population lives in regional and remote areas of Australia. In 2006, the highest proportion of the Aboriginal and Torres Strait Islander population (32.4%) lived in major cities. Almost half (45.5%) lived in outer regional, remote and very remote areas combined, compared with 10.8% in the non-Indigenous population (See *Methodological Notes* for further information).

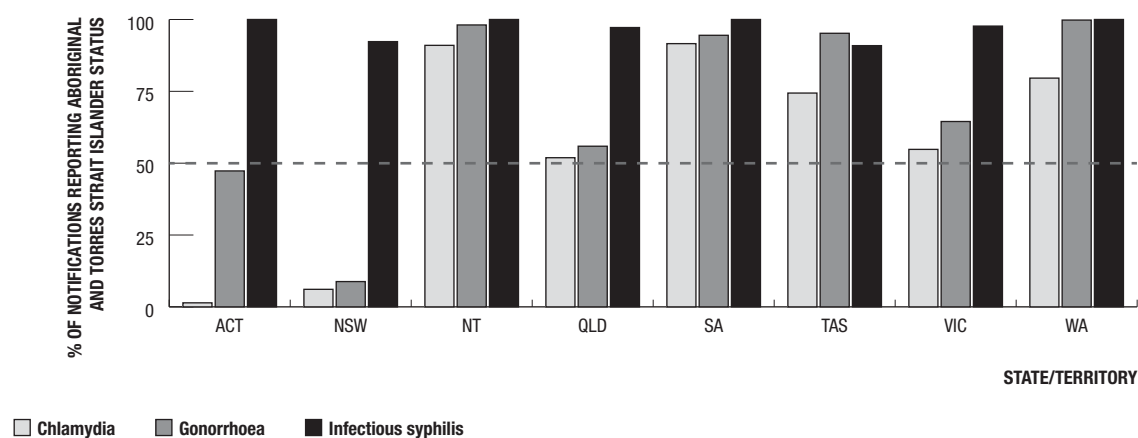
**Figure 1 Area of residence, 2006, by Aboriginal and Torres Strait Islander status**



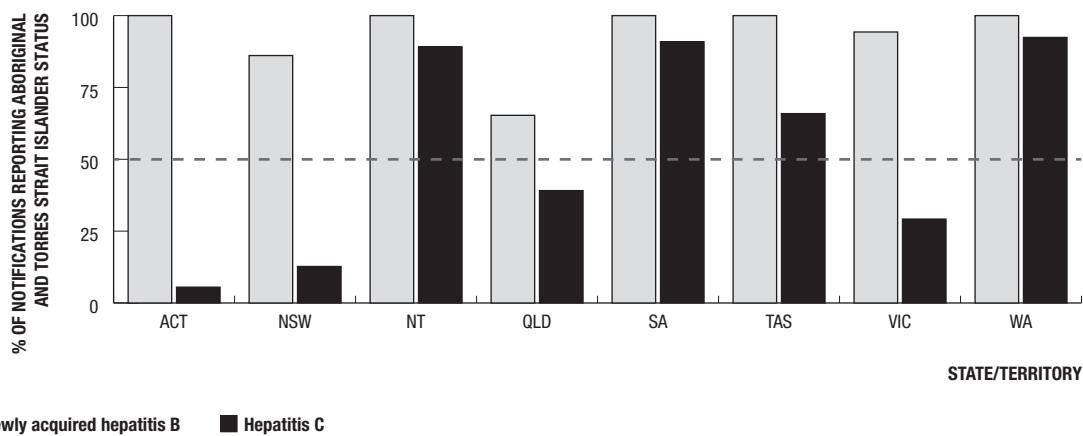
Source: Australian Bureau of Statistics

**Reporting new diagnoses of specific bloodborne viruses and sexually transmitted infections by Aboriginal and Torres Strait Islander status:** Trends in diagnoses of specific bloodborne viruses and sexually transmitted infections were included in the *Surveillance and Evaluation Report 2010* if information on Aboriginal and Torres Strait Islander status was available in a State/Territory health jurisdiction for at least 50% of diagnoses in each year over the past five years. Trends were not included in this *Surveillance and Evaluation Report* if information on Aboriginal and Torres Strait Islander status was available for less than 50% of diagnoses in a State/Territory health jurisdiction for less than five of the past five years.

**Figure 2 Reporting of Aboriginal and Torres Strait Islander identity at diagnosis of selected sexually transmitted infections, by State/Territory, 2009**



**Figure 3 Reporting of Aboriginal and Torres Strait Islander identity at diagnosis of viral hepatitis, by State/Territory, 2009**



There remain considerable gaps in the reporting of Aboriginal and Torres Strait Islander status at diagnosis of blood borne viruses and sexually transmitted infections in Australia. Aboriginal and Torres Strait Islander status was not reported in 51% or over 30 000 diagnoses of chlamydia, 37% of cases of gonorrhoea and 63% of cases of hepatitis C diagnosed in 2009. Incomplete information on Aboriginal and Torres Strait Islander identification has the potential to underestimate the true prevalence and morbidity associated with these infections in the Aboriginal and Torres Strait Islander population.







# Contextualizing the occurrence of bloodborne viruses and sexually transmitted infections in the Aboriginal and Torres Strait Islander population

In Australia, higher rates of diagnosis of sexually transmitted infections and bloodborne viruses occur among Aboriginal and Torres Strait Islander people than among non-Indigenous people. This discrepancy has the potential to impact on the already excess levels of morbidity and mortality experienced by Aboriginal and Torres Strait Islander people. Factors that may contribute to higher rates of bloodborne viruses and sexually transmitted infections among Aboriginal and Torres Strait Islander people include:

- **Less access to health services:** Aboriginal and Torres Strait Islander people have less access to culturally appropriate primary health care services to facilitate early detection, treatment and follow up of sexually transmitted infections.
- **Shortage of clinical staff:** Access to health services is further exacerbated in many communities by the limited number of clinicians (particularly of the same gender) who are able to deal sensitively and competently with sexual health issues.
- **Transmission dynamics:** There is limited information comparing differences in behavioural patterns between Aboriginal and Torres Strait Islander people and non-Indigenous people. However, there is the potential for differences in transmission risk due to networks of sexual contact within cultural groups.
- **High rates of screening:** In some remote Aboriginal and Torres Strait Islander communities, high rates of screening have led to early detection and treatment of bacterial sexually transmitted infections.
- **A younger and more mobile population:** Aboriginal and Torres Strait Islander people are a much younger and more mobile population compared with the non-Indigenous population, adding to the complexity of appropriate sexual health testing and treatment.
- **Socio-economic disadvantage** including lower educational standards and subsequent lower health literacy is a predictor of poor health.
- **Shame and historical factors associated with treatment for sexually transmitted infections.** As with the non-Indigenous population, there is a substantial amount of shame associated with having and or being diagnosed with a sexually transmitted infection. In many areas of Australia there are well documented cases where Aboriginal people were treated in a discriminatory and inhumane manner if diagnosed with a sexually transmitted infection.
- **Mainstream sexually transmitted infection and bloodborne virus social marketing** messages do not always reach and have impact with Aboriginal and Torres Strait Islander communities across Australia.

Furthermore, these factors contribute differently to the epidemiological patterns in Aboriginal and Torres Strait Islander communities across Australia.





## Summary

- Aboriginal and Torres Strait Islander people continue to be overrepresented in STI and BBV notification data despite limitations related to data quality.
- Chlamydia and gonorrhoea continue to be reported at disproportionately high rates among Aboriginal and Torres Strait Islander people.
- Good news continues in the elimination of donovanosis with one notification in Australia during 2009.
- Diagnoses of infectious syphilis declined substantially in Aboriginal and Torres Strait Islander communities in 2009.
- Remote and very remote Aboriginal and Torres Strait Islander communities continue to experience significantly higher rates of chlamydia, gonorrhoea and infectious syphilis compared with regional and urban centres in Australia.
- HIV infection continues to be diagnosed at a similar rate to that in the non-Indigenous, non-high HIV prevalence country of birth, population although there are substantial differences in the distribution of exposure to HIV.
- Hepatitis B and C are reported at disproportionately high rates among Aboriginal and Torres Strait Islander communities.

### Sexually transmitted infections

- Chlamydia continued to be the most frequently reported condition in Australia with 62 613 diagnoses in 2009. Of these, 5 275 (8%) were among Aboriginal and Torres Strait Islander people, 25 386 cases (41%) were diagnosed among non-Indigenous people and Indigenous status was not reported for 31 952 (51%) cases.
- The chlamydia diagnosis rate in the Aboriginal and Torres Strait Islander population in 2009 of 999 per 100 000 was more than three times the rate in the non-Indigenous population of 287 per 100 000.
- Over 80% of chlamydia diagnoses in 2009 in both the Aboriginal and Torres Strait Islander and non-Indigenous populations occurred in the 15 – 29 year age group.
- Female to male ratios of chlamydia notifications for Aboriginal and Torres Strait Islander people and non-Indigenous people were 2:1 and 1.4:1, respectively.
- Chlamydia reported from remote and very remote locations accounted for 70% of all notifications in the Aboriginal and Torres Strait Islander population.
- Of 8 040 diagnoses of gonorrhoea in 2009, 2 994 (37%) were among Aboriginal and Torres Strait Islander people, 2 231 (28%) were among non-Indigenous people and Indigenous status was not reported for 2 815 (35%).
- The rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population in 2009 was 668 compared to 25 in the non-Indigenous population.
- The median age at diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander and non-Indigenous population was 22 and 29 years, respectively.
- Male to female ratios of gonorrhoea notifications for Aboriginal and Torres Strait Islander and non-Indigenous people were 0.9:1 and 3.5:1, respectively.
- Good news continues for the Aboriginal and Torres Strait Islander population regarding donovanosis with less than five cases being diagnosed annually in the past three years in Australia and only one case in 2009.
- Nationally, 1 293 cases of infectious syphilis were diagnosed in 2009. Of these, 124 (10%) cases were among Aboriginal and Torres Strait Islander people, 1 114 (86%) were among non-Indigenous people and Indigenous status was not reported for 55 (4%) cases.
- The rate of diagnosis of infectious syphilis declined from 31 in 2005 to 25 per 100 000 Aboriginal and Torres Strait Islander population in 2009, whereas the rate in the non-Indigenous population trebled from 2 in 2005 to 6 per 100 000 in 2009.

## HIV infection

- A total of 1 050 cases of HIV infection were newly diagnosed in 2009, giving a population rate of 4.7 per 100 000 population. Of the 1 050 diagnoses, 21 were among Aboriginal and Torres Strait Islander people, and 1 029 were among non-Indigenous people.
- In the ten years from 2000 to 2009, 196 cases of HIV infection were newly diagnosed in Aboriginal and Torres Strait Islander people.
- In 2009, the rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population (4.8 per 100 000) was similar to that in the non-Indigenous non-high HIV prevalence country of birth Australian population (3.7 per 100 000).
- Among cases of HIV infection newly diagnosed in 2005 – 2009, the most frequently reported route of HIV transmission was sexual contact between men in both the Aboriginal and Torres Strait Islander cases (53%) and in the non-Indigenous non-high HIV prevalence country of birth cases (74%).
- Aboriginal and Torres Strait Islander cases differed from non-Indigenous non-high HIV prevalence country of birth cases, in that a higher proportion of diagnoses were attributed to injecting drug use (20% among Aboriginal and Torres Strait Islander cases vs 3% for non-Indigenous non-high HIV prevalence country of birth cases), and a higher proportion of diagnoses were among women (19.1% among Aboriginal and Torres Strait Islander cases vs 7.8% for non-Indigenous non-high HIV prevalence country of birth cases in 2005 – 2009).
- Heterosexual contact was also reported as the source of exposure to HIV more frequently in Aboriginal and Torres Strait Islander cases (21%) than in non-Indigenous, non-high HIV prevalence country of birth, cases (15%) (Figure 26).

## Viral hepatitis

- A total of 238 cases of newly acquired hepatitis B infection (HBV) were newly diagnosed in Australia in 2009; of these 14 (6%) were among Aboriginal and Torres Strait Islander people, 197 (83%) were among non-Indigenous people and Aboriginal and Torres Strait Islander status was not reported for 27 (11%) cases.
- In 2009, the rate of diagnosis of newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population was 3 per 100 000 compared to 1 per 100 000 in the non-Indigenous population.
- A total of 11 468 cases of hepatitis C were diagnosed in Australia in 2009. Of these 531 (5%) occurred among Aboriginal and Torres Strait Islander people, 3 659 (32%) were among non-Indigenous people and Aboriginal Torres Strait Islander status was not reported for 7 278 (63%) cases.
- From 2005 to 2009, the rate of newly diagnosed hepatitis C in the Aboriginal and Torres Strait Islander population increased from 120 in 2005 to 131 per 100 000 in 2009, whereas the rate in the non-Indigenous population decreased from 46 in 2005 to 44 per 100 000 in 2009.

**Table 1** Aboriginal and Torres Strait Islander population in Australia, 2006, by State/Territory

State/Territory	Census 2006 Number <sup>1</sup>	Estimated resident population Number <sup>2</sup>
ACT	3 873	4 282
NSW	138 504	152 685
NT	53 663	64 005
QLD	127 581	144 885
SA	25 556	28 055
TAS	16 770	18 415
VIC	30 140	33 517
WA	58 709	70 966
<b>Total</b>	<b>455 016</b>	<b>517 043</b>

1 Australian Bureau of Statistics. 2006 Census of population and housing. Indigenous status by age by sex. Canberra: Australian Bureau of Statistics, 2007

2 Australian Bureau of Statistics 2008. *Experimental estimates of Aboriginal and Torres Strait Islander Australians*, 2006. Canberra: Australian Bureau of Statistics, 2008

Source: Australian Bureau of Statistics 2007, 2008

**Table 2** Number<sup>1</sup> and rate<sup>2</sup> of diagnosis of bloodborne viruses and specific sexually transmitted infections in Australia, 2009, by Aboriginal and Torres Strait Islander status

Bloodborne virus/ sexually transmitted infection	Aboriginal and Torres Strait Islander		Non-Indigenous		Jurisdictions (number of cases) in which Aboriginal and Torres Strait Islander status was reported for less than 50% of diagnoses
	Number <sup>1</sup>	Rate <sup>2</sup>	Number <sup>3</sup>	Rate <sup>2</sup>	
Chlamydia	2 788	999	27 242	287	ACT, NSW, QLD (32 583)
Gonorrhoea	2 978	668	3 352	25	ACT, NSW (1 710)
Infectious syphilis	123	25	1 159	6	ACT (11)
HIV infection <sup>4</sup>	21	5	1 029	4	
Newly acquired hepatitis B	13	3	212	1	ACT, TAS (13)
Hepatitis C infection	213	131	1 645	44	ACT, NSW, QLD, TAS, VIC (9 610)

1 In State/Territory 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. Population estimates by State/Territory and year from *Experimental estimates of Aboriginal and Torres Strait Islander Australians* (ABS 2008)

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

4 Cases and populations born in high HIV prevalence countries in sub-Saharan Africa and South East Asia were excluded from the non-Indigenous rate.

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





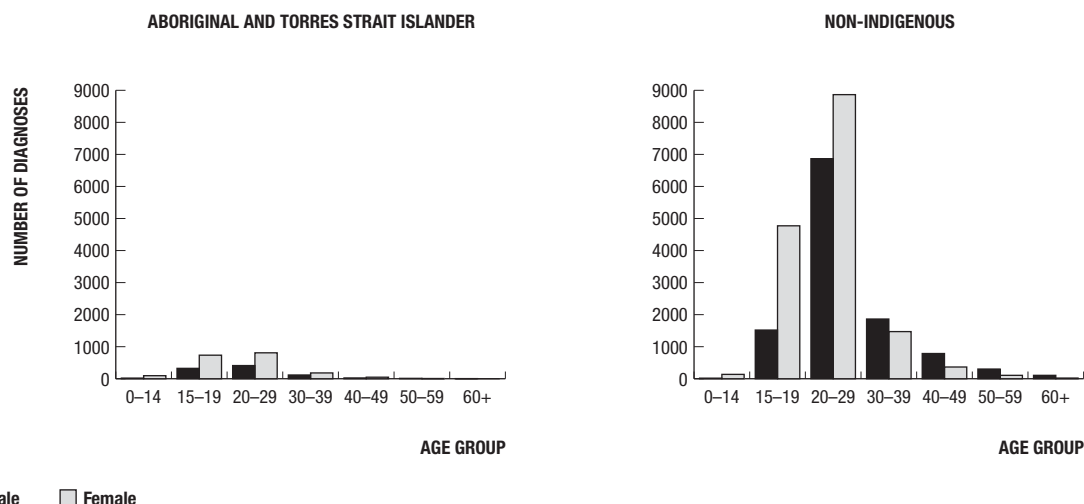
# Main Findings

## Chlamydia

- Chlamydia continued to be the most frequently reported notifiable condition in Australia in 2009. A total of 62 613 diagnoses were notified in 2009, 5 275 (8%) were among Aboriginal and Torres Strait Islander people, 25 386 (41%) were among non-Indigenous people and Indigenous status was not reported for 31 952 (51%) people.
- The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population was more than three times that of the non-Indigenous population at 999 and 287 per 100 000 population, respectively.
- The rate of diagnosis of chlamydia in Australia continues to increase in both the Aboriginal and Torres Strait Islander population and in the non-Indigenous population. The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population increased from 906 in 2005 to 999 in 2009 (10% increase). In the non-Indigenous population, the rate increased by 59%, from 181 in 2005 to 287 per 100 000 population in 2009.
- Chlamydia is diagnosed predominantly among young people. More than 80% of diagnoses of chlamydia in 2009 were among those aged 15 – 29 years in both Aboriginal and Torres Strait Islander people and non-Indigenous people.
- The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population resident in major cities in South Australia, Victoria and Western Australia in 2009 was 3.5 times that for non-Indigenous people. Among Aboriginal and Torres Strait Islander people resident in remote and very remote areas in the Northern Territory, South Australia, Tasmania, Victoria and Western Australia, the rate of diagnosis of chlamydia was at least 7 times that among non-Indigenous people.

Chlamydia continues to be the most frequently reported notifiable condition in Australia in 2009. A total of 62 613 diagnoses were notified in 2009, of these 5 275 (8%) were among Aboriginal and Torres Strait Islander people, 25 386 (41%) were among non-Indigenous people and Indigenous status was not reported for 31 952 (51%) cases. In the period 2005 – 2009, Aboriginal and Torres Strait Islander status was not reported for more than 50% of diagnoses in the Australian Capital Territory, New South Wales and Queensland and, as such, notification data for chlamydia excludes these jurisdictions. Hereinafter, notification data for the period 2005 – 2009 refers to data notified from the Northern Territory, South Australia, Tasmania, Victoria and Western Australia.

**Figure 4** Number of diagnoses of chlamydia in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup> sex and age group

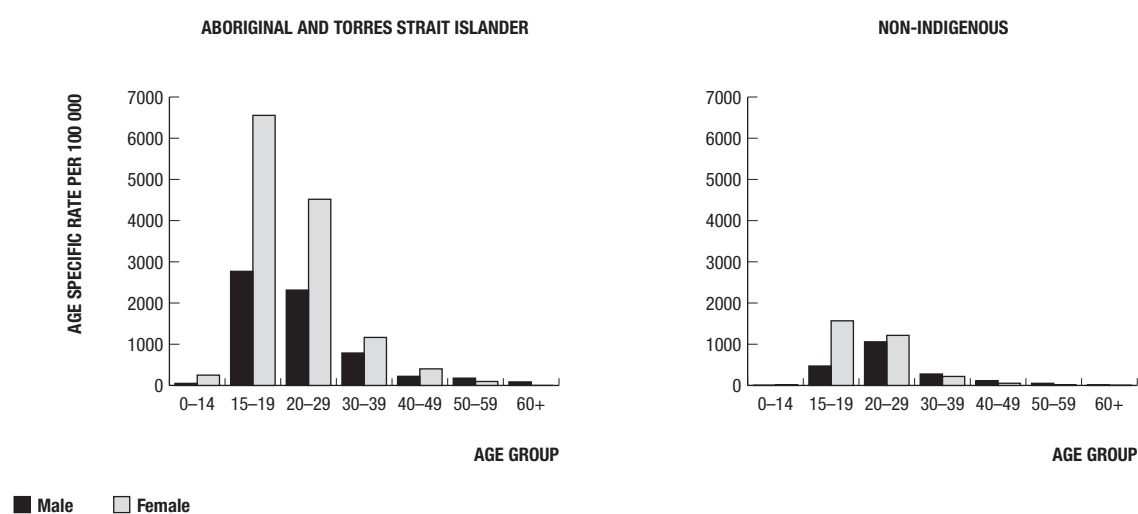


<sup>1</sup> Jurisdictions (NT, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2009, 1 875 and 913 diagnoses of chlamydia were made among Aboriginal and Torres Strait Islander females and males, respectively. The number of diagnoses of chlamydia in 2009 peaked in the 20 – 29 year age group in both the Aboriginal and Torres Strait Islander and non-Indigenous populations (Figure 4). In the Aboriginal and Torres Strait Islander population, the female to male ratio of chlamydia diagnoses in the age groups 15 – 19 years, 20 – 29 years and 30 – 39 years was 2.3:1, 2:1 and 1.5:1, respectively. In the non-Indigenous population the ratio was 3.1:1, 1.3:1 and 0.8:1 in the age groups 15 – 19, 20 – 29 and 30 – 39 years, respectively, suggesting increasing transmission of chlamydia among men who have sex with men with increasing age.

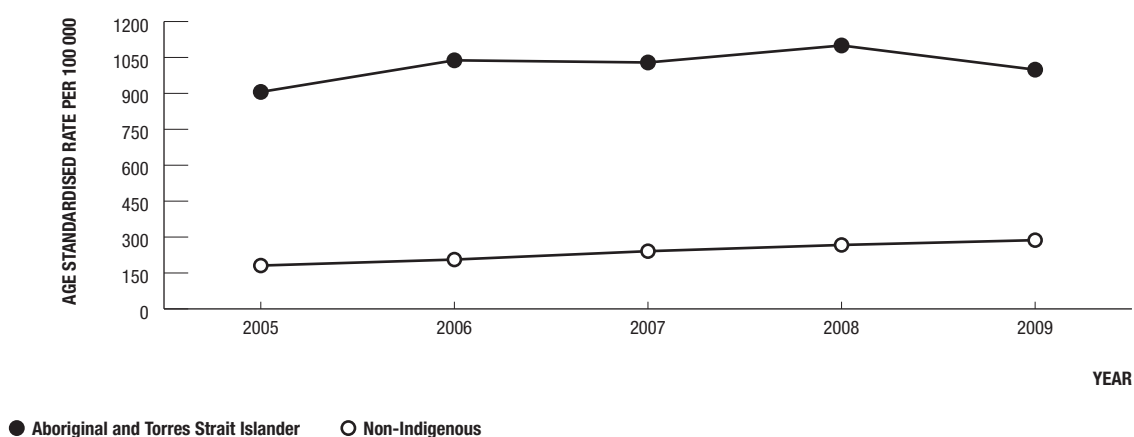
Chlamydia is diagnosed predominantly among young people. In 2009, 82% of diagnoses in Aboriginal and Torres Strait Islander people and 81% of diagnoses in non-Indigenous people were in those aged 15 to 29 years (Figure 4). The highest rates of diagnoses occurred among women in the 15 – 19 and 20 – 29 year age groups, and may partly reflect higher rates of access to health services and subsequent testing in these populations (Figure 5). However, the diagnosis rate of 6 554 per 100 000 Aboriginal and Torres Strait Islander women aged 15 – 19 years was more than four times the rate among non-Indigenous women in the same age group.

**Figure 5 Rate of diagnosis of chlamydia in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group**



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

**Figure 6 Chlamydia by Aboriginal and Torres Strait Islander status<sup>1</sup> and year**



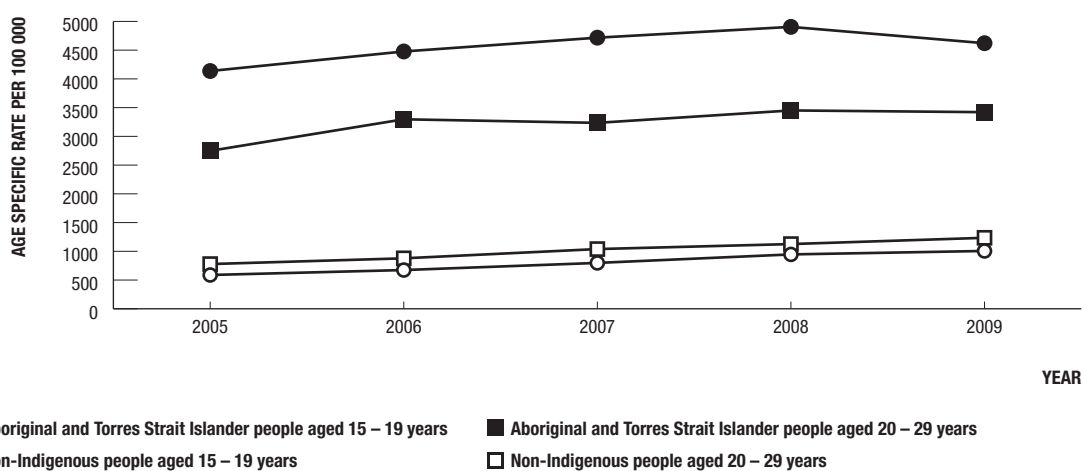
<sup>1</sup> Jurisdictions (NT, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses



The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population increased from 906 in 2005 to 999 in 2009 (10% increase). In the non-Indigenous population, the rate increased by 59%, from 181 in 2005 to 287 per 100 000 population in 2009 (Figure 6). The rate of chlamydia diagnosis for the Aboriginal and Torres Strait Islander population was more than three times that of the non-Indigenous population in 2009. It is not clear whether this discrepancy is an artefact of increased testing in the non-Indigenous population combined with maintenance of already high testing rates in these jurisdictions in Aboriginal and Torres Strait Islander communities, or result of decreased chlamydia testing in these jurisdictions (Figure 6).

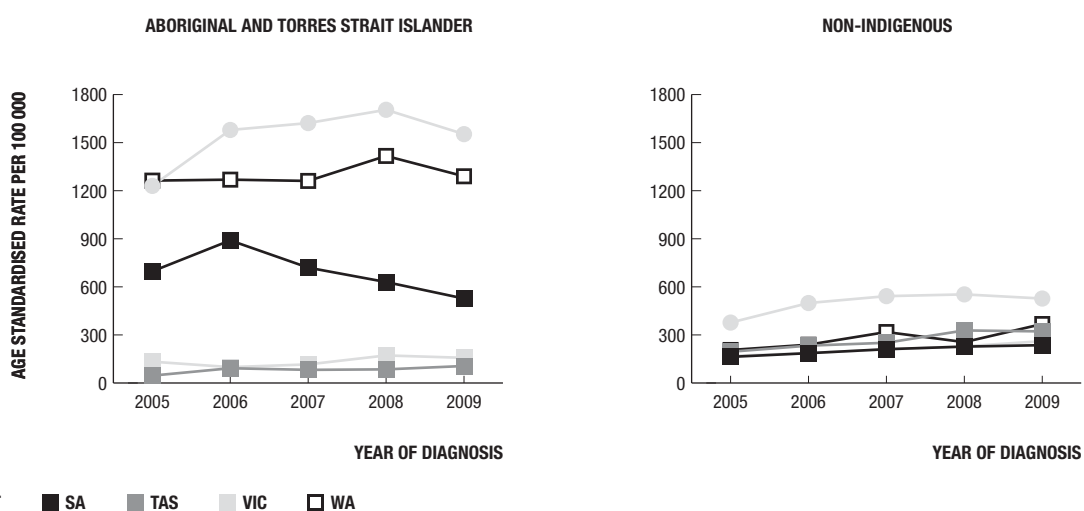
From 2005 to 2009, the rate of chlamydia diagnosis in the Aboriginal and Torres Strait Islander population in the 15 – 19 and 20 – 29 year age groups increased by 12% and 25%, respectively, whereas in the non-Indigenous population the rate increased by 71% and 59% in the respective age groups (Figure 7). The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population in the 15 – 19 and the 20 – 29 year age groups in 2009 was almost 5 and 3 times higher, respectively, than that in the non-Indigenous population.

**Figure 7 Chlamydia by Aboriginal and Torres Strait Islander status<sup>1</sup>, year and specific age groups**



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

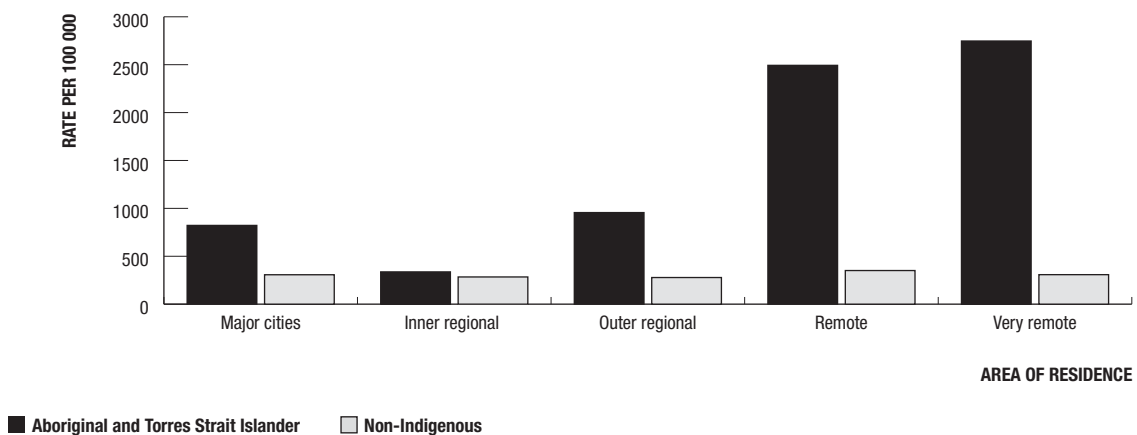
**Figure 8 Chlamydia by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**



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

The rate of diagnosis of chlamydia in 2005 – 2009 in the Aboriginal and Torres Strait Islander and non-Indigenous populations increased by 2% and 79% in Western Australia, 26% and 40% in the Northern Territory and 18% and 54% in Victoria, respectively. In South Australia, the rate decreased by 24% among the Aboriginal and Torres Strait population while at the same time increased by 45% in the non-Indigenous population.

**Figure 9 Chlamydia by Aboriginal and Torres Strait Islander status<sup>1</sup> and area of residence, 2009**



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

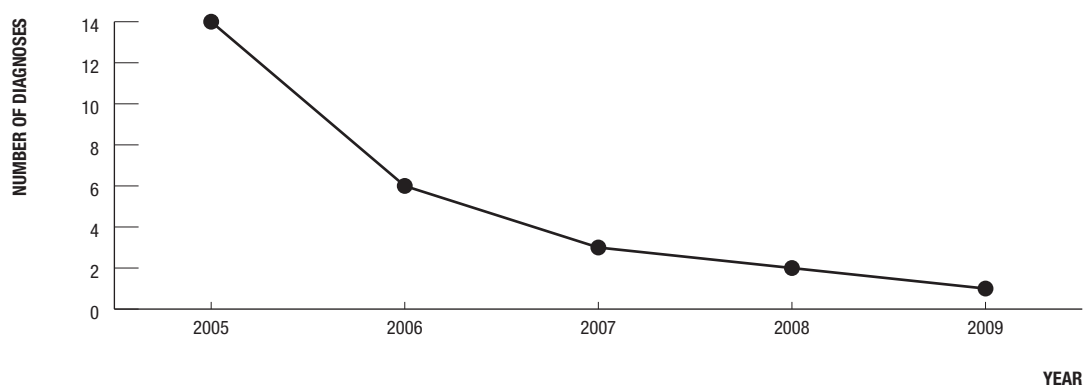
In 2009, the rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population resident in major cities (822 per 100 000) was almost three times the rate (307 per 100 000) in the non-Indigenous population. The rate of chlamydia diagnosis in remote and very remote areas of the Northern Territory, South Australia, Tasmania, Victoria and Western Australia was at least seven times higher than the rate in non-Indigenous population (Figure 9).

## Donovanosis

- Donovanosis notifications in Australia remain very low but continue to occur. Since 2005 there have been fewer than 15 cases per year. In 2009, only one case was diagnosed. 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 annual number of diagnoses of donovanosis, from 14 in 2005 to one in 2009, may be attributed to improved case ascertainment and treatment (Figures 10). There were no diagnoses of donovanosis in New South Wales, South Australia, Tasmania and Victoria in the past five years and no diagnoses in Western Australia in the past three years (Figure 11).

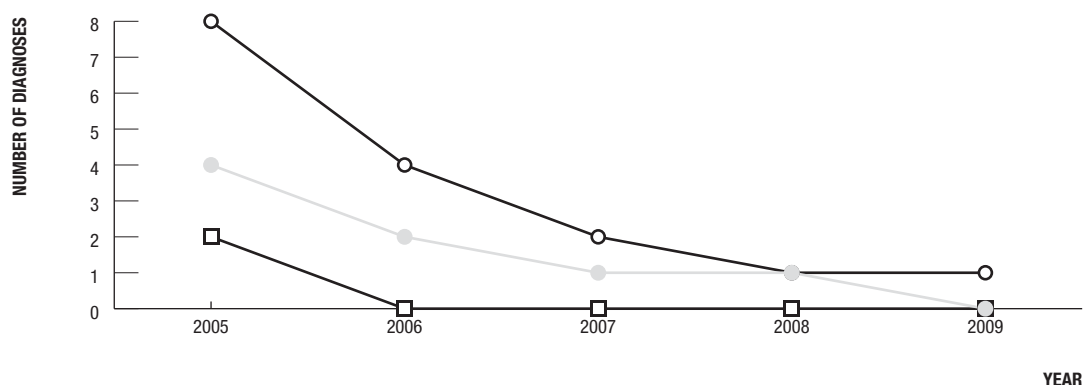
**Figure 10** Donovanosis<sup>1</sup> by year



● Aboriginal and Torres Strait Islander

<sup>1</sup> Jurisdictions (NT, QLD and WA) reporting diagnoses of donovanosis in 2005 - 2009

**Figure 11** Donovanosis by State/Territory<sup>1</sup> and year



● NT ○ QLD □ WA

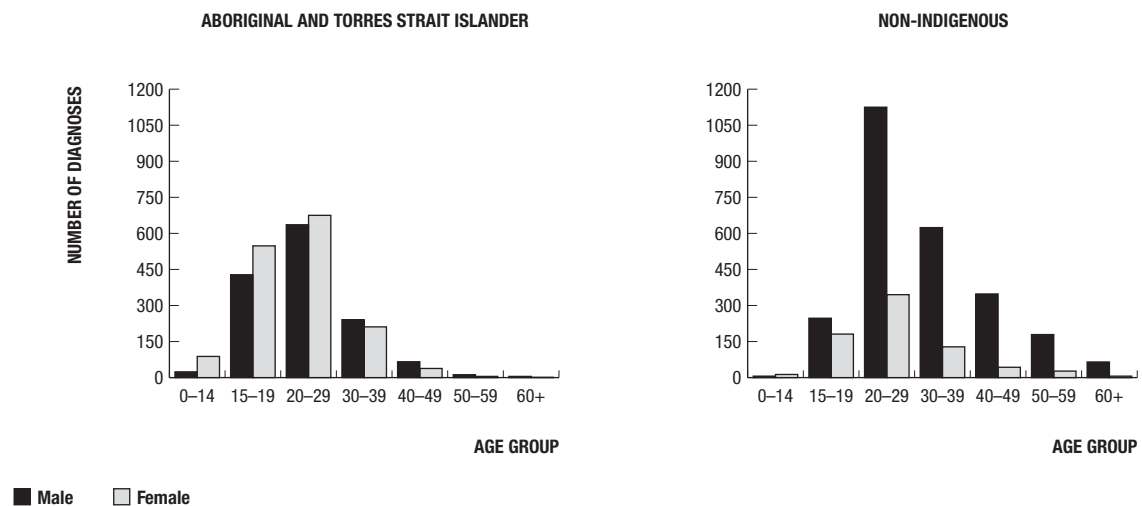
<sup>1</sup> Jurisdictions (NT, QLD and WA) reporting diagnoses of donovanosis in 2005 - 2009

## Gonorrhoea

- Of 8 040 diagnoses of gonorrhoea in Australia in 2009, 2 994 (37%) were among Aboriginal and Torres Strait Islander people, 2 231 (28%) were among non-Indigenous people and Indigenous status was not reported for 2 815 (35%) diagnoses.
- In 2009, the rate of gonorrhoea diagnosis in the Aboriginal and Torres Strait Islander population was more than 26 times that for the non-Indigenous population (668 vs. 25 per 100 000 population).
- In 2009, 77% of gonorrhoea diagnoses in Aboriginal and Torres Strait Islander people were in the age group 15 to 29 years compared with 57% in the non-Indigenous cases.
- The female to male ratio of (1.1:1) of cases of gonorrhoea diagnosed in 2009 in the Aboriginal and Torres Strait Islander population suggests transmission predominantly through heterosexual contact. In contrast, the male to female ratio of 3:1 in the non-Indigenous population, suggests transmission predominantly among men who have sex with men.
- In 2009, gonorrhoea was diagnosed in the Aboriginal and Torres Strait Islander population at substantially higher rates than in the non-Indigenous population in all areas of residence, especially in remote and very remote areas of Australia.

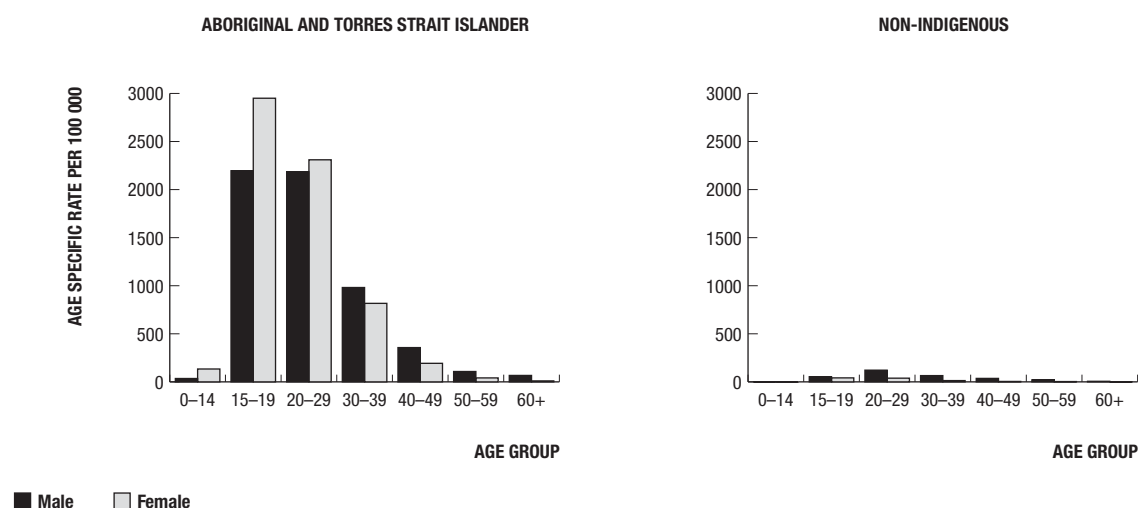
Of 8 040 diagnoses of gonorrhoea in 2009, more notifications were made among Aboriginal and Torres Strait Islander people (2 994, 37%) than for non-Indigenous people (2 231, 28%). Aboriginal and Torres Strait Islander status was not reported for 2 815 or 35% of total diagnoses made nationally (Figure 12). In the period 2005 – 2009, Aboriginal and Torres Strait Islander status was not reported for more than 50% of diagnoses in the Australian Capital Territory and in New South Wales and, as such, notification data for gonorrhoea excludes these two jurisdictions. Hereinafter, notification data for the period 2005 – 2009 refers to data notified from the Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia.

**Figure 12** Number of diagnoses of gonorrhoea in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

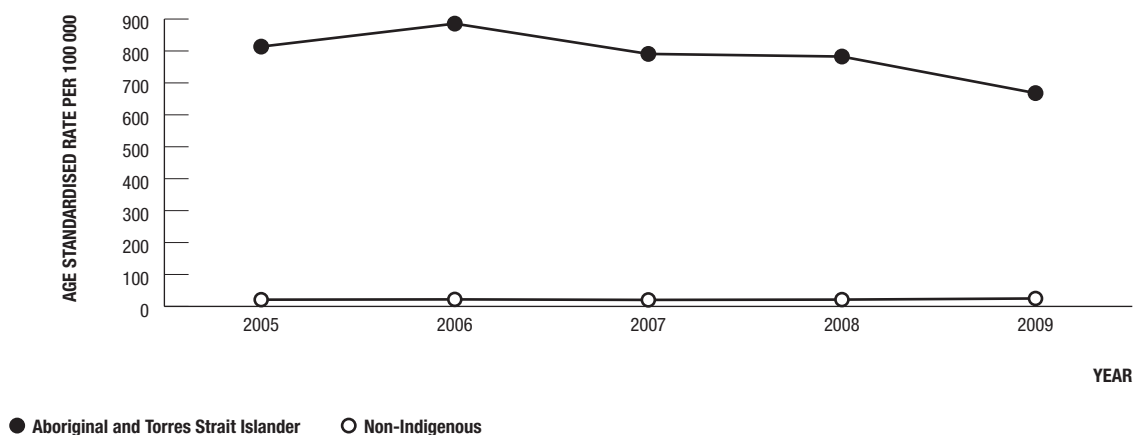
**Figure 13** Rate of diagnosis of gonorrhoea in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

In 2009, the rate of diagnosis of gonorrhoea for the Aboriginal and Torres Strait Islander population was twenty six times that of the non-Indigenous population at 668 and 25 per 100 000 population, respectively. During the period 2005 – 2009, the rate of diagnosis of gonorrhoea decreased in the Aboriginal and Torres Strait Islander population, from 814 to 668 per 100 000 population (an 18% decrease) while an increase of 19% was observed in the non-Indigenous population from 21 in 2005 to 25 per 100 000 in 2009 (Figure 14).

**Figure 14** Gonorrhoea by Aboriginal and Torres Strait Islander status<sup>1</sup> and year

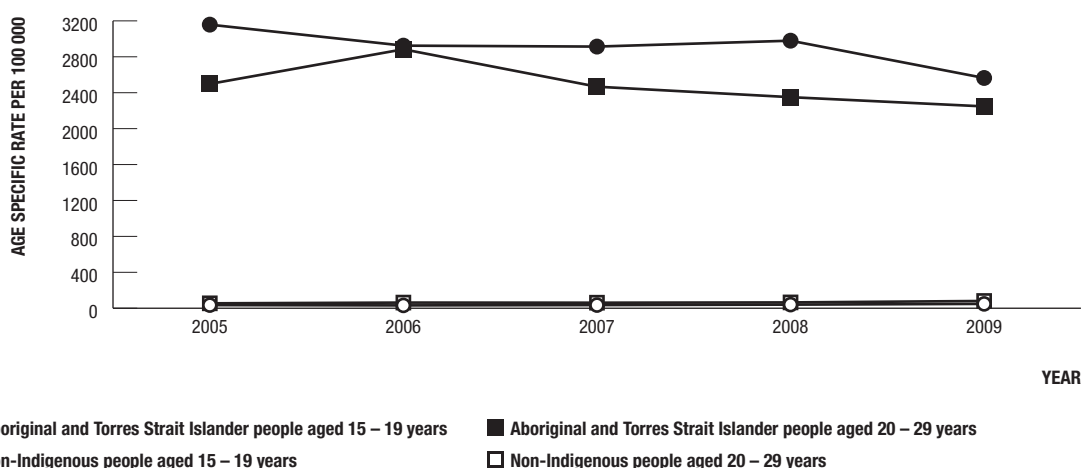


<sup>1</sup> Jurisdictions (NT, QLD, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Gonorrhoea is diagnosed predominantly among people aged 15 – 29 (77% of all cases) in the Aboriginal and Torres Strait Islander population and among people aged 20 – 49 (78%) in the non-Indigenous population (Figure 12). In the age groups 15 – 19 and 20 – 29 years, the rate of diagnosis in 2009 was 53 and 28 times greater, respectively, than diagnosis rates in the non-Indigenous population (Figure 15).

From 2005 to 2009, the rate of gonorrhoea diagnosis in the Aboriginal and Torres Strait Islander population in the 15 – 19 and 20 – 29 year age groups decreased by 19% and 10%, respectively, whereas in the non-Indigenous population the rate increased by 39% and 48% in respective age groups (Figure 15). The number of diagnoses of gonorrhoea in 2009 peaked in the 20 – 29 year age group in both the Aboriginal and Torres Strait Islander and non-Indigenous populations.

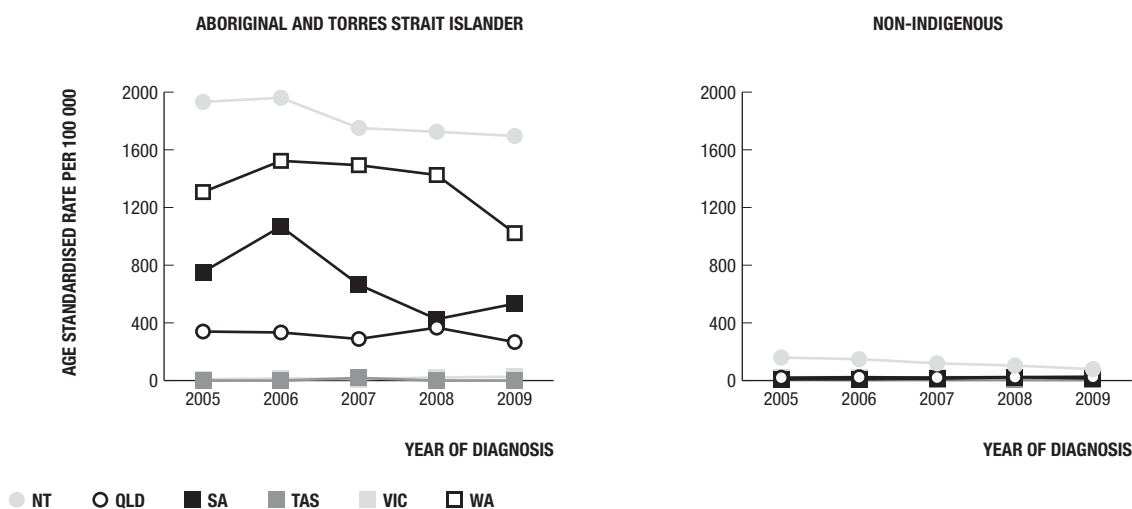
**Figure 15** Gonorrhoea by Aboriginal and Torres Strait Islander status<sup>1</sup>, year and specific age groups



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

In all jurisdictions except New South Wales and the Australian Capital Territory in 2009, 1 412 and 1 566 diagnoses of gonorrhoea were made among Aboriginal and Torres Strait Islander males and females respectively, providing a male to female ratio of 0.9:1. In comparison, 2 595 males and 744 females from the non-Indigenous population were diagnosed with gonorrhoea in 2009, giving a male to female ratio of gonorrhoea diagnoses of 3.5:1. In the Aboriginal and Torres Strait Islander population, the male to female ratio of gonorrhoea diagnoses in the age groups 15 – 19 years, 20 – 29 years, 30 – 39 years and 40 – 49 years was 0.8, 0.9, 1.1 and 1.7, respectively. In the non-Indigenous population the male to female ratio was 1.3, 3.2, 4.8 and 8.0 in the corresponding age groups, respectively, suggesting increasing transmission of gonorrhoea among men who have sex with men with increasing age.

**Figure 16** Gonorrhoea by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year

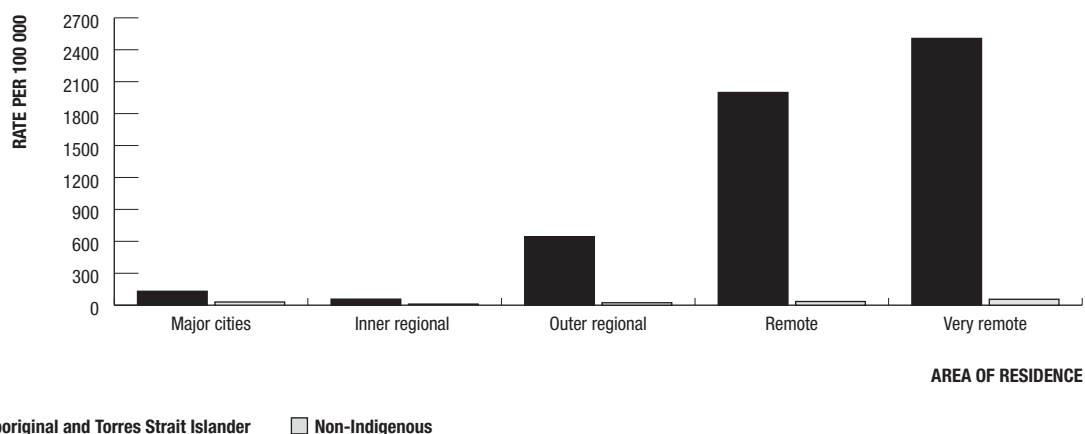


<sup>1</sup> Jurisdictions (NT, QLD, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population resident in the Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia increased from 814 in 2005 to 886 in 2006 and then declined to 668 per 100 000 in 2009. In the non-Indigenous population, the rate of diagnosis of gonorrhoea has remained stable at around 25 per 100 000 over the past five years (Figure 16). The rate of gonorrhoea diagnosis in the Aboriginal and Torres Strait Islander population in 2009 was 27 times that in the non-Indigenous population.

The rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population in the years 2005 – 2009 decreased by 12%, 21%, 29% and 22% in the Northern Territory, Queensland, South Australia and Western Australia, respectively, and increased almost 3 fold in Victoria, from 9 in 2005 to 26 per 100 000 population in 2009 (Figure 16). In the non-Indigenous population, the rate increased by 31%, 74%, 23% and 2% in Queensland, South Australia, Victoria and Western Australia, respectively. The rate decreased in Tasmania by 38% and by 50% in the Northern Territory.

**Figure 17** Gonorrhoea by Aboriginal and Torres Strait Islander status<sup>1</sup> and area of residence, 2009



<sup>1</sup> Jurisdictions (NT, QLD, SA, TAS, VIC 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 resident in major cities, inner regional, outer regional, remote and very remote areas of the Northern Territory, Queensland, South Australia, Victoria and Western Australia, the population rate of gonorrhoea was 4 times, 6 times, 28 times, 59 times, 46 times that of the non-Indigenous population, respectively, in 2009 (Figure 17).

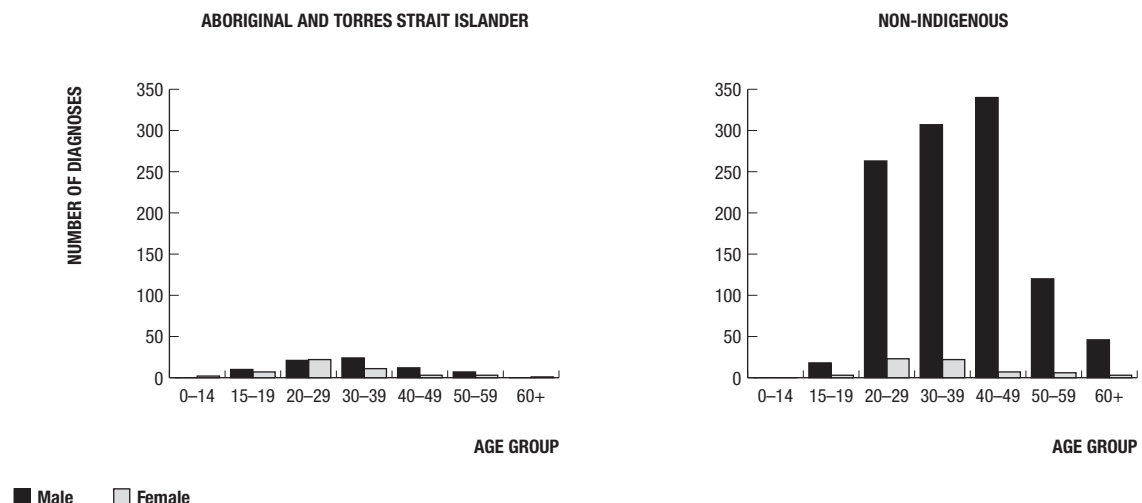
## Infectious syphilis

- Diagnoses of infectious syphilis have been reported nationally since 2004.
- A total of 1 293 cases of infectious syphilis were notified in 2009, with 124 (10%) cases nationally notified among Aboriginal and Torres Strait Islander people, 1 114 (86%) cases among non-Indigenous people and a further 55 (4%) cases for which Indigenous status was not reported.
- Information on Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses of infectious syphilis in each of the past five years through all State and Territory health jurisdictions in Australia other than the Australian Capital Territory.
- In the period 2005 to 2009, the rate of diagnosis of infectious syphilis decreased from 31 to 25 per 100 000 Aboriginal and Torres Strait Islander population. In the same period the rate of diagnosis in the non-Indigenous population trebled from 2 in 2005 to 6 per 100 000.
- In 2009, 49 and 74 Aboriginal and Torres Strait Islander women and men, respectively, were diagnosed with infectious syphilis whereas 64 and 1 094 non-Indigenous women and men, respectively, were diagnosed with infectious syphilis.
- In 2009, 50% and 27% of diagnoses of infectious syphilis in the Aboriginal and Torres Strait Islander and non-Indigenous populations respectively occurred among people aged less than 30 years of age.
- Aboriginal and Torres Strait Islander women and men in the age group 15 – 19 years were diagnosed with infectious syphilis at 53 and 14 times the rate among non-Indigenous women and men, respectively.
- Syphilis was transmitted predominantly through heterosexual contact in the Aboriginal and Torres Strait Islander population, with a male to female diagnosis ratio of 1.5:1, whereas the male to female diagnosis ratio was 17:1 in the non-Indigenous population, indicating syphilis transmission predominantly by men who have sex with men (Figure 18).
- In the Aboriginal and Torres Strait Islander population the rate of diagnosis increased as remoteness of residence increased. The rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population resident in major cities in 2009 was 10 and was 77 per 100 000 population resident in very remote areas of Australia. In the non-Indigenous population, the rate of diagnosis of infectious syphilis was less than 10 in all areas of residence (Figure 23).

Accurate and complete systems for the notification of infectious syphilis exist nationally, enabling greater than 95% of all infectious syphilis diagnoses to be notified by Aboriginal and Torres Strait Islander status.

In 2009, 1 293 cases of infectious syphilis were notified, with 124 (9.6%) cases among Aboriginal and Torres Strait Islander people, 1 114 cases among non-Indigenous people and a further 55 cases for which Indigenous status was not reported (Figure 18).

**Figure 18** Number of diagnoses of infectious syphilis in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



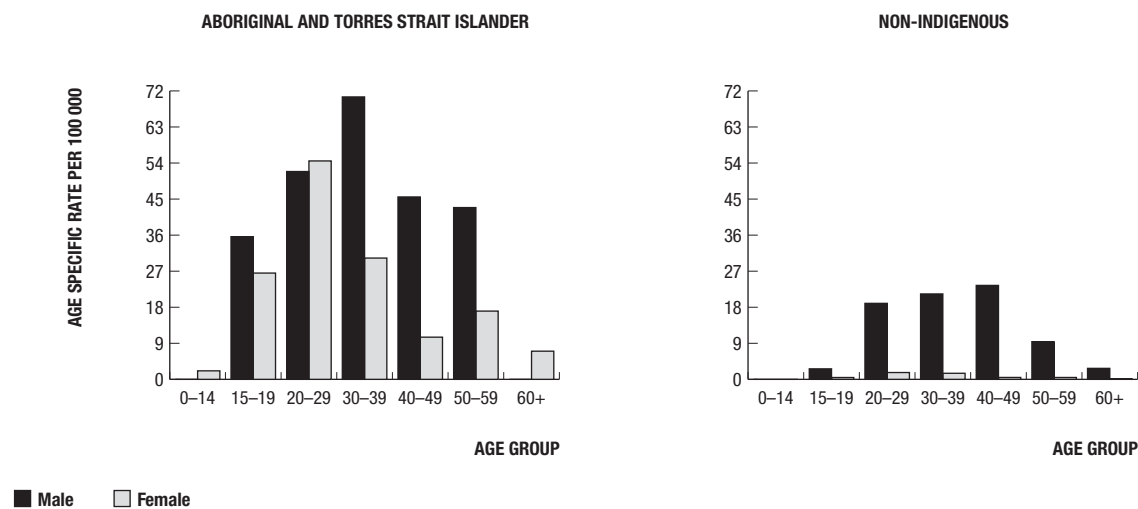
<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses



Over the past three years, the number of diagnoses of infectious syphilis among Aboriginal and Torres Strait Islander people dropped from 221 in 2007 to 123 in 2009 whereas the number of diagnoses in non-Indigenous people has remained above 1 100 per year.

The rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander male population aged 15 – 19 years and 20 – 29 years was more than 13 times and double the rate in the non-Indigenous male population (Figure 19). The rate in the Aboriginal and Torres Strait Islander female population aged 15 – 19 and 20 – 29 years was 53 times and 32 times higher than that in the non-Indigenous female population.

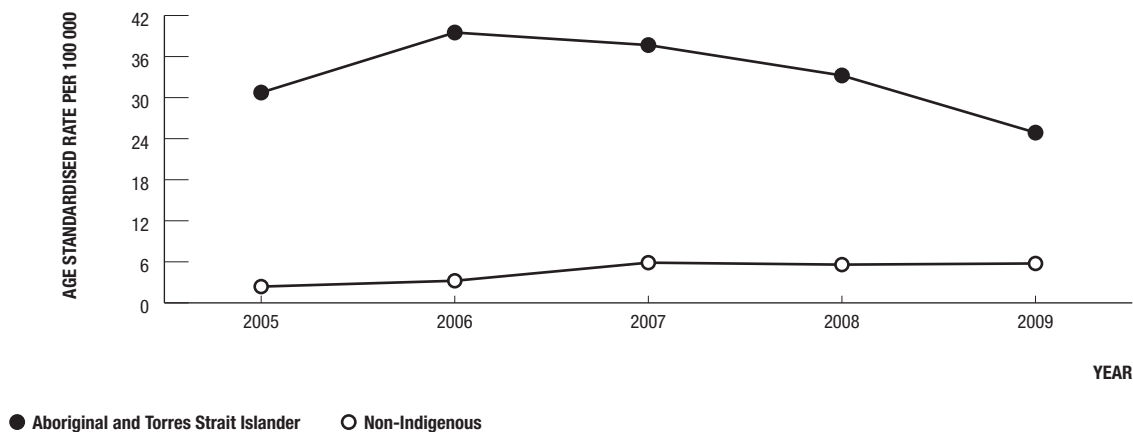
**Figure 19** Rate of diagnosis of infectious syphilis in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

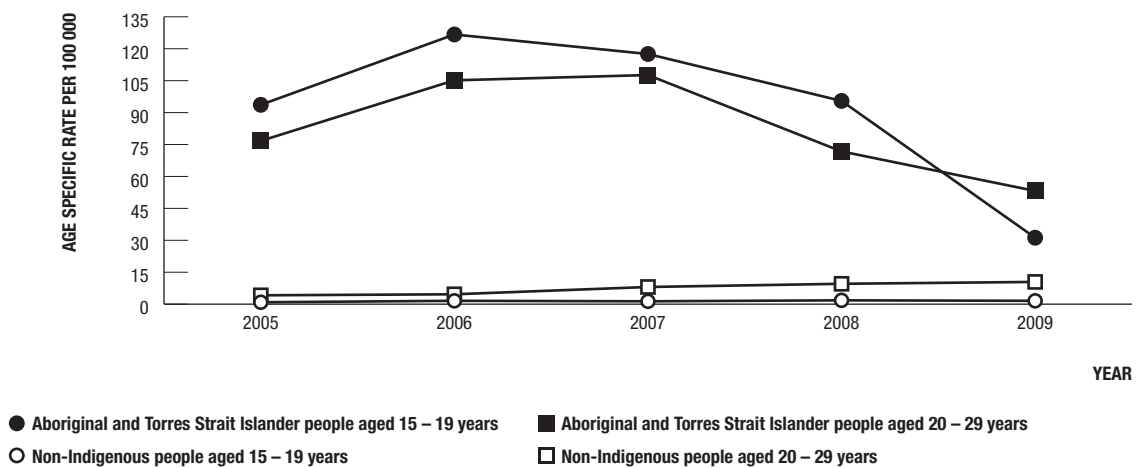
The population rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population (other than the ACT) decreased from 40 in 2006 to 25 per 100 000 in 2009, whereas the rate in the non-Indigenous population doubled from 3 in 2006 to 6 per 100 000 population in each of the past three years (Figure 20). In the non-Indigenous population the rate trebled from 2 in 2005 to 6 in 2009 (Figure 18).

**Figure 20** Infectious syphilis by Aboriginal and Torres Strait Islander status<sup>1</sup> and year



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

**Figure 21 Infectious syphilis by Aboriginal and Torres Strait Islander status<sup>1</sup>, year and specific age groups**

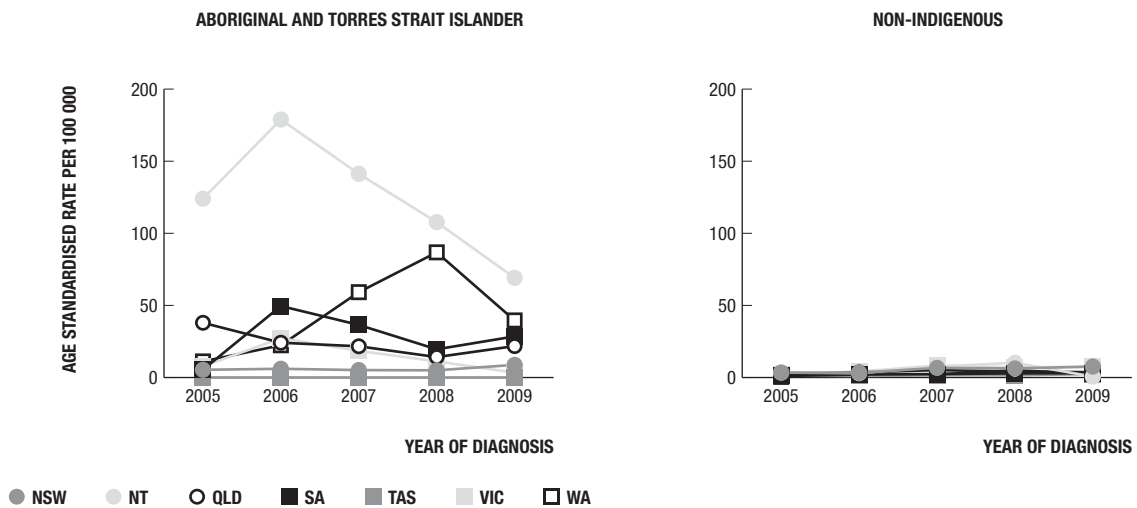


<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population aged 15 – 19 years dropped 4 fold, from 126.7 in 2006 to 31.2 per 100 000 population in 2009, and halved in the 20 – 29 year age group from 105.2 in 2006 to 53.2 in 2009 (Figure 21). In the non-Indigenous population aged 15 – 19 years, the rate of infectious syphilis diagnosis was relatively stable at 1.6 in 2005 – 2009 whereas the rate in the population aged 20 – 29 years more than doubled, from 4.2 in 2005 to 10.5 per 100 000 population in 2009.

In 2009, 74 and 49 cases of infectious syphilis were diagnosed in Aboriginal and Torres Strait Islander males and females, respectively, and 1 094 and 64 cases were diagnosed in non-Indigenous males and females, respectively. The male to female sex ratio in the Aboriginal and Torres Strait Islander cases (1.5:1) suggests transmission of infectious syphilis predominantly through heterosexual contact whereas the male to female sex ratio in the non-Indigenous cases (17:1) suggests transmission among men who have sex with men.

**Figure 22 Infectious syphilis by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**

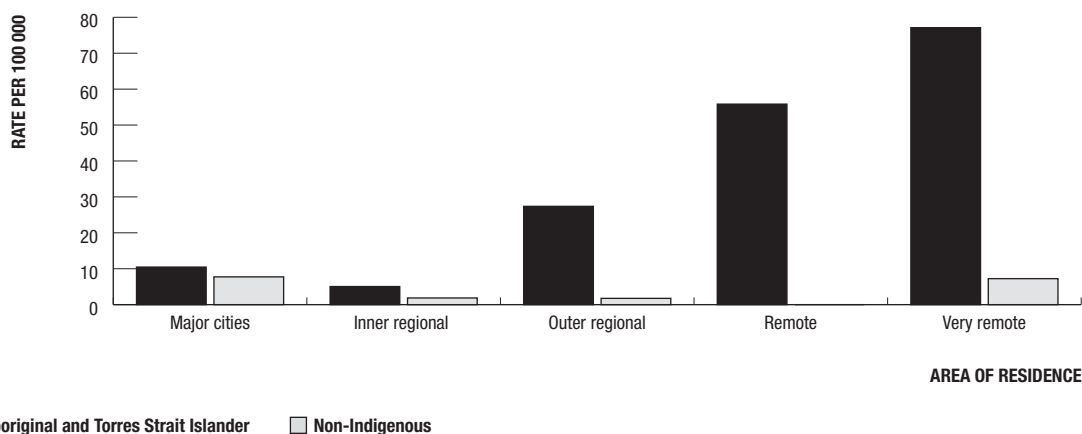


<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, TAS, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2009, the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population increased in New South Wales, Queensland and South Australia by 75%, 54% and 46% respectively, whereas in the Northern Territory, Victoria and Western Australia the rate of diagnosis of infectious syphilis decreased by 35%, 70% and 54% respectively. In contrast, in the non-Indigenous population the rate of diagnosis of infectious syphilis doubled during the same period (Figure 22).

In 2009, the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population was reported at 1.4, 9 and 18 times the rate of non-Indigenous people residing in major cities, regional and remote areas of Australia, respectively.

**Figure 23 Infectious syphilis 2009 by Aboriginal and Torres Strait Islander status and area of residence**



## Bacterial sexually transmitted infections reported in persons aged less than 16 years

The occurrence of sexually transmitted infections among young Aboriginal and Torres Strait Islander people aged less than 16 years is a sensitive issue and is sometimes erroneously linked to child sexual assault. 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 summarized only for those health jurisdictions in which Aboriginal and Torres Strait Islander status was reported for at least 50% of diagnoses in each year over the past five years.

From 2005 to 2009, a total of 2 695 cases of chlamydia, 1 690 cases of gonorrhoea and 77 cases of infectious syphilis were diagnosed among Aboriginal and Torres Strait Islander people aged 15 years or younger at diagnosis. The majority (97% for chlamydia, 96% for gonorrhoea and 97% for infectious syphilis) of these diagnoses were among people aged from 13 to 15 years. A similar pattern of diagnosis occurred among non-Indigenous young people. From 2005 to 2009, 4 418 cases of chlamydia, 233 cases of gonorrhoea and 13 cases of infectious syphilis were diagnosed among non-Indigenous people aged 15 years or younger. The majority (96% for chlamydia, 89% for gonorrhoea and 61% for infectious syphilis) of these diagnoses were among people aged from 13 to 15 years.

The majority of diagnoses of sexually transmissible infections in young Aboriginal and Torres Strait Islander people occurred in areas of known high endemicity of STIs and where screening for sexually transmitted infections is routinely carried out. Caution should be taken in describing these data as related to child sexual assault; it is likely that a significant proportion of these notifications are the result of early sexual debut and/or sex with peer-aged partners.

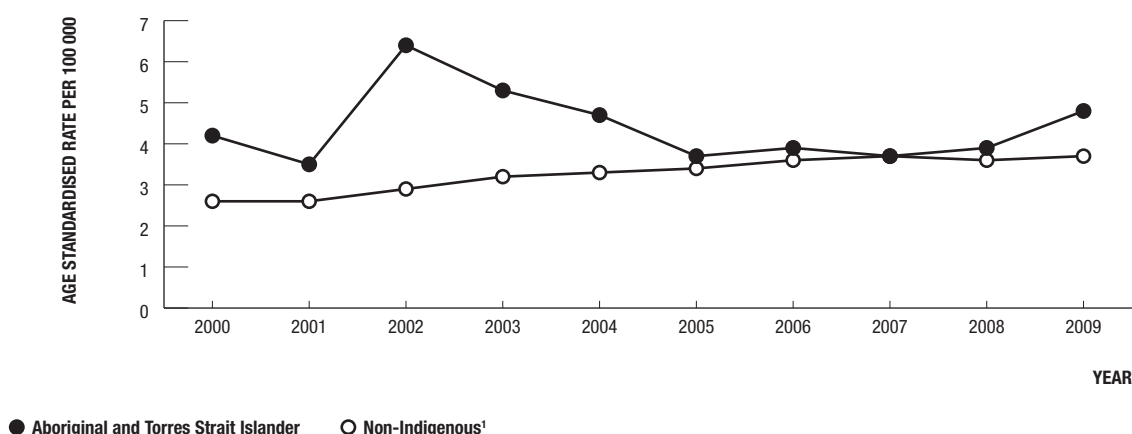
## HIV infection

- A total of 1 050 diagnoses of HIV infection were reported in 2009, giving a population rate of 4.7 per 100 000 population. Of the 1 050 diagnoses, 21 were identified as Aboriginal and Torres Strait Islander and 1 029 identified as non-Indigenous. In 2009, the population rate of diagnosis of HIV was similar for both populations. The Aboriginal and Torres Strait Islander population had a rate of 4.8 per 100 000 compared to 3.7 per 100 000 in the non-Indigenous population.
- The number of new diagnoses of HIV in Australia increased by 9% between 2005 and 2009 while the number of diagnoses in the Indigenous population remained stable over the same period.
- During 2005 – 2009, 94 cases of HIV were diagnosed among Aboriginal and Torres Strait Islander people with 19% among women. Median age at diagnosis was 34 years; 30% of cases were classified as newly acquired cases, and conversely 15% of cases with a CD4+ cell count of less than 200 cells/μL were classified as a late HIV diagnosis.
- After excluding non-Indigenous cases whose infection was acquired in a high prevalence country, heterosexual contact was the reported source of exposure to HIV in 15% of non-Indigenous cases and 21% among Aboriginal and Torres Strait Islander cases (Figure 26). Aboriginal and Torres Strait Islander cases differed from non-Indigenous cases in that a higher proportion of infections were attributed to injecting drug use (20% among Aboriginal and Torres Strait Islander cases vs 3% for non-Indigenous cases).
- In 2009, the rate of HIV diagnosis was highest among those resident in major cities in both the Aboriginal and Torres Strait Islander population and the non-Indigenous population. The rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population was 10 per 100 000 in major cities compared to 1 per 100 000 in the very remote areas.

All States and Territories report accurately and complete data sets for HIV diagnosis. Accurate and complete systems for the notification of HIV diagnoses exist nationally that enables greater than 90% of all HIV diagnoses to be notified by Aboriginal and Torres Strait Islander status.

In 2009, of the 1 050 HIV diagnoses, 1 029 identified as non-Indigenous people and 21 were among Aboriginal and Torres Strait Islander people. The population rate of diagnosis of HIV was similar with a rate of 4.8 and 3.7 per 100 000 for the Aboriginal and Torres Strait Islander population and non-Indigenous population, respectively.

**Figure 24 Newly diagnosed HIV infection, 2000 – 2009, by Aboriginal and Torres Strait Islander status and year**

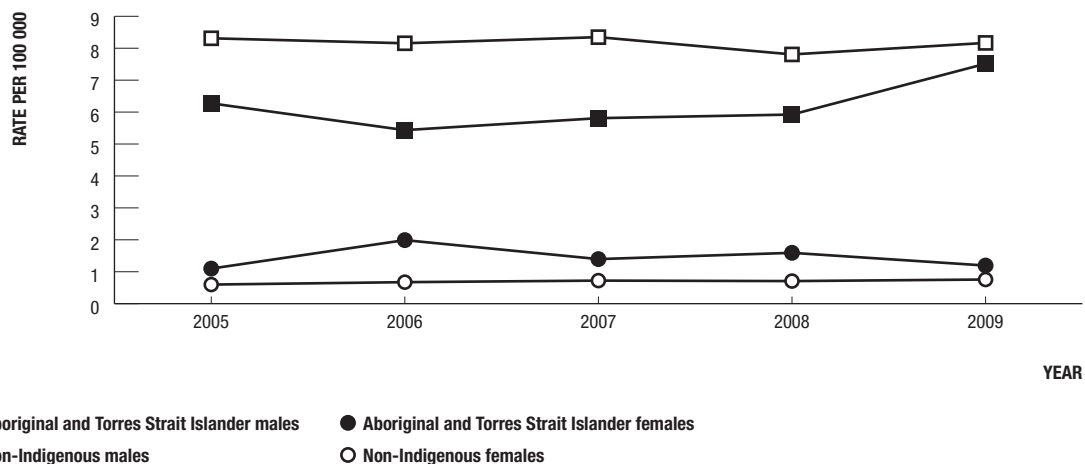


<sup>1</sup> Cases and populations from high HIV prevalence countries were excluded from the non-Indigenous rate.

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 2000 – 2009 and excluded non-Indigenous cases whose infection was acquired in a high prevalence country. During this period 196 cases of HIV infection were diagnosed among Aboriginal and Torres Strait Islander people.

In 2000 – 2009, the rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population increased steadily from 4.2 to 4.8 per 100 000 and in the non-Indigenous population, the rate steadily increased from 2.6 in 2000 to 3.7 per 100 000 in 2009. The recent trends in the rates of HIV diagnoses in the Aboriginal and Torres Strait Islander population are based on small numbers and may reflect localised occurrences rather than national patterns.

**Figure 25 HIV diagnoses by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and year**

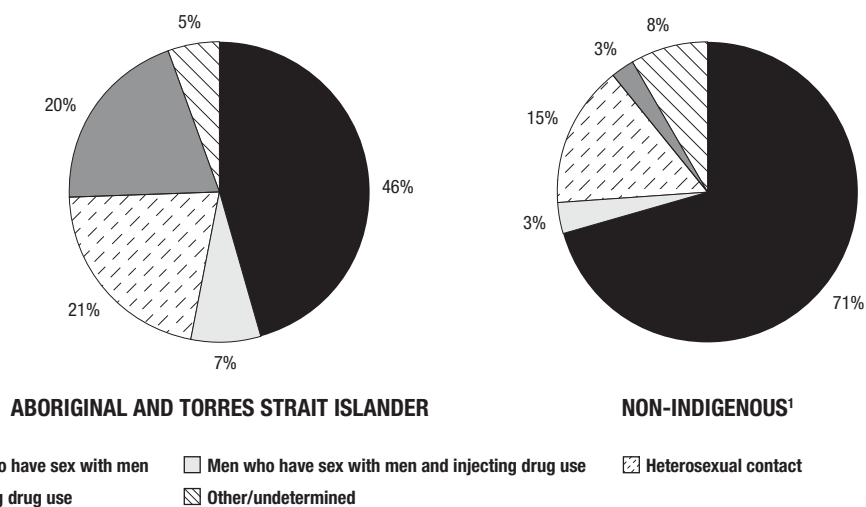


<sup>1</sup> Cases and populations from high prevalence countries were excluded from the non-Indigenous rate.

Of the 196 cases diagnosed among Aboriginal and Torres Strait Islander people during 2000 – 2009, 74% of cases were among men (46% among men who sex with men), the median age at diagnosis was 33 years, 25% of cases were classified as newly acquired cases and 21% of cases were classified as a late diagnosis.

In the years from 2005 – 2009, the rate of HIV diagnosis in both the Aboriginal and Torres Strait Islander, and the non-Indigenous, non-high prevalence country exposure category female population was stable at 1.4 and was 0.7 per 100 000, respectively (Figure 25). The rate of HIV diagnosis in the Aboriginal and Torres Strait Islander male population increased from 6.3 in 2005 to 7.5 in 2009 whereas in the non-Indigenous, non-high prevalence country exposure category male population, the rate was stable at 8.2 per 100 000. In 2009, the male to female ratio of HIV diagnoses in the Aboriginal and Torres Strait Islander population was 5.7:1 and was 10.9:1 in the non-Indigenous, non-high prevalence country exposure category population, reinforcing the different patterns of HIV transmission by Aboriginal and Torres Strait Islander status (Figure 26).

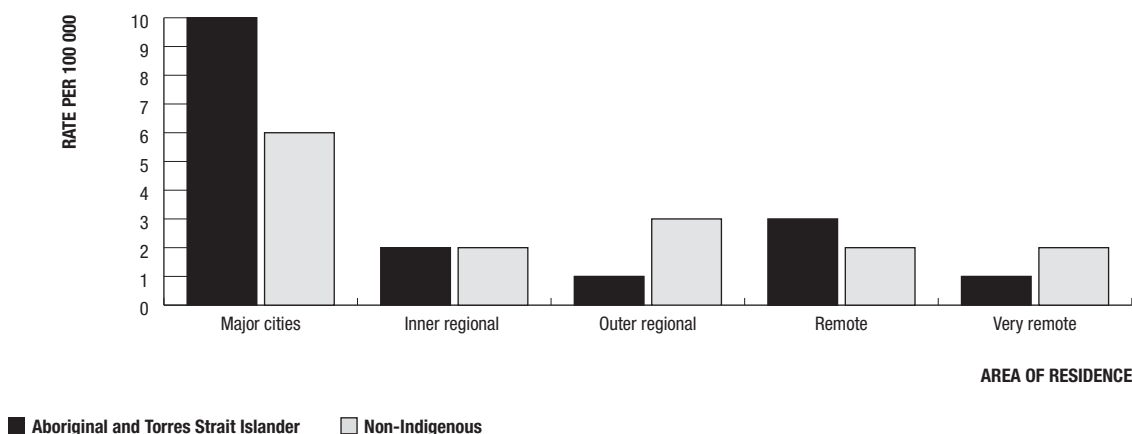
**Figure 26 HIV diagnoses in cases, 2005 – 2009, by Aboriginal and Torres Strait Islander status and HIV exposure category**



<sup>1</sup> Cases and populations from high prevalence countries were excluded from the non-Indigenous rate.

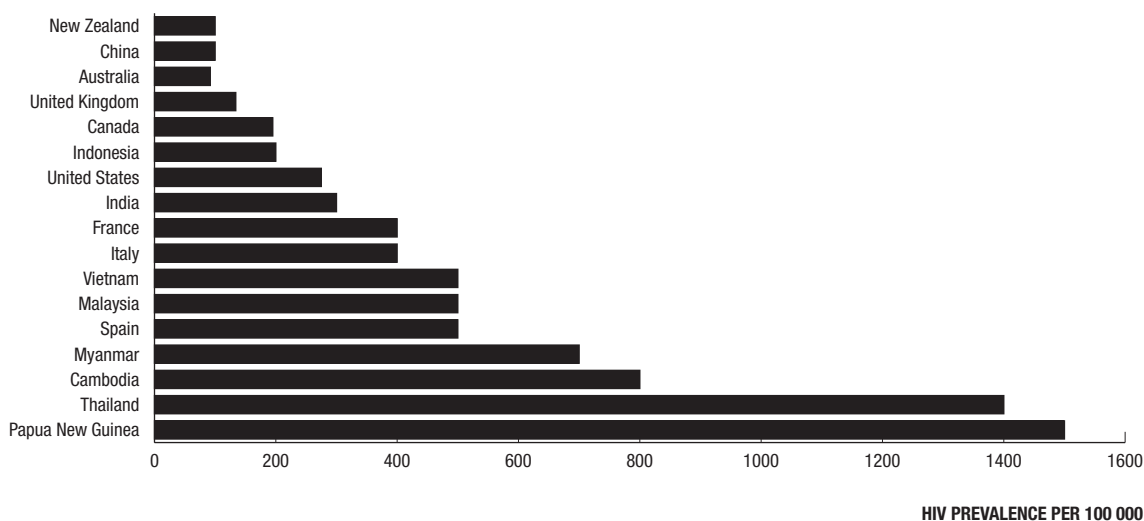
During the period 2000 – 2009, 30%, 24% and 23% of cases were diagnosed in New South Wales, Western Australia and Queensland, respectively. A further 10%, 8% 4% and 1% of cases were notified in Victoria, South Australia, Northern Territory and Tasmania during this period.

**Figure 27 Newly diagnosed HIV infection by Aboriginal and Torres Strait Islander status and area of residence, 2009**



During 2005 – 2009, the rate of HIV diagnosis was highest among those resident in major cities in both the Aboriginal and Torres Strait Islander population and the non-Indigenous population (Figure 27). The mean rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population was 8 per 100 000 in major cities compared to 1.7 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 1.9 per 100 000 in the remote areas.

**Figure 28 HIV prevalence in selected countries**



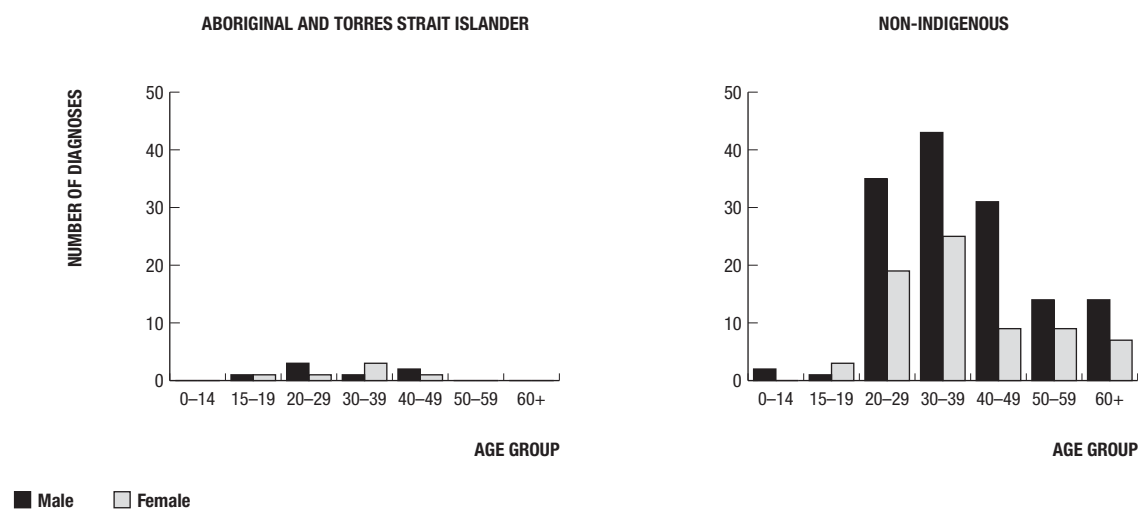
In the Oceania region of the world, Australia is among the countries with the lowest prevalence of HIV infection in its population aged 15 – 49 years. Australia’s nearest neighbour, Papua New Guinea, has the highest HIV prevalence in its population aged 15 – 49 years. It is important to view these data in the context of family and cultural connections between some Torres Strait Islander communities and Papua New Guinea peoples (Figure 28).

## Viral hepatitis

- A total of 238 cases of newly acquired hepatitis B (HBV) were diagnosed in Australia in 2009, 14 (6%) of these were diagnosed among Aboriginal and Torres Strait Islander people, 197 (83%) cases occurred among non-Indigenous people and a further 27 (11%) were not notified of Aboriginal and or Torres Strait Islander status.
- In 2009 the population rate of diagnosis of newly acquired hepatitis B infection for the non-Indigenous and Aboriginal and Torres Strait Islander populations were 1 and 3 per 100 000 respectively.
- Of the total HBV newly acquired infections in 2009, 6% occurred among Aboriginal and Torres Strait Islander people 83% among non-Indigenous people and 11% were not notified for Indigenous status.
- A total of 11 468 cases of hepatitis C (HCV) were diagnosed in Australia in 2009. Of these 531 (5%) occurred among Aboriginal and Torres Strait Islander people, 3659 (32%) occurred among non-Indigenous people and a further 7 278 (63%) cases were not notified for Indigenous status.
- At the end of 2009, an estimated 217 000 people were living in Australia with chronic hepatitis C infection including an estimated 74 000 with moderate to severe liver disease.
- Based on reported cases, hepatitis C transmission continued to occur in Australia predominantly among people with a history of injecting drug use.

The rate of diagnosis of newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population continues to be higher than for non-Indigenous Australians. In 2009, 13 cases of newly acquired hepatitis B infection were diagnosed in Aboriginal and Torres Strait Islander people and 212 in non-Indigenous people (Figure 29).

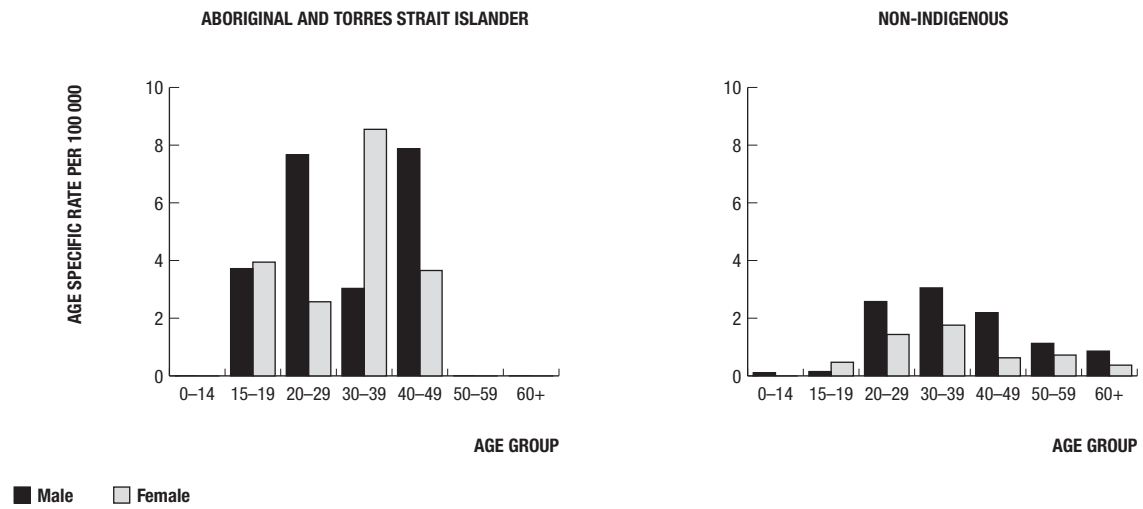
**Figure 29** Number of diagnoses of newly acquired hepatitis B in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

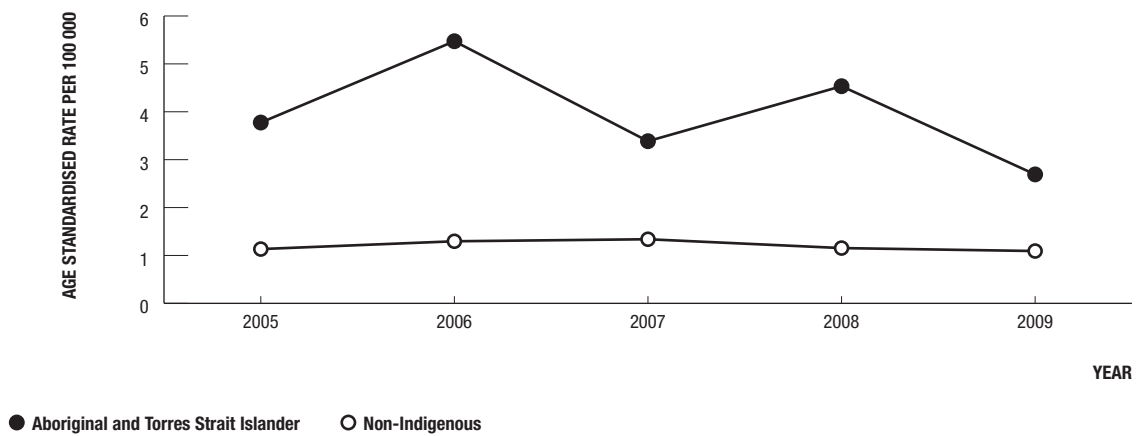
In 2009, the diagnosis rate for newly acquired hepatitis B infection was between 1 and seven times the rate in the non-Indigenous population in New South Wales, Victoria Queensland and Western Australia. In the non-Indigenous population, the rate of diagnosis of newly acquired hepatitis B infection remained low in all State and Territory health jurisdictions (Figure 33).

**Figure 30** Rate of diagnosis of newly acquired hepatitis B in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

**Figure 31** Newly acquired hepatitis B by Aboriginal and Torres Strait Islander status<sup>1</sup> and year

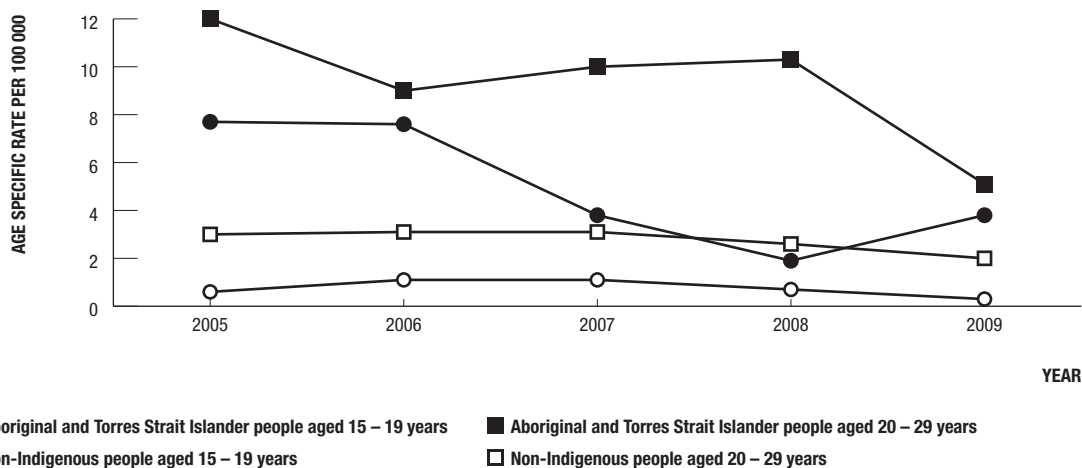


<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In 2009, the rate of diagnosis of newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population in the age groups 20 – 49 years was 2.3 and 3.9 times that of non-Indigenous males and females, respectively (Figure 30).

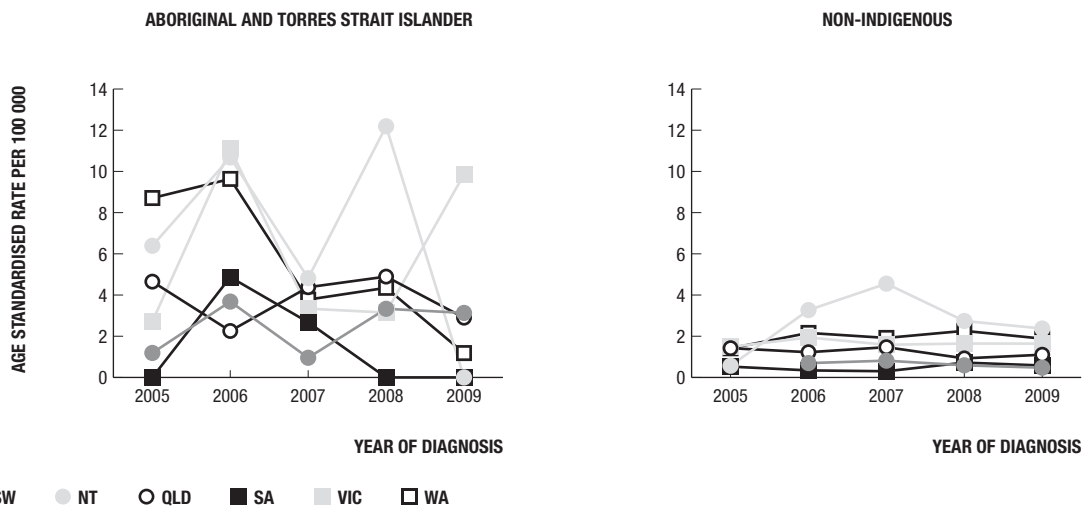


**Figure 32** Newly acquired hepatitis B by Aboriginal and Torres Strait Islander status<sup>1</sup>, year and selected age groups



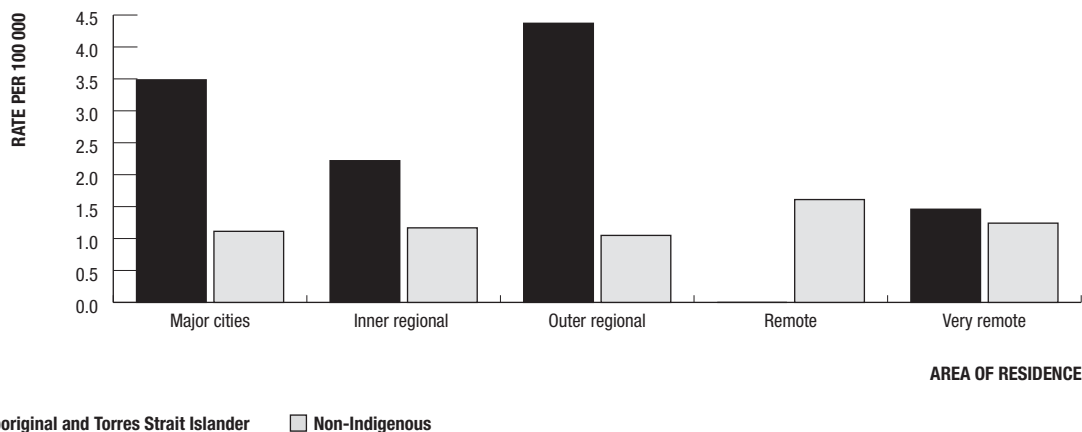
<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, VIC and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

**Figure 33** Newly acquired hepatitis B diagnosis by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year



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

**Figure 34** Newly acquired hepatitis B infection by Aboriginal and Torres Strait Islander status<sup>1</sup> and area of residence, 2009

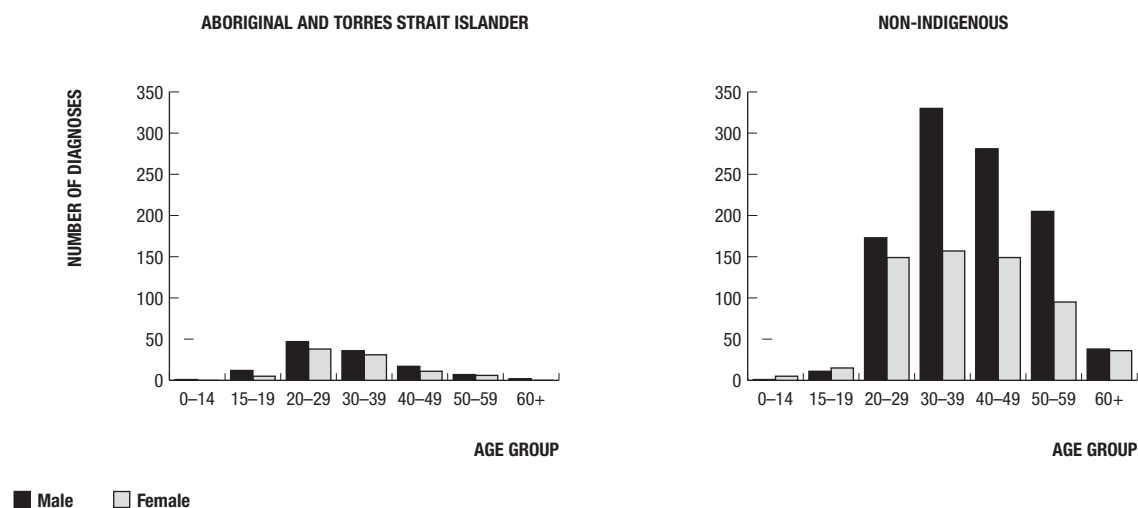


<sup>1</sup> Cases and populations from high prevalence countries were excluded from the non-Indigenous rate.

In 2009, the rate of HBV diagnosis in the Aboriginal and Torres Strait Islander population was highest among those resident in outer regional areas with a rate of 4 per 100 000 compared those resident in remote areas with a rate of 1 per 100 000. The non-Indigenous population reported a stable rate across all geographic areas of 1 per 100 000 (Figure 34).

In 2009, there were 531 diagnoses of HCV were made among Aboriginal and Torres Strait islander people, representing 4.6% of all cases reported for Indigenous status.

**Figure 35 Hepatitis C antibody by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group, 2009**



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

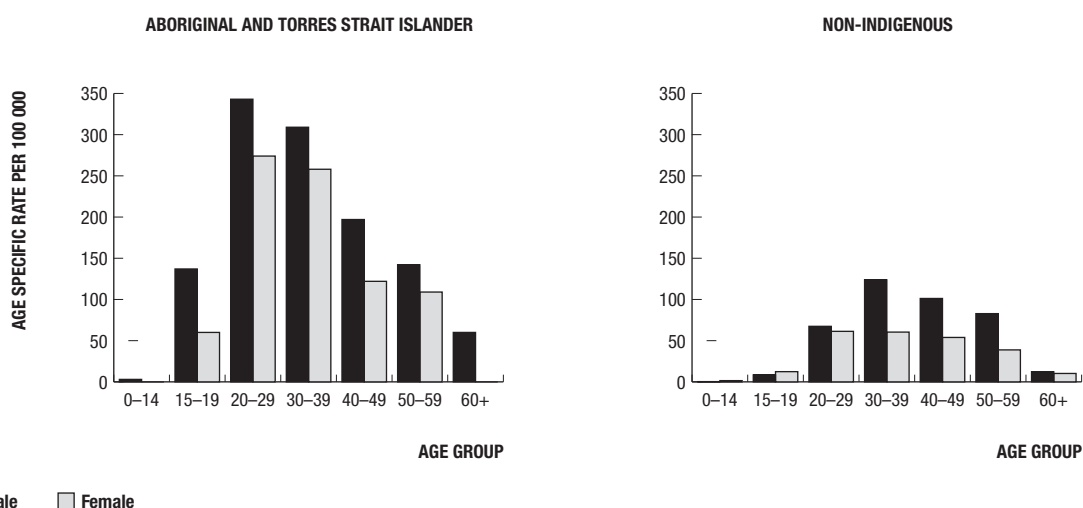
Information on Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses of hepatitis C antibody in 2009 in the Northern Territory, Tasmania, South Australia and Western Australia. In these jurisdictions Aboriginal and Torres Strait Islander people comprised 16%, 4%, 9% and 12% respectively of all HCV diagnoses.

In South Australia where completeness and accuracy of reporting for Aboriginal and Torres Strait Islander status is around 90%, Aboriginal and Torres Strait Islander people account for 9% of all diagnoses in this jurisdiction despite representing 1.7% of the state's population. Of the known HCV cases for Aboriginal and Torres Strait Islander status in NSW, 34% of these cases were diagnosed among Aboriginal and Torres Strait Islander people despite representing 2.4% of this States' total population.

Over the past five years, the rate of newly diagnosed hepatitis C in the Aboriginal and Torres Strait Islander population increased from 120 in 2005 to 131 in 2009 whereas the rate in the non-Indigenous population decreased from 46 per 100 000 in 2005 to 44 per 100 000 in 2009 (Figure 37).

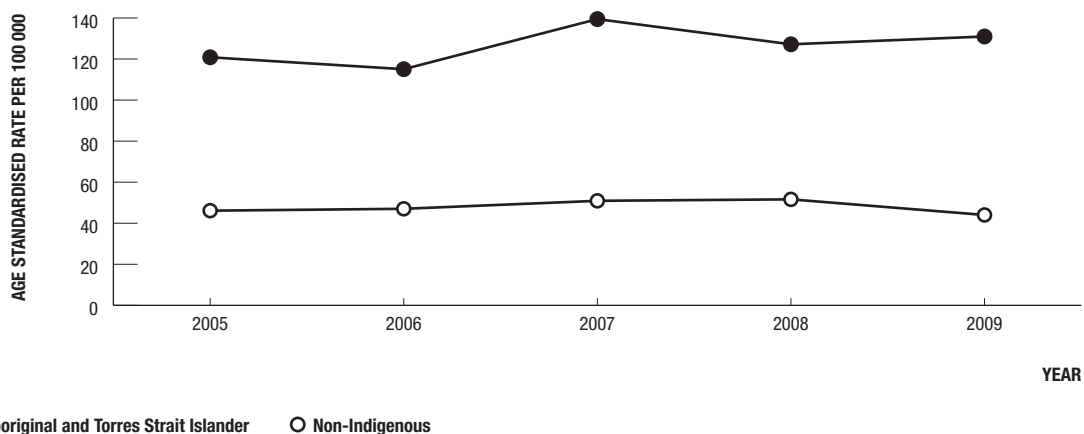
In 2009, the rate of diagnosis of hepatitis C antibody in the Aboriginal and Torres Strait Islander population resident in the Northern Territory, was substantially lower at a rate of 49 per 100 000 compared to 83 per 100 000 in the non-Indigenous population. Over the period 2005 – 2009 in the NT the rate has increased however in the Aboriginal and Torres Strait Islander population from 26 to 49 per 100 000, while in the non-Indigenous population the rate decreased from 141 to 83 per 100 000 (Figure 36). In South Australia over the past five years, the rate of diagnoses of HCV has decreased from 275 to 181 per 100 000 and in the non-Indigenous population the rate decreased slightly from 36 to 32 per 100 000 population. In Western Australia the population rate has increased from 2005 at 151 to 2009 at 189 per 100 000 population. In the same state the rate in the non-Indigenous population rose from 45 to 49 per 100 000 population.

**Figure 36 Hepatitis C antibody in 2009 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group**



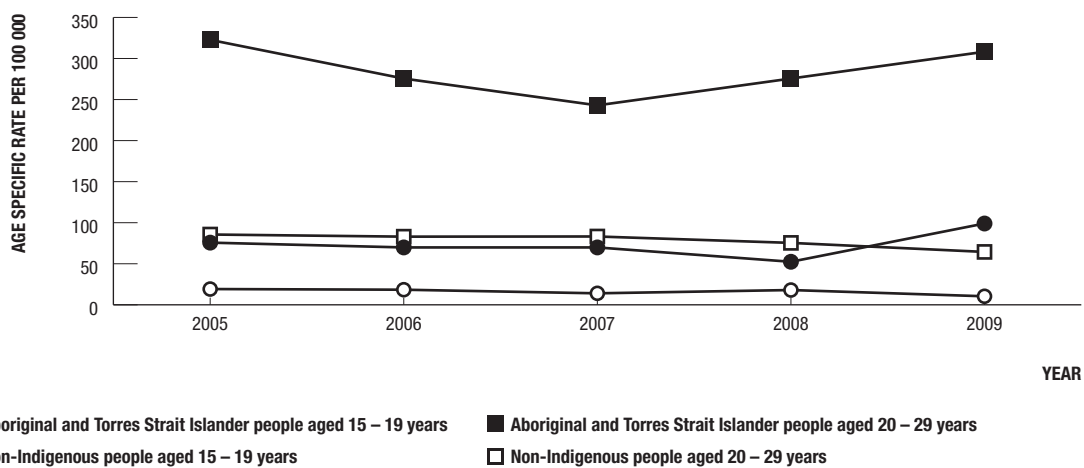
<sup>1</sup> Jurisdictions (NT, SA and WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

**Figure 37 Hepatitis C antibody by Aboriginal and Torres Strait Islander status<sup>1</sup> and year**



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

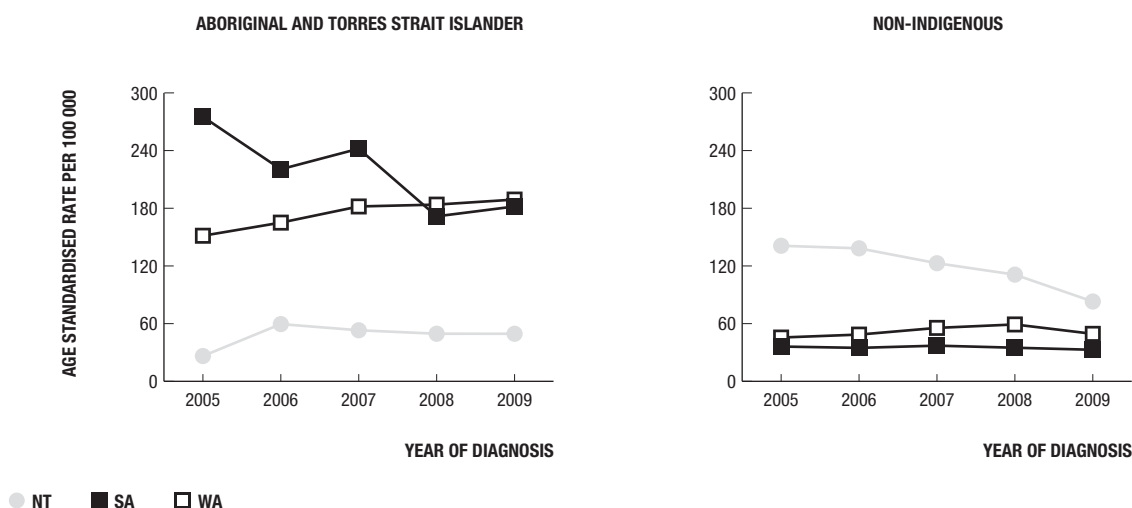
**Figure 38 Hepatitis C antibody by Aboriginal and Torres Strait Islander status<sup>1</sup>, year and specific age groups**



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

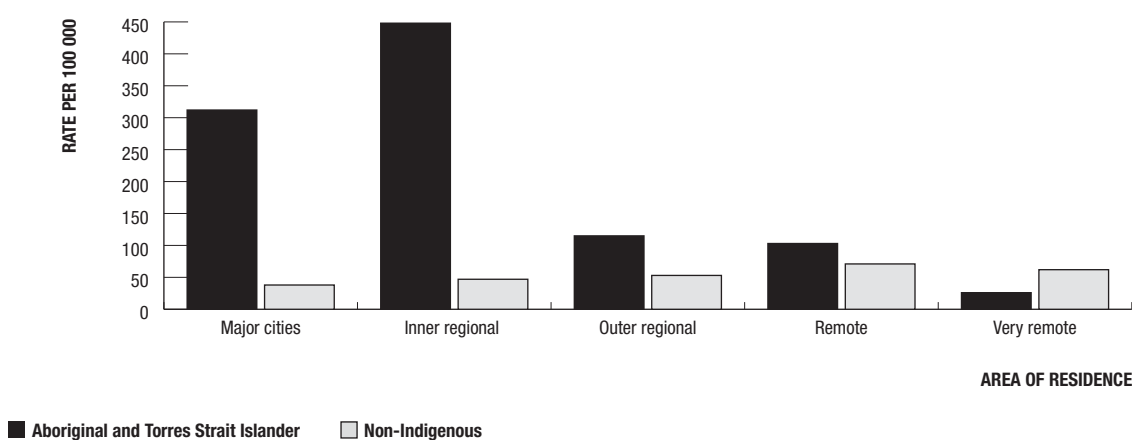
In 2009, the rate of diagnosis of hepatitis C antibody diagnosed in the 15 – 19 year age group among men and women in the Aboriginal and Torres Strait Islander population was 15 and 5 times the rate of that diagnosed in the same age group in the non-Indigenous population. (Figure 36). The rate of newly diagnosed hepatitis C diagnoses in the Aboriginal and Torres Strait Islander population in the age group 20 – 29 years was 5 and 4 times the rate in the non-Indigenous population male and female populations, respectively (Figure 38).

**Figure 39 Hepatitis C antibody by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**



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

**Figure 40 Hepatitis C infection by Aboriginal and Torres Strait Islander status and area of residence, 2009**



In the period 2005 – 2009 the rate of HCV diagnoses reported in South Australia, Western Australia and Northern Territory among Aboriginal and Torres Strait Islander people has decreased in major cities from 433 to 312 per 100 000, and has remained stable or decreased slightly in outer regional, remote and very remote communities. However, in inner regional areas over the past five years the rate of HCV diagnoses has increased from 252 to 448 per 100 000 population. In comparison, in the same period the population rate of HCV notified among non-Indigenous people in inner regional areas increased from 37 to 47 per 100 000.

## Hepatitis C data from the Australian Needle and Syringe Program 2009

Data routinely collected from the Australian Needle Syringe Program Survey provides an insight into the demographics, risk behaviour, and blood-borne virus prevalence among injecting drug users attending NSP services. As can be seen in Figure 41, hepatitis C antibody prevalence was consistently higher among Aboriginal and Torres Strait Islander survey respondents compared to non-Indigenous participants. Over the period 2005 to 2009, hepatitis C antibody prevalence ranged from 67% to 71% in the Aboriginal and Torres Strait Islander population and declined from 59% in 2004 to 50% in 2009 in the non-Indigenous population. HIV prevalence remained low, less than 1.5% in both the Aboriginal and Torres Strait Islander population and in the non-Indigenous population.

## Chronic hepatitis B infection

In 2007, 2.5% of the Australian population identified as Aboriginal and or Torres Strait Islander but accounted for an estimated 16% of the Australian population living with chronic hepatitis B infection. Estimated prevalence of chronic hepatitis B infection in the Aboriginal and Torres Strait Islander population ranged from 2% for urban Aboriginal and Torres Strait Islander populations to 8% in rural populations. Remote Aboriginal communities are likely to have even higher prevalence rates.

Hepatitis B vaccination, including universal infant vaccination, commenced in many Aboriginal and Torres Strait Islander Australian communities in the early 1990s. Evaluation of the impact of these programs has, however, been limited. "Catch-up" hepatitis B vaccination programs were introduced for Aboriginal and Torres Strait Islander children and adolescents in the late 1990s but coverage appears to be incomplete. Following notification of hepatitis B infection in several Aboriginal and Torres Strait Islander adolescents, a survey of vaccination status among adolescents in the community was undertaken. Only 44% were fully vaccinated, and more than 90% of the incompletely vaccinated adolescents had hepatitis B infection including 26% with chronic infection. Access to hepatitis B treatment and care services is limited, partly because of overall poor access to health care services in many Indigenous communities

## Australian Collaboration for Chlamydia Enhanced Sentinel Surveillance

The Australian Collaboration for Chlamydia Enhanced Sentinel Surveillance (ACCESS) is a national initiative aimed at collecting enhanced data on the extent of chlamydia testing and chlamydia positivity rates among a range of priority populations within a network of health services. These priority populations include young heterosexuals, men who have sex with men, Aboriginal and Torres Strait Islander people, pregnant women, and female sex workers.

ACCESS aims to help interpret trends determined by routine chlamydia surveillance mechanisms. The ACCESS system comprises a collaboration of six surveillance health service networks including Sexual Health Services (SHSs), Family Planning Clinics (FPCs), Antenatal clinics (ANCs), Aboriginal Community Controlled Health Services (ACCHSs), General Practitioners (GPs), and Diagnostic laboratories. The objectives of ACCESS are to provide enhanced data at clinical sites with a view to routinely monitoring the extent of testing and test positivity for Chlamydia in the Australian community.

ACCESS is a collaboration between the National Centre in HIV Epidemiology and Clinical Research (NCHECR), the Burnet Institute (BI), the National Serology Reference Laboratory (NRL), and the National Perinatal Statistics Unit (NPSU). BI has responsibility for establishing and managing three of the six networks; FPCs, ACCHSs, and GPs. NCHECR for SHSs, NPSU for ANCs and NRL for the laboratory network.

Aboriginal and Torres Strait Islander people are noted as a priority population for STI control. This year, preliminary data from participating Aboriginal Community Controlled Health Services network, the Sexual Health Services Network and General Practice networks are presented with regards to demographics, testing and positivity rates for chlamydia.

### Demographics:

A total of 1403, 514 and 8410 unique Aboriginal and Torres Strait Islander patients attended Sexual Health Services, General Practice Clinics and Aboriginal Community Controlled Health Services, respectively during 2008 and 2009. Of these the female to male ratio in the same clinics was 1.46:1, 1.72:1 and 1.53:1 respectively. The age structure of 16 – 29 year old Aboriginal and Torres Strait Islander patients attending these network clinics was similar in General Practice and ACCHS; 35%, 35% and 30% in the General Practice network and 33%, 36% and 31% in the ACCHS network, respectively. A different age profile was observed in the Sexual Health Service Network with 47%, 32% and 21% of patients in the age group 16 – 19, 20 – 24 and 25 – 29, respectively.

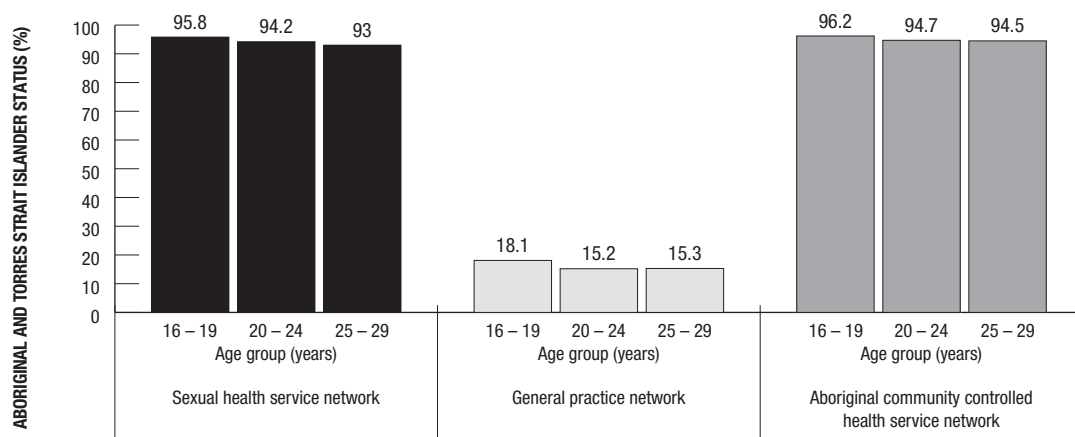
### Chlamydia testing rates

Of all Aboriginal and Torres Strait Islander patients attending Sexual Health Services, General Practice Clinics and Aboriginal Community Controlled Health Services engaged within the ACCESS Project, 79%, 5% and 18% were tested for chlamydia during 2008 and 2009.

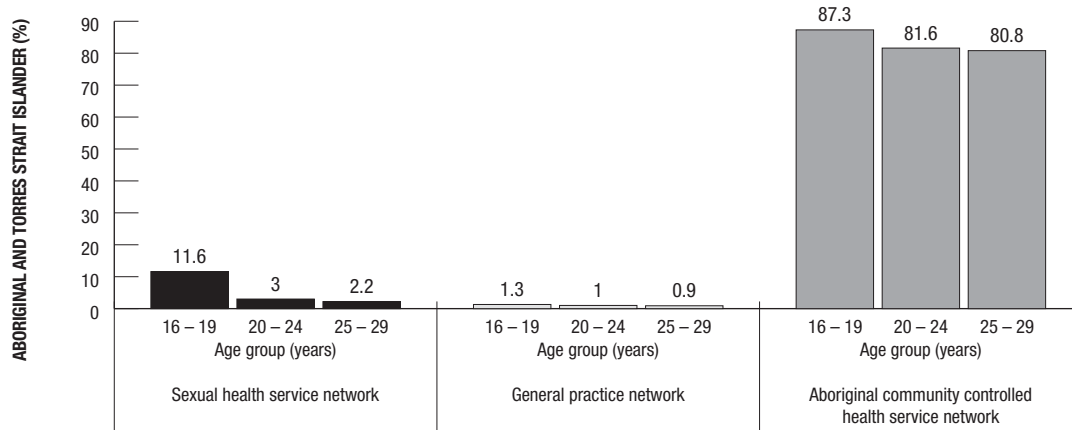
### Chlamydia Positivity rates:

Of all Aboriginal and Torres Strait Islander patients tested for chlamydia at Sexual Health Services, General Practice Clinics and Aboriginal Community Controlled Health Services engaged within the ACCESS Project, 18.9%, 16.7% and 12.4%, respectively, were diagnosed positive for chlamydia during 2008 and 2009.

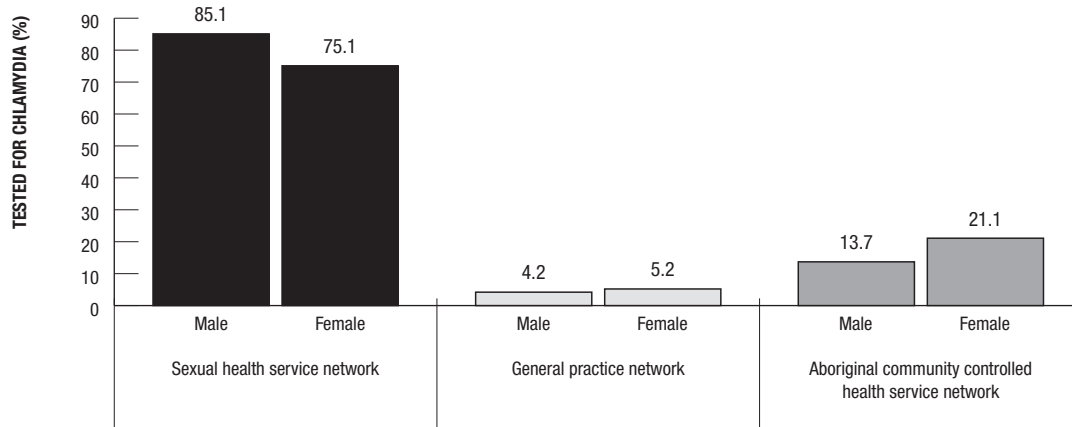
**Figure 41** Completeness of reporting of Aboriginal and Torres Strait Islander status, 2008 – 2009, by ACCESS network and age group



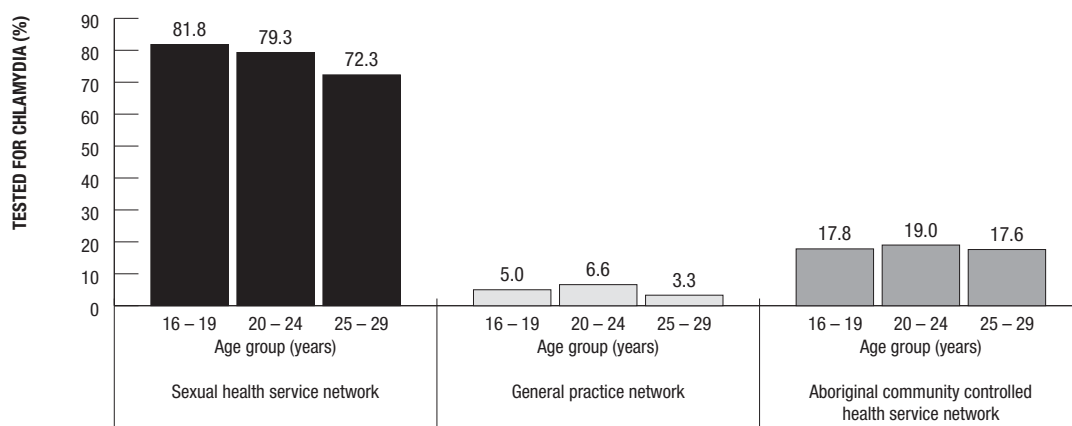
**Figure 42** Percentage of patients identifying as Aboriginal and Torres Strait Islander, 2008 – 2009, by ACCESS network and age group



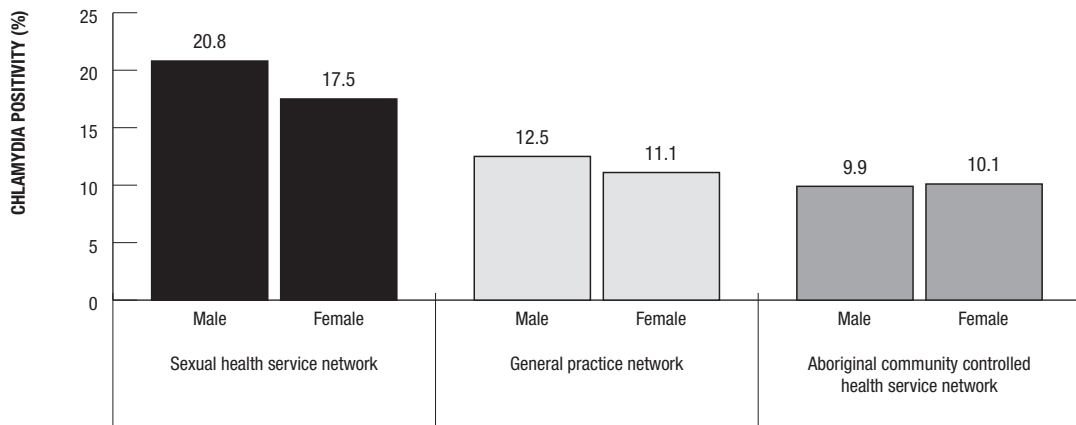
**Figure 43** Chlamydia testing rate in Aboriginal and Torres Strait Islander people aged 16 – 29 years, 2008 – 2009, by ACCESS network and sex



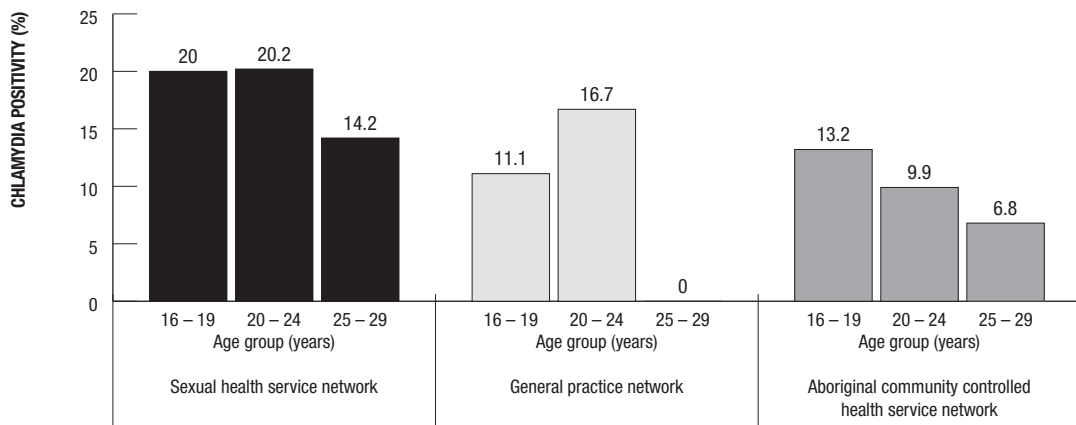
**Figure 44** Chlamydia testing rate in Aboriginal and Torres Strait Islander people, 2008 – 2009, by ACCESS network and age group



**Figure 45** Chlamydia positivity rate in Aboriginal and Torres Strait Islander people aged 16 – 29 years, 2008 – 2009, by ACCESS network and sex



**Figure 46** Chlamydia positivity rate in Aboriginal and Torres Strait Islander people, 2008 – 2009, by ACCESS network and age group







# Methodological notes

## National surveillance for sexually transmitted infections

Notification of specific sexually transmitted infections to the National Notifiable Diseases Surveillance System

Diagnoses of specific sexually transmitted infections were notified by State/Territory health authorities to the National Notifiable Disease Surveillance System, maintained by the Australian Government Department of Health and Ageing. 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 sexually transmitted infections 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 transmitted 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
Infectious syphilis	Doctor Laboratory Hospital	Doctor Laboratory Hospital	Doctor Laboratory	Doctor Laboratory Hospital	Doctor Laboratory	Doctor Laboratory Hospital	Doctor Laboratory	Doctor
Chlamydia	Doctor Laboratory Hospital	Laboratory	Doctor Laboratory	Doctor Laboratory Hospital	Doctor Laboratory	Laboratory	Doctor Laboratory	Doctor
Donovanosis	Not notifiable	Laboratory	Doctor Laboratory	Doctor Laboratory Hospital	Doctor Laboratory	Laboratory	Doctor Laboratory	Doctor Laboratory

## National surveillance for sexually transmitted infections among Aboriginal and Torres Strait Islander people

Information on Aboriginal and Torres Strait Islander status in diagnosed cases of chlamydia, gonorrhoea and infectious syphilis was sought through doctor notification in the Australian Capital Territory, the Northern Territory, Queensland, South Australia, Victoria and Western Australia. New South Wales and Tasmania were the only health authorities that sought information on Aboriginal and Torres Strait Islander status through laboratory notification.

Population rates of diagnosis of specific sexually transmitted infections were calculated by year and State/Territory of diagnosis using *Experimental estimates of Aboriginal and Torres Strait Islander Australians June 2006* (ABS 2008), available through the Australian Bureau of Statistics.

## Rate of diagnosis of sexually transmitted infections by area of residence

The rate of diagnosis of sexually transmitted infections in Australia in 2009 by area of residence and Aboriginal and Torres Strait Islander status was calculated using the 2006 census population distribution, based on the Australian Standard Geographical Classification (ASGC) (ABS 2003; ABS 2004). 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.

## National surveillance for newly diagnosed HIV infection

### National HIV Registry

Newly diagnosed HIV infection is a notifiable condition in each State/Territory 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, namecode (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 (Table 1.1.3). Late HIV diagnosis was defined as newly diagnosed HIV infection with a CD4+ cell count of less than 200 cells/ $\mu$ 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.

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

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 State/Territory 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 *Experimental estimates of Aboriginal and Torres Strait Islander Australians June 2006* (ABS 2008). The area of residence by Aboriginal and Torres Strait Islander status was calculated using the 2006 census population distribution, based on the Australian Standard Geographical Classification. The rate of HIV diagnosis in the non-Indigenous population was calculated using cases other than those whose exposure to HIV occurred in a high HIV prevalence country and the Australian population other than populations from high HIV prevalence countries in sub-Saharan Africa and South East Asia.

## Global comparisons

The data in Figure 28 were obtained from the following sources:

- Centers for Disease Control and Prevention. *HIV Surveillance Report 2008; 20*. Centers for Disease Control and Prevention, Atlanta, Georgia. 2010
- Health Protection Agency. *HIV in the United Kingdom: 2009*: London: Health Protection Agency, Centre for Infections. November 2009
- Joint United Nations Programme on HIV/AIDS (UNAIDS). *2008 Report on the global HIV/AIDS epidemic*. UNAIDS, 2008. <http://www.unaids.org>
- Joint United Nations Programme on HIV/AIDS (UNAIDS). *2.5 Million People living with HIV in India: press release*. UNAIDS, 2007. <http://www.unaids.org/in>
- National Center for HIV/AIDS Dermatology and STDs (NCHADS). *Consensus Workshop on HIV Estimation for Cambodia*. NCHADS, 2007. <http://www.nchads.org/>
- Public Health Agency of Canada. *Summary: Estimates of HIV prevalence and incidence in Canada, 2008*. Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada 2009

## National surveillance for viral hepatitis

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

New diagnoses of hepatitis B, newly acquired hepatitis B and prevalent cases of hepatitis C infection were notifiable conditions in all State/Territory 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 State/Territory using yearly population estimates, provided by the Australian Bureau of Statistics.

Hepatitis B infection and hepatitis C infection was classified as newly acquired if evidence was available of acquisition in the 24 months prior to diagnosis (Communicable Diseases Network Australia 2004). Diagnoses of newly acquired hepatitis B infection was notifiable in all health jurisdictions. Diagnoses of newly acquired hepatitis C infection were recorded in all health jurisdictions other than Queensland.

### National surveillance for viral hepatitis among Aboriginal and Torres Strait Islander people

Information was sought on Aboriginal and Torres Strait Islander status for diagnoses of prevalent and newly acquired hepatitis B, and prevalent and newly acquired hepatitis C 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 2005 – 2009) using *Experimental estimates of Aboriginal and Torres Strait Islander Australians June 2006* (ABS 2008).

### HIV and hepatitis C seroprevalence among people who inject drugs

All clients attending needle and syringe program (NSP) sites during one week in 2005 (52 sites), 2006 (45 sites), 2007 (53 sites), 2008 (52 sites) and 2009 (51 sites) were asked to complete a brief, self-administered questionnaire and to provide a finger prick blood spot sample for HIV and hepatitis C 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).

## Chlamydia prevalence among people seen through the Australian Collaboration of Chlamydia Enhanced Sentinel Surveillance (ACCESS)

The Australian Collaboration of Chlamydia Enhanced Sentinel Surveillance system is a surveillance system for monitoring the uptake and outcome of chlamydia testing in Australia, and is funded through the Australian Government Department of Health and Ageing Chlamydia Pilot Testing Program. The objectives of ACCESS are to provide enhanced data management systems at clinical sites with a view to routinely monitoring the extent of testing and test positivity rates in a range of chlamydia priority populations. The priority populations include young heterosexual men and women, men who have sex with men, Aboriginal and Torres Strait Islander people, pregnant women and women with a history of sex work.

ACCESS is a collaboration involving the Burnet Institute's Centre for Epidemiology and Population Health Research (CEPHR), the National Serology Reference Laboratory, Australia, the National Perinatal Statistics Unit and the National Centre in HIV Epidemiology and Clinical Research (NCHECR). ACCESS includes 6 networks, with each network providing unique information on test uptake and the chlamydia positivity rate. The 6 networks are (1) sexual health services (2) family planning clinics (3) antenatal clinics (4) Aboriginal Health Service clinics (5) general practitioner clinics and (6) diagnostic laboratories. CEPHR has responsibility for managing the network of family planning clinics, Aboriginal Health Service clinics and general practice clinics. NCHECR has responsibility for managing the network of sexual health services, antenatal clinics through the National Perinatal Statistics Unit, and diagnostic laboratories through the National Serology Reference Laboratory, Australia.

For clinical networks other than antenatal clinics, analyses were based on routine testing for chlamydia with no additional testing carried out due to participation in ACCESS. Routine chlamydia testing data were extracted directly from patient information management systems at each site and collated at a central location. At sexual health services, people seen for the first time ever at the clinic, defined as new patients, were included in analyses. In other networks, people seen for the first time in a reporting period, defined as unique patients, were included in analyses. Chlamydia testing rates were calculated by dividing the number of chlamydia tests by the number of new or unique patients seen, multiplied by 100. Chlamydia positivity rates were calculated by dividing the number of positive results by the number of new or unique patients tested, multiplied by 100.

Further information on ACCESS methodology and results are available at [www.access.study.org](http://www.access.study.org)



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