

BLOODBORNE VIRAL AND SEXUALLY  
TRANSMITTED INFECTIONS IN ABORIGINAL  
AND TORRES STRAIT ISLANDER PEOPLE:  
**SURVEILLANCE REPORT**

20  
08

HEPATITIS B AND HEPATITIS C  
LOW RATES OF NEWLY ACQUIRED  
INCLUSIONS  
TRANSMISSIBLE INFECTIONS  
INCREASING TRENDS IN SEXUALLY

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transmissible infections**

**This report was overseen by the Ministerial Advisory Committee on AIDS, Sexual Health and Hepatitis and the  
National Aboriginal Community Controlled Health Organisation (NACCHO) Sexual Health and Blood Borne  
Virus Advisory Group.**

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## Preface

The first surveillance report on the occurrence of bloodborne viral and sexually transmitted infections among Aboriginal and Torres Strait Islander people in Australia was published by the National Centre in HIV Epidemiology and Clinical Research in 2007. The report was produced to stimulate and support discussion on ways forward in addressing the unacceptably high rates of bacterial sexually transmitted infections within Aboriginal and Torres Strait Islander communities, minimising the risk of HIV and other bloodborne virus transmission and the personal and social consequences of these infections.

Due to the demand in 2007, *Bloodborne viral and sexually transmitted infections in Aboriginal and Torres Strait Islander People: Surveillance Report* will be published annually as an accompanying document for the report *HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report*. The *Surveillance Report 2008* was overseen by the Ministerial Advisory Committee on AIDS, Sexual Health and Hepatitis, and the National Aboriginal Community Controlled Health Organisation (NACCHO) Sexual Health and Blood Borne Virus Advisory Group.

Information on the occurrence of bloodborne viral and sexually transmitted infections in Aboriginal and Torres Strait Islander people is presented in *Bloodborne viral and sexually transmitted infections in Aboriginal and Torres Strait Islander People: Surveillance Report 2008* in a format designed to be accessible for Aboriginal and Torres Strait Islander health services and communities. The *Surveillance Report 2008* is intended to be a reference document for organisations and individuals with an interest in the health of Aboriginal and Torres Strait Islander people and is available in hard copy and at Internet address <http://www.nchecr.unsw.edu.au>

Unless specifically stated otherwise, all data provided in the *Surveillance Report 2008* are to the end of 2007, as reported by 31 March 2008. Data in the *Surveillance Report 2008* are provisional and subject to future revision.

The *Surveillance Report 2008* 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, 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, ACT
- National Association of People Living with HIV/AIDS, Sydney, NSW

## State/Territory health departments

- Communicable Disease Control Program, ACT Department of Health and Community Care, Canberra, ACT
- Area Health Services, NSW Health Department, North Sydney, NSW
- Sexual Health and BBV Program, Centre for Disease Control, Department of Health and Community Services, 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

## Collaboration of Australian Needle and Syringe Programs

- Directions ACT, ACT
- AIDS Council of NSW (Sydney and Hunter); Albury Community Health Centre, Albury; First Step Program, Port Kembla and Nowra; Health ConneXions, Harm Reduction Program, Liverpool; Hunter Harm Reduction Services, Newcastle; Indo-Chinese Outreach Network (ICON) Bankstown, Cabramatta and Liverpool; Kirketon Road Centre and K2, Kings Cross; NSW Users and AIDS Association (NUAA), Surry Hills; Northern Rivers Area Health Service, Ballina, Byron Bay, Lismore, Murwillumbah, Nimbin, and Tweed Heads; Resource and Education Program for IDUs, Redfern and Canterbury; Responsive User Services in Health (RUSH), Manly, Ryde and St Leonards; St George NSP, Kogarah; South Court Primary Care NSP, Nepean; Sydney West Area Health Service HIV/Hepatitis C Prevention Service, Auburn, Blacktown, Merrylands, Mt Druitt and Parramatta, NSW
- Northern Territory AIDS and Hepatitis C Council, Alice Springs, Darwin and Palmerston, NT
- Biala Community Alcohol and Drug Services, Brisbane; Cairns Base Hospital NSP, Cairns; Cairns Youthlink, Cairns; Queensland Injectors Health Network (QuiHN), Brisbane, Gold Coast and Sunshine Coast; Kobi House, Toowoomba; West Moreton Sexual Health Service, Ipswich, 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; Melbourne Inner Needle Exchange, 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

## **Annual Surveillance Report 2008 Advisory Committee**

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- John Daye, National Association of People Living with HIV/AIDS, Sydney, NSW
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- Professor John Kaldor (Chair), Professor Basil Donovan, Professor Andrew Grulich, Associate Professor Lisa Maher, Ann McDonald, Melanie Middleton, Dr Handan Wand, James Ward, National Centre in HIV Epidemiology and Clinical Research



# 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 from one person to the next, 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 life-threatening pelvic inflammatory disease as well as 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, and is caused by a virus known as HCV. 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, and is caused by a virus known as HIV. 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*.

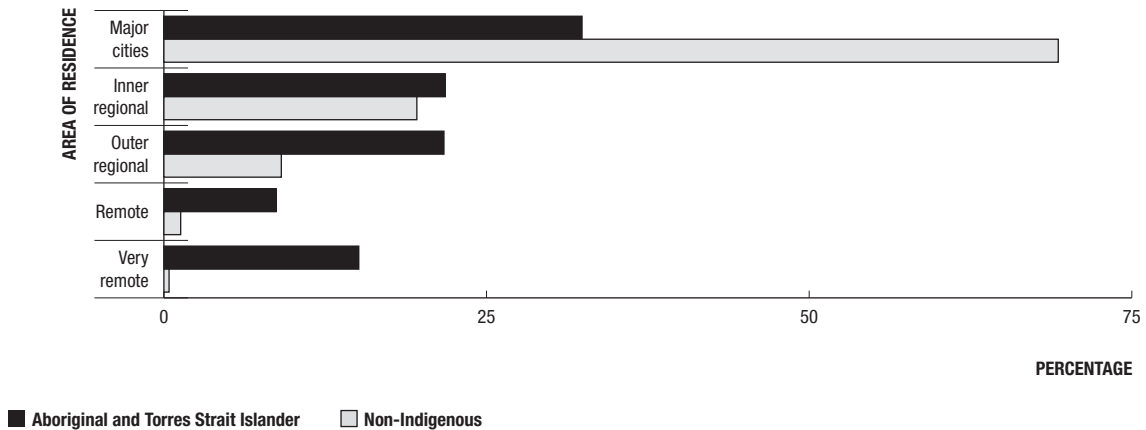
**Age specific rate:** The proportion of people in a particular age group who have the infection, usually expressed per 100 000 people in the specified age group.

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

**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 rate.

**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, 32.4% of the Aboriginal and Torres Strait Islander population 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).

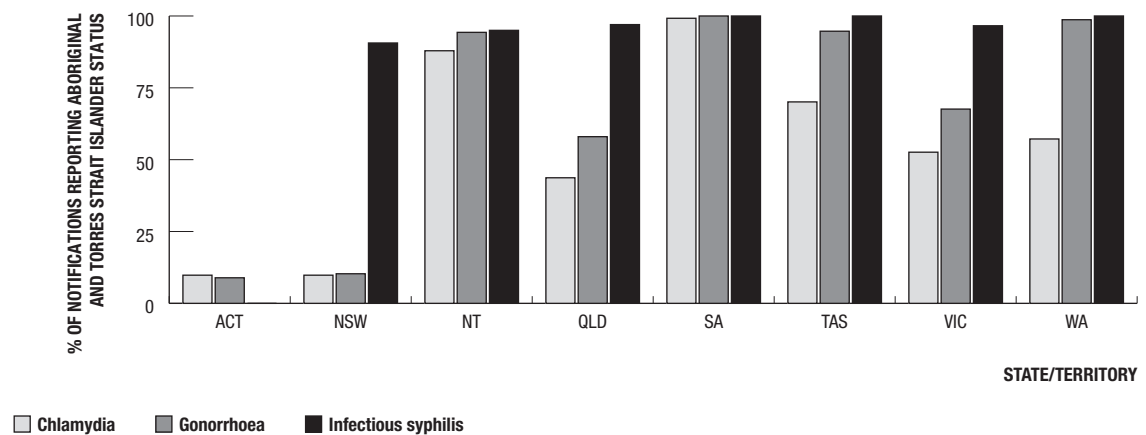
**Figure 1 Area of residence, 2006, by Aboriginal and Torres Strait Islander status**



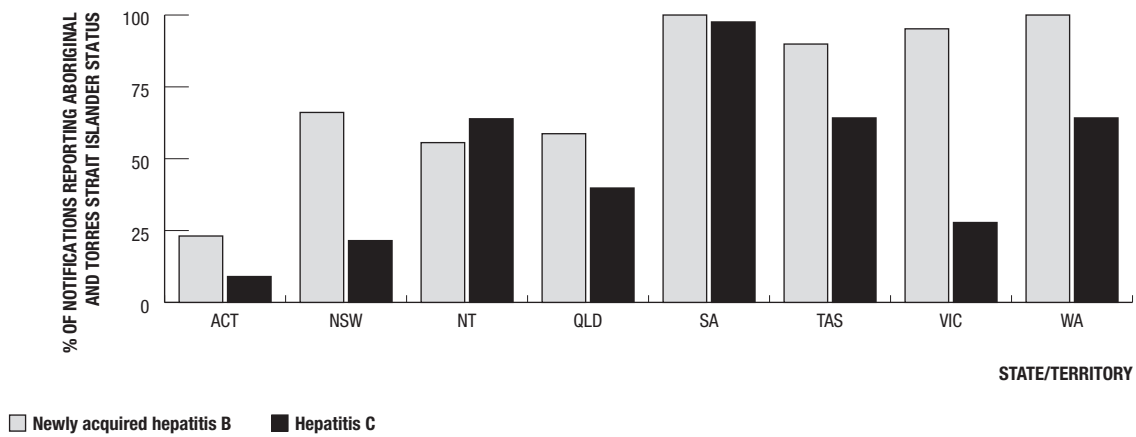
Source: Australian Bureau of Statistics

**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 Report 2008* if information on Aboriginal and Torres Strait Islander status was available in the 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 Report* if Aboriginal and Torres Strait Islander status was reported for less than 50% of diagnoses in a State/Territory health jurisdiction in each of the past five years.

**Figure 2 Reporting of Aboriginal and Torres Strait Islander identity by at diagnosis of selected sexually transmitted infections, by State/Territory, 2007**



**Figure 3 Reporting of Aboriginal and Torres Strait Islander identity at diagnosis of viral hepatitis, by State/Territory, 2007**







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

In Australia, higher rates of diagnosis of bloodborne viruses and sexually transmitted infections 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

- Information on the occurrence of bloodborne viruses and sexually transmitted infections is included in the *Surveillance Report 2008* if Aboriginal and Torres Strait Islander status was reported for at least 50% of diagnoses in a State or Territory health jurisdiction in each of the past five years.
- Population rates of diagnosis included in the *Surveillance Report 2008* were calculated using Aboriginal and Torres Strait Islander population size and distribution reported in the Australian Bureau of Statistics 2006 Census of Population and Housing. While it would have been ideal to use the estimated resident population, this was not possible due to the timing of the release of the estimates. Use of the census counts of the Aboriginal and Torres Strait Islander population is expected to result in rates 15% higher than the actual rates.

**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

## Bacterial sexually transmitted infections

- The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population resident in the Northern Territory, South Australia, Tasmania, Victoria and Western Australia increased from 1 001 in 2003 to 1 241 in 2007 (24% increase). In the non-Indigenous population, the rate of chlamydia diagnosis increased from 141 in 2003 to 264 in 2007 (87% increase).
- The annual number of diagnoses of donovanosis in the Aboriginal and Torres Strait Islander population dropped from 16 in 2003 to 3 in 2007.
- The rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population in the Northern Territory, Queensland, South Australia, Victoria and Western Australia declined from 1 114 per 100 000 population in 2006 to 1 007 in 2007 (a 10% decline) and from 25 in 2006 to 22 in 2007 (a 12% decline) in the non-Indigenous population.
- The rate of diagnosis of infectious syphilis increased from 33 in 2004 to 40 per 100 000 Aboriginal and Torres Strait Islander population in 2007. The rate of diagnosis in the non-Indigenous population doubled from 3 in 2006 to 6 per 100 000 in 2007.
- Infectious syphilis was transmitted in the Aboriginal and Torres Strait Islander population through heterosexual contact whereas in the non-Indigenous population, transmission occurred predominantly through male homosexual contact.

- In both the Aboriginal and Torres Strait Islander population and the non-Indigenous population, the majority of diagnoses of chlamydia (96% and 96%), gonorrhoea (95% and 95%) and infectious syphilis (97% and 64%) at age 15 years or younger occurred among people aged from 12 to 15 years. It is likely that sexually transmitted infections diagnosed among people aged from 12 to 15 years occur as a result of early sexual debut and sexual activity among similar aged peers rather than as a result of child sexual assault.

**Table 2** Number and rate<sup>1</sup> of diagnosis of bloodborne viruses and specific sexually transmitted infections in Australia<sup>2</sup>, 2007, by Aboriginal and Torres Strait Islander status

Bloodborne virus/ sexually transmitted infection	Aboriginal and Torres Strait Islander		Non-Indigenous		Jurisdictions 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	2 825	1 241	22 827	264	ACT, NSW, QLD
Gonorrhoea	3 497	1 007	2 645	22	ACT, NSW, TAS
Infectious syphilis	192	40	1 178	6	ACT
HIV infection	18	4.3	1 033	5.2	
Newly acquired hepatitis B	15	3	205	1	ACT
Hepatitis C infection	198	147	1 550	55	ACT, NSW, QLD, VIC

1 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 *Australian Demographic Statistics* (Australian Bureau of Statistics).

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

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

## HIV infection

- Over the past 10 years, the rate of newly diagnosed HIV infection in the Aboriginal and Torres Strait Islander population was similar to that in the non-Indigenous population.
- Among cases of HIV infection newly diagnosed in the five years from 2003 to 2007, exposure to HIV was attributed to a history of male homosexual contact, including those with a history of injecting drug use, in 50% and 80% of the Aboriginal and Torres Strait Islander cases and the non-Indigenous cases, respectively.
- A history of injecting drug use was reported in 18% and 3% of Aboriginal and Torres Strait Islander and non-Indigenous Australian born cases of HIV infection, respectively. HIV infection was attributed to heterosexual contact in 28% of Aboriginal and Torres Strait Islander cases and in 12% of non-Indigenous Australian born cases. Twenty five percent of Aboriginal and Torres Strait Islander cases were in women compared with 6% among non-Indigenous Australian born cases.
- In the five years from 2003 to 2007, HIV prevalence remained low at around 1% in both the Aboriginal and Torres Strait Islander population and in the non-Indigenous population seen at needle and syringe programs.

## Viral hepatitis

- The population rate of diagnosis of newly acquired hepatitis B infection was 3 per 100 000 Aboriginal and Torres Strait Islander population and 1 per 100 000 non-Indigenous population in 2007.
- The rate of diagnosis of hepatitis C antibody in the Aboriginal and Torres Strait Islander population in the Northern Territory, South Australia and Western Australia increased from 131 in 2003 to 147 in 2007 whereas the rate remained stable in the non-Indigenous population at around 52 per 100 000 population.
- Hepatitis C antibody prevalence increased in the Aboriginal and Torres Strait Islander population seen at needle and syringe programs, from 63% in 2003 to 69% in 2007, and from 58% in 2003 to 61% in 2007 in the non-Indigenous population.

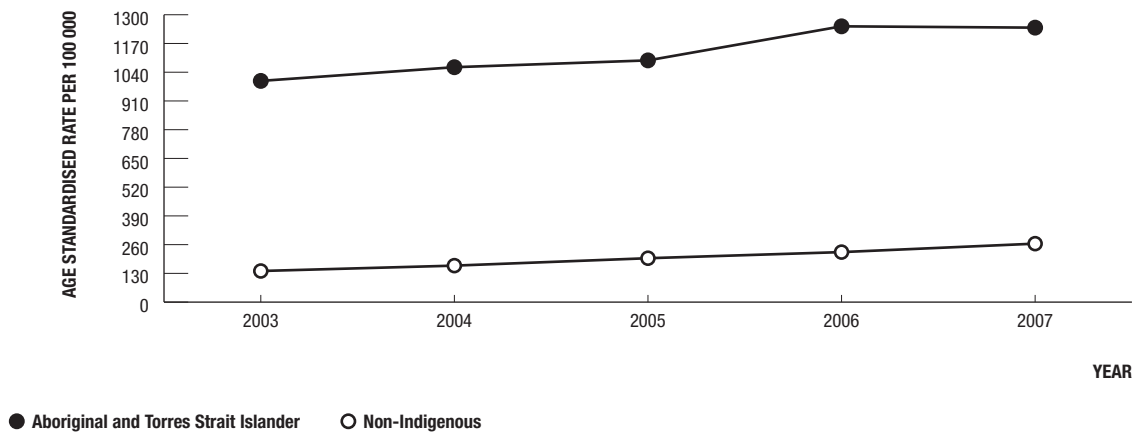
# Main findings

## CHLAMYDIA

- Chlamydia continued to be the most frequently reported notifiable condition in Australia in 2007. A total of 51 867 diagnoses were reported, giving a rate of 245 per 100 000 population.
- The rate of diagnosis of chlamydia in Australia increased by 44% in 1998 – 2002 and by 61% in 2003 – 2007.
- Information on Aboriginal and Torres Strait Islander status was reported for at least 50% of diagnoses of chlamydia in each of the past five years in the Northern Territory, South Australia, Tasmania, Victoria and Western Australia.
- The rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population resident in the Northern Territory, South Australia, Tasmania, Victoria and Western Australia increased from 1 001 in 2003 to 1 241 in 2007 (24% increase) whereas in the non-Indigenous population, the rate increased from 141 in 2003 to 264 in 2007 (87% increase).
- In 2007, 83% and 80% of the annual number of diagnoses of chlamydia in the Aboriginal and Torres Strait Islander and the non-Indigenous population, respectively, were in the age group 13 to 29 years.
- Higher rates of diagnoses occurred among women in the 13 – 19 year and 20 – 29 year age groups and may partly reflect higher rates of testing in both the Aboriginal and Torres Strait Islander and the non-Indigenous populations.
- In 2007, the number of diagnoses of chlamydia among Aboriginal and Torres Strait Islander males and females resident in the Northern Territory, South Australia, Tasmania, Victoria and Western Australia was 1 059 and 1 766, respectively.
- 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 2007 was three times that among non-Indigenous people. Among Aboriginal and Torres Strait Islander people resident in outer regional, 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.

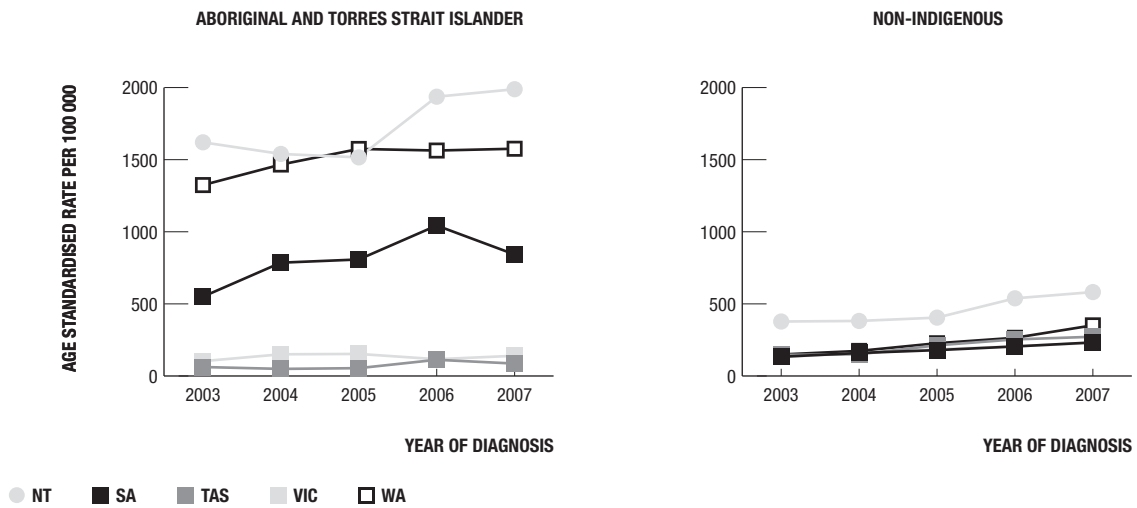
In the Northern Territory, South Australia, Tasmania, Victoria and Western Australia, the five State and Territory health jurisdictions with information on Aboriginal and Torres Strait Islander status for at least 50% of diagnoses in each of the past five years, the rate of diagnosis of chlamydia increased from 1 001 in 2003 to 1 241 per 100 000 Aboriginal and Torres Strait Islander population in 2007. The population rate of diagnosis of chlamydia also increased in the non-Indigenous population, from 141 in 2003 to 264 per 100 000 non-Indigenous population in 2007 (Figure 4).

**Figure 4 Chlamydia by Aboriginal and Torres Strait Islander status<sup>1</sup> and year**



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

**Figure 5 Chlamydia by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**

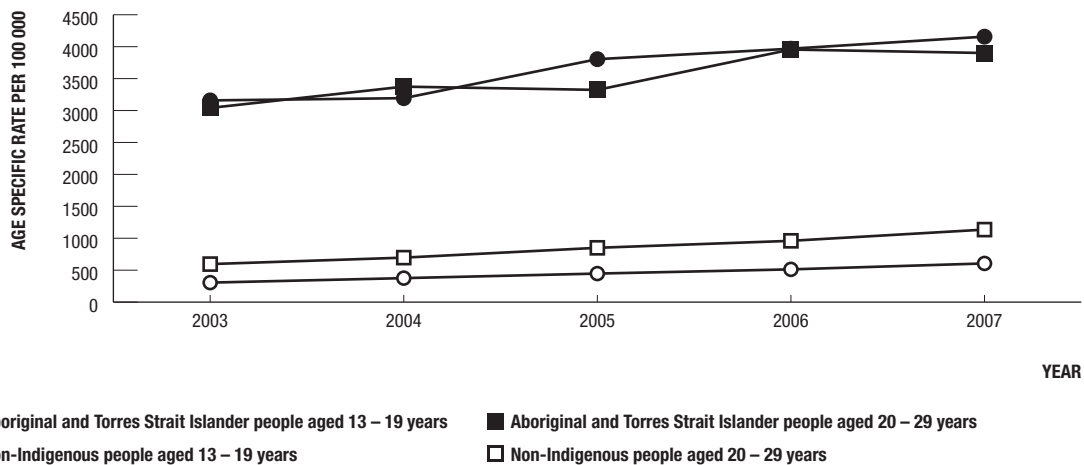


<sup>1</sup> Jurisdictions (NT, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In the years from 2003 to 2007, the rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population increased by 19% in Western Australia, 23% in the Northern Territory, 36% in Victoria, 39% in Tasmania and by 53% in South Australia (Figure 5). Substantially higher percentage increases in the rate of chlamydia diagnosis were recorded in the non-Indigenous population. The rate in the non-Indigenous population increased by 54% in the Northern Territory, 75% in South Australia and Victoria, 86% in Tasmania and more than doubled in Western Australia.

Overwhelmingly, chlamydia affects young sexually active people (Figure 6). In 2007, 83% of chlamydia diagnosed in the Aboriginal and Torres Strait Islander population occurred in the 13 – 29 year age group and 80% occurred in the same age group in the non-Indigenous population. Very few cases of chlamydia were diagnosed among children aged 12 years or younger.

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

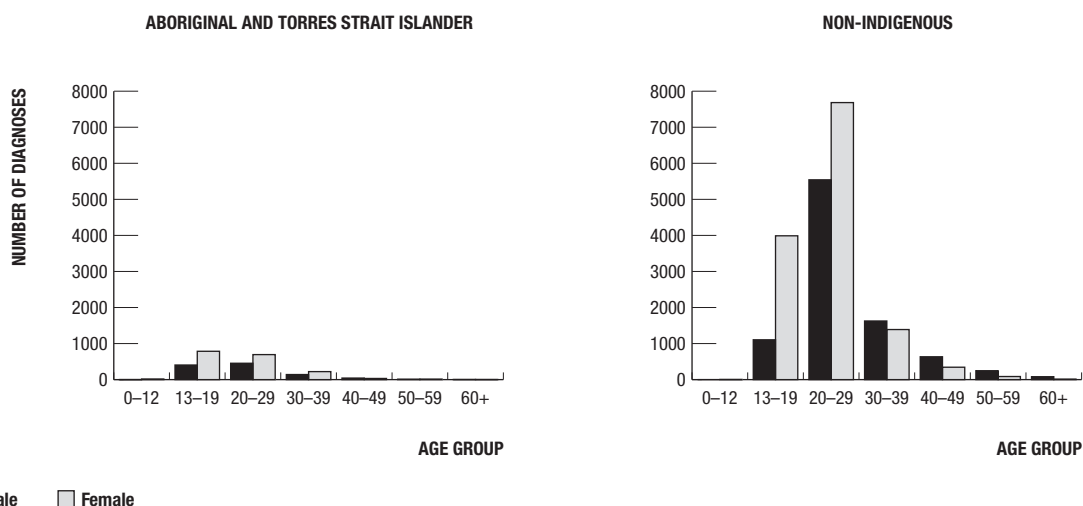


<sup>1</sup> Jurisdictions (NT, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

From 2003 to 2007, the rate of chlamydia diagnosis in the Aboriginal and Torres Strait Islander population in the 13 – 19 and 20 – 29 year age groups increased by 32% and 28%, respectively, whereas in the non-Indigenous population the rate almost doubled in both age groups (Figure 6). However, the rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population in the 13 – 19 and the 20 – 29 year age groups in 2007 was almost 7 times and more than 3 times higher, respectively, than that in the non-Indigenous population.

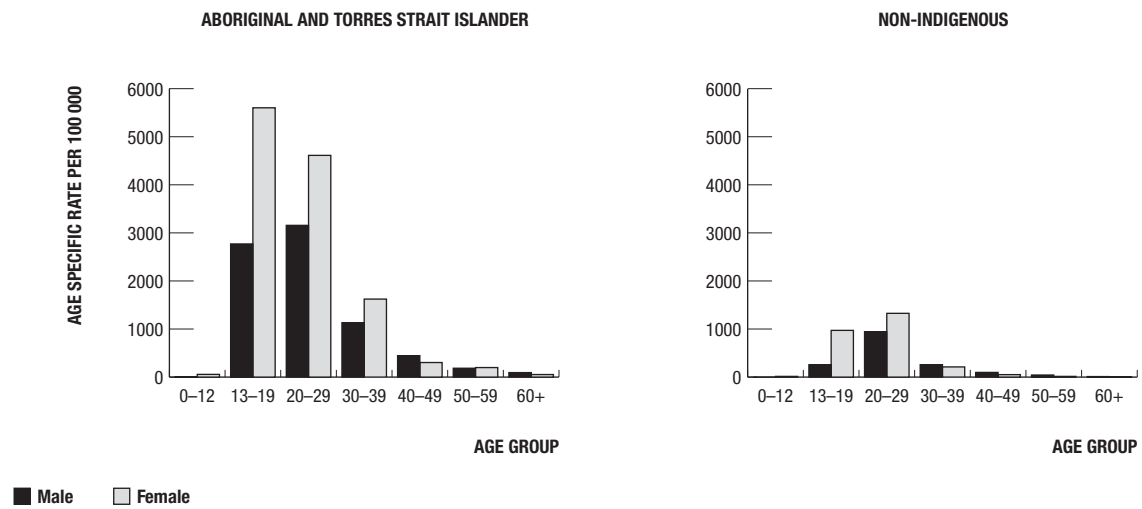
The number of diagnoses of chlamydia in 2007 peaked in the 20 – 29 year age group in both the Aboriginal and Torres Strait Islander population and in the non-Indigenous population (Figure 7). In the Aboriginal and Torres Strait Islander population, the female to male ratio of chlamydia diagnoses in the age groups 13 – 19 years, 20 – 29 years and 30 – 39 years was 1.9, 1.4 and 1.6, respectively. In the non-Indigenous population the ratio was 3.6, 1.4 and 0.9 in the age groups 13 – 19, 20 – 29 and 30 – 39 years, respectively, suggesting increasing transmission of chlamydia through male homosexual contact with increasing age in the non-Indigenous population.

**Figure 7 Number of diagnoses of chlamydia in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group**



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

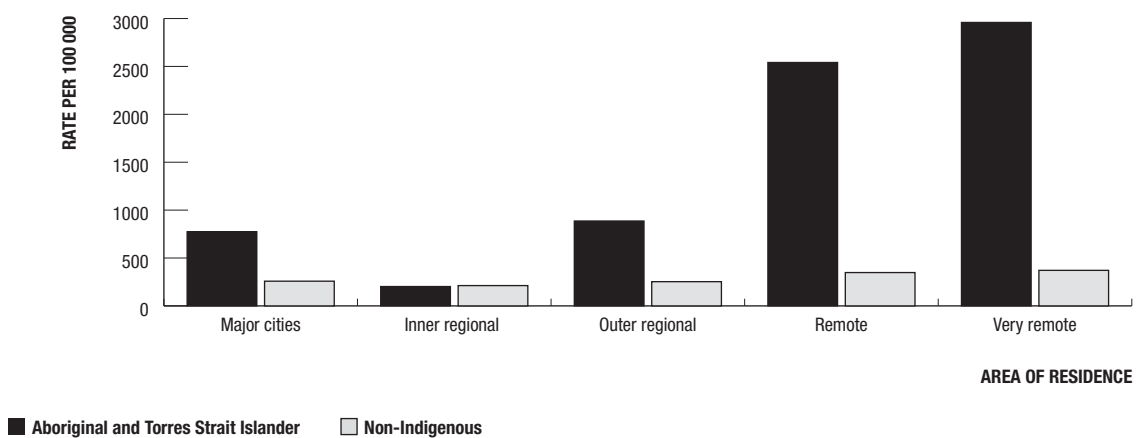
**Figure 8 Rate of diagnosis of chlamydia in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group**



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

The rate of chlamydia diagnosis in the Aboriginal and Torres Strait Islander population in 2007 was highest among women in the 13 – 19 year age group (5 602 per 100 000), more than double the diagnosis rate among men (2 770 per 100 000 population) in the same age group. In the non-Indigenous population, the population rate of diagnosis peaked in the 20 – 29 year age group in both men (942) and women (1 326) (Figure 8).

**Figure 9 Chlamydia by Aboriginal and Torres Strait Islander status<sup>1</sup> and area of residence, 2007**



<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

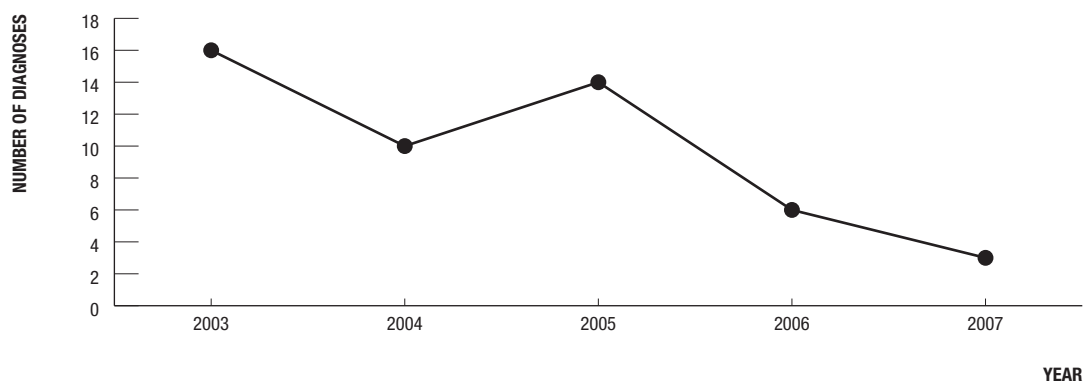
In 2007, the rate of diagnosis of chlamydia in the Aboriginal and Torres Strait Islander population was 774 per 100 000 population resident in major cities. The rate of chlamydia diagnosis in remote and very remote areas of the Northern Territory, South Australia, Tasmania, Victoria and Western Australia was at least three times higher than the rate in the major cities. In the non-Indigenous population, the rate was 258 in major cities and was 348 (35% higher than the rate in major cities) and 371 (44% higher than the rate in major cities) in remote and very remote areas, respectively (Figure 9).

## DONOVANOSIS

- 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 annual number of diagnoses of donovanosis in the Aboriginal and Torres Strait Islander population dropped from 16 in 2003 to 3 in 2007.

The decline in annual number of diagnoses of donovanosis, from 16 in 2003 to 3 in 2007 may be attributed to improved case ascertainment and treatment (Figures 10 and 11). There were no diagnoses of donovanosis in New South Wales, South Australia, Tasmania and Victoria in the past five years.

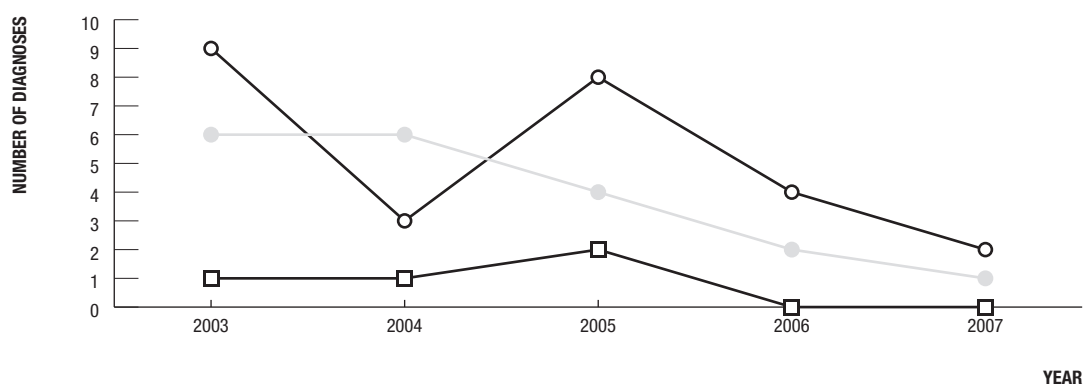
**Figure 10 Donovanosis<sup>1</sup> by year**



● Aboriginal and Torres Strait Islander

<sup>1</sup> Jurisdictions (NT, QLD, WA) reporting diagnoses of donovanosis in 2003 – 2007

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



● NT ○ QLD □ WA

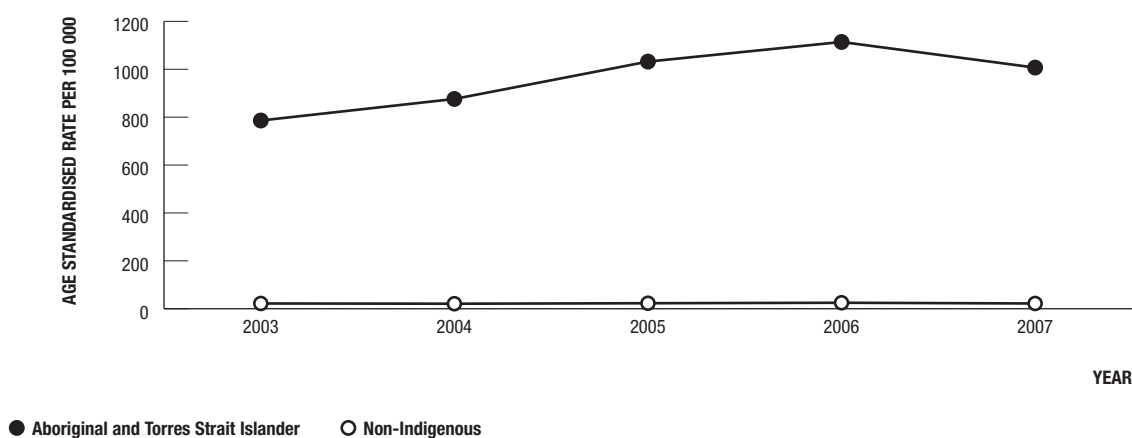
<sup>1</sup> Jurisdictions (NT, QLD & WA) reporting diagnoses of donovanosis in 2003 – 2007

## GONORRHOEA

- The population rate of diagnosis of gonorrhoea declined in Australia in 2007, following a steady increase over the previous four years. The number and population rate of diagnosis of gonorrhoea declined from 8 570 (41.3 per 100 000 population) in 2006 to 7 604 (36.1 per 100 000 population) (a 11.3% decline in the population rate) in 2007.
- Information on Aboriginal and Torres Strait Islander status was reported for at least 50% of diagnoses of gonorrhoea in each of the past five years in the Northern Territory, Queensland, South Australia, Victoria and Western Australia.
- The rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population in the Northern Territory, Queensland, South Australia, Victoria and Western Australia declined from 1 114 per 100 000 population in 2006 to 1 007 in 2007 (a 10% decline), and from 25 in 2006 to 22 in 2007 (a 12% decline) in the non-Indigenous population.
- The rate of diagnosis of gonorrhoea declined between 2006 and 2007 in the Northern Territory, Queensland, South Australia and Victoria. In Western Australia, the rate steadily increased from 1 491 in 2003 to 1 910 in 2007.
- The number of diagnoses of gonorrhoea in 2007 among Aboriginal and Torres Strait Islander males and females resident in the Northern Territory, Queensland, South Australia, Victoria and Western Australia was 1 684 and 1 813, respectively.
- In 2007, a substantially higher percentage of cases in the Aboriginal and Torres Strait Islander population was aged less than 30 years at gonorrhoea diagnosis (78%) compared to the non-Indigenous population (54%).
- The female to male sex ratio of cases of gonorrhoea diagnosed in 2007 suggests transmission predominantly through heterosexual contact in the Aboriginal and Torres Strait Islander population (1.1) and predominantly through male homosexual contact (0.3) in the non-Indigenous population.
- In all areas of residence, gonorrhoea was diagnosed in the Aboriginal and Torres Strait Islander population at substantially higher rates than in the non-Indigenous population, especially in remote and very remote areas of Australia.

The rate of diagnosis of gonorrhoea increased from 786 in 2003 to 1 114 in 2006 and then declined in 2007 to 1 007 per 100 000 Aboriginal and Torres Strait Islander population in the Northern Territory, Queensland, South Australia, Victoria and Western Australia. In the non-Indigenous population the rate of diagnosis of gonorrhoea was stable at around 22 over the past five years (Figure 12). The rate of gonorrhoea diagnosis in the Aboriginal and Torres Strait Islander population was 36 times that in the non-Indigenous population in 2003 and 46 times the non-Indigenous rate in 2007.

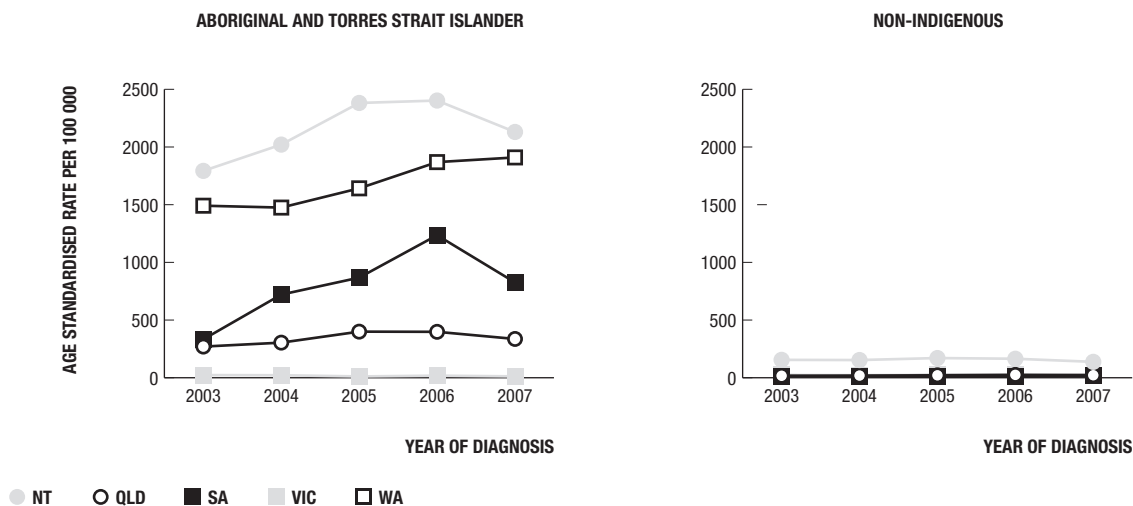
**Figure 12** Gonorrhoea by Aboriginal and Torres Strait Islander status<sup>1</sup> and year



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



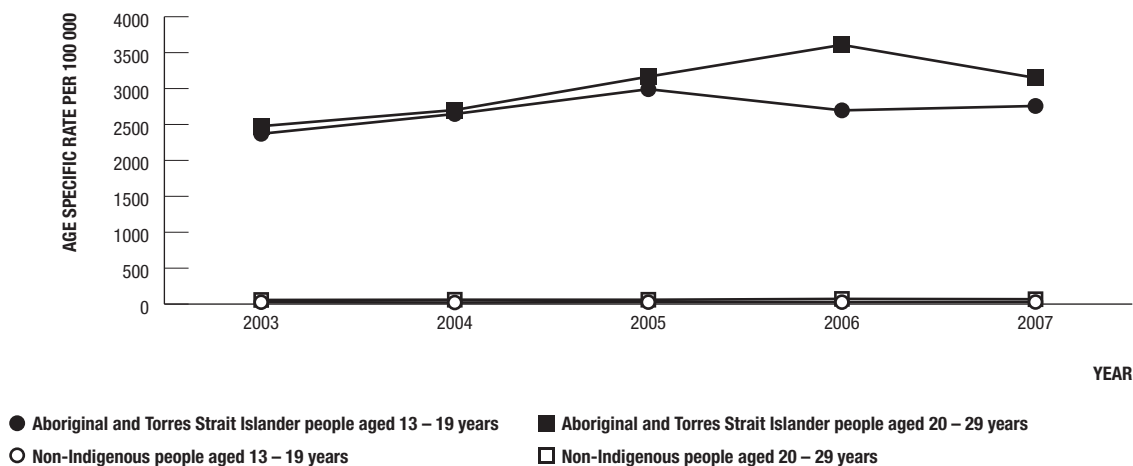
**Figure 13 Gonorrhoea by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**



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

In the Northern Territory, Queensland, South Australia and Victoria, the rate of gonorrhoea diagnosis in the Aboriginal and Torres Strait Islander population declined in 2007 whereas in Western Australia the rate increased steadily from 1 491 in 2003 to 1 910 in 2007 (Figure 13). In South Australia, the rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population peaked in 2006 at 1 235 and then dropped by 33% to 826 in 2007. The drop in diagnoses of gonorrhoea in South Australia was partly due to early detection and treatment programs implemented in South Australia.

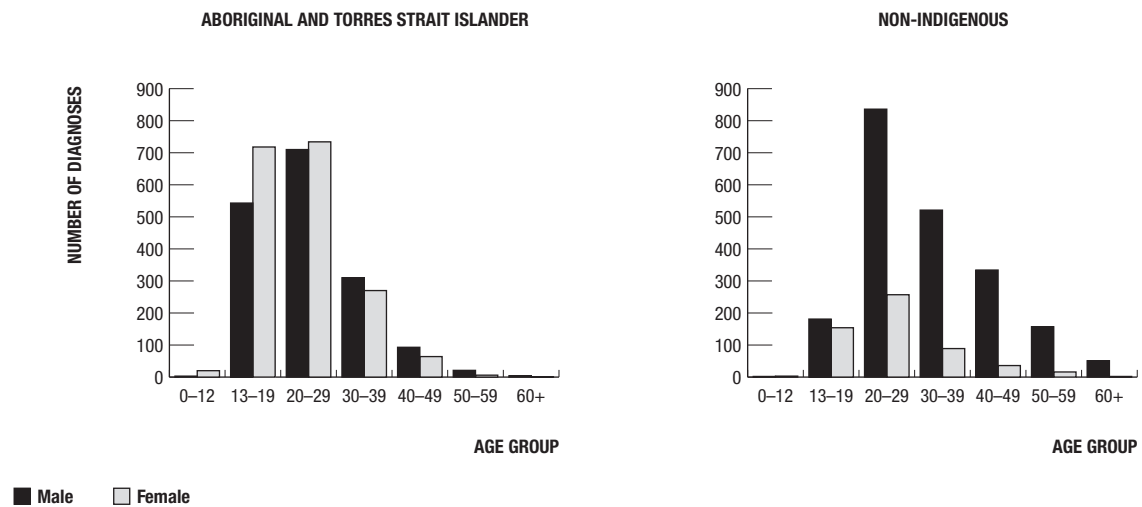
**Figure 14 Gonorrhoea in selected age groups by Aboriginal and Torres Strait Islander status<sup>1</sup> and year**



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

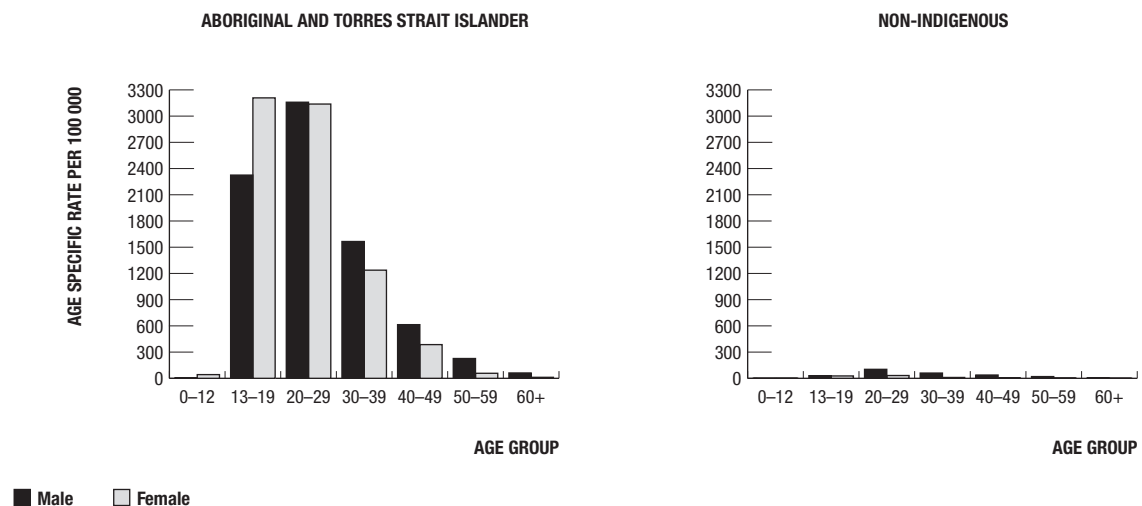
The rate of diagnosis of gonorrhoea in the Aboriginal and Torres Strait Islander population aged 13 – 19 years increased by 26% from 2 370 in 2003 to 2 992 in 2005 and then declined by 8% to 2 756 in 2007, whereas in the same age group in the non-Indigenous population the rate was relatively stable at around 27 from 2003 to 2007 (Figure 14). In the Aboriginal and Torres Strait Islander population aged 20 – 29 years, the rate of diagnosis of gonorrhoea increased by 46% from 2 477 in 2003 to 3 608 in 2006 and then declined by 13% to 3 148 in 2007. The rate of diagnosis of gonorrhoea in the non-Indigenous population aged 20 – 29 years indicated a similar increase and decrease over time to that in the Aboriginal and Torres Strait Islander population, although the rate was substantially lower.

**Figure 15** Number of diagnoses of gonorrhoea in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

**Figure 16** Rate of diagnosis of gonorrhoea in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group

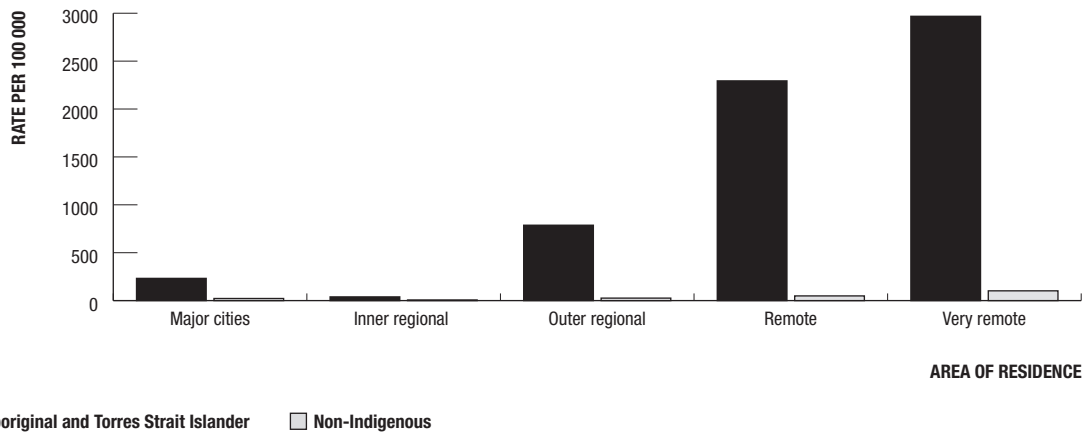


<sup>1</sup> Jurisdictions (NT, QLD, SA, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

A total of 1 684 and 1 813 Aboriginal and Torres Strait Islander males and females, respectively, and 2 083 and 558 non-Indigenous males and females, respectively, resident in the Northern Territory, Queensland, South Australia, Victoria and Western Australia, were diagnosed with gonorrhoea in 2007 (Figure 15). The male to female ratio of gonorrhoea diagnoses in Aboriginal and Torres Strait Islander cases in the age groups 13 – 19 years, 20 – 29 years and 30 – 39 years was 0.8, 1.0 and 1.1, respectively, whereas the sex ratio for non-Indigenous cases in the same age groups was 1.2, 3.3 and 5.9, respectively, suggesting transmission predominantly through heterosexual contact in the Aboriginal and Torres Strait Islander population and increasing transmission through male homosexual contact with increasing age in the non-Indigenous population.

In 2007, the rate of diagnosis of gonorrhoea among Aboriginal and Torres Strait Islander men in the 13 – 19 and 20 – 29 year age groups was 77 times and 31 times higher, respectively, than that among non-Indigenous men. The rate differential by age group between Aboriginal and Torres Strait Islander and non-Indigenous cases was greater among women. In the age groups 13 – 19 and 20 – 29 years, the rate of diagnosis among Aboriginal and Torres Strait Islander women was 118 and 98 times that among non-Indigenous women, respectively (Figure 16).

**Figure 17 Gonorrhoea by Aboriginal and Torres Strait Islander status<sup>1</sup> and area of residence, 2007**



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

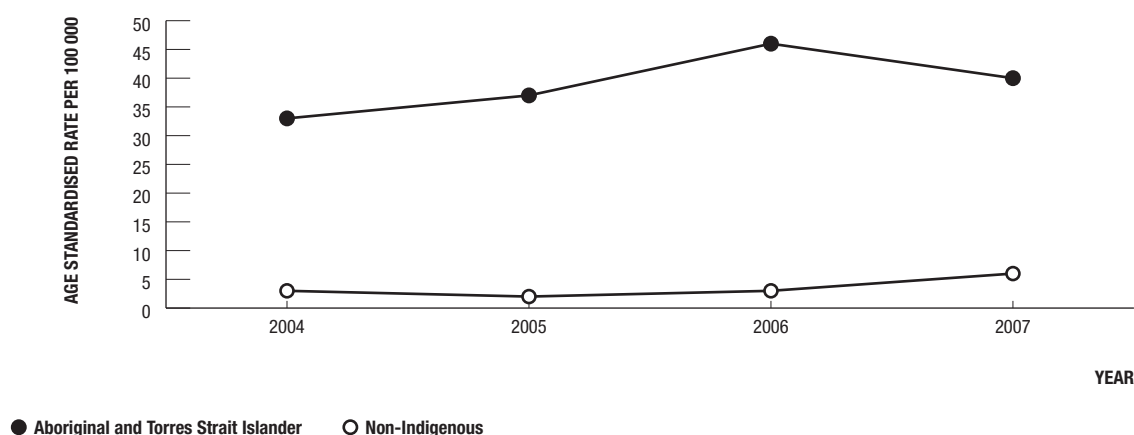
In the Aboriginal and Torres Strait Islander population resident in major cities, inner regional, outer regional, remote and very remote areas of the Northern Territory, Queensland, South Australia, Victoria and Western Australia, the population rate of gonorrhoea was 10 times, 7 times, 30 times, 47 times and 29 times that of the non-Indigenous population, respectively, in 2007 (Figure 17). The rates of diagnosis of sexually transmitted infections in remote and very remote communities may be exaggerated by high testing rates achieved through screening programs.

## INFECTIOUS SYPHILIS

- Diagnoses of infectious syphilis have been reported nationally since 2004.
- Information on Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses of infectious syphilis in each of the past four years through all State and Territory health jurisdictions in Australia other than the Australian Capital Territory.
- In the years from 2004 to 2007, the rate of diagnosis of infectious syphilis increased from 33 to 40 per 100 000 Aboriginal and Torres Strait Islander population. The rate of diagnosis in the non-Indigenous population doubled from 3 in 2006 to 6 per 100 000 in 2007.
- The number of diagnoses of infectious syphilis among Aboriginal and Torres Strait Islander men and women in 2007 was 104 and 88, respectively.
- In 2007, 68% of diagnoses of infectious syphilis in the Aboriginal and Torres Strait Islander population were among people aged less than 30 years whereas 20% of diagnoses in the non-Indigenous population were among people aged less than 30 years.
- The male to female sex ratio of cases in the age groups 13 – 19 and 20 – 29 years suggests that infectious syphilis was transmitted through heterosexual contact in the Aboriginal and Torres Strait Islander population whereas in the non-Indigenous population, infectious syphilis was transmitted predominantly through male homosexual contact.
- The rate of diagnosis of infectious syphilis was highest in the Aboriginal and Torres Strait Islander population resident in remote and very remote areas of New South Wales, the Northern Territory, Queensland, South Australia, Tasmania, Victoria and Western Australia. In the non-Indigenous population, the rate of diagnosis of infectious syphilis was highest in the population resident in the major cities.

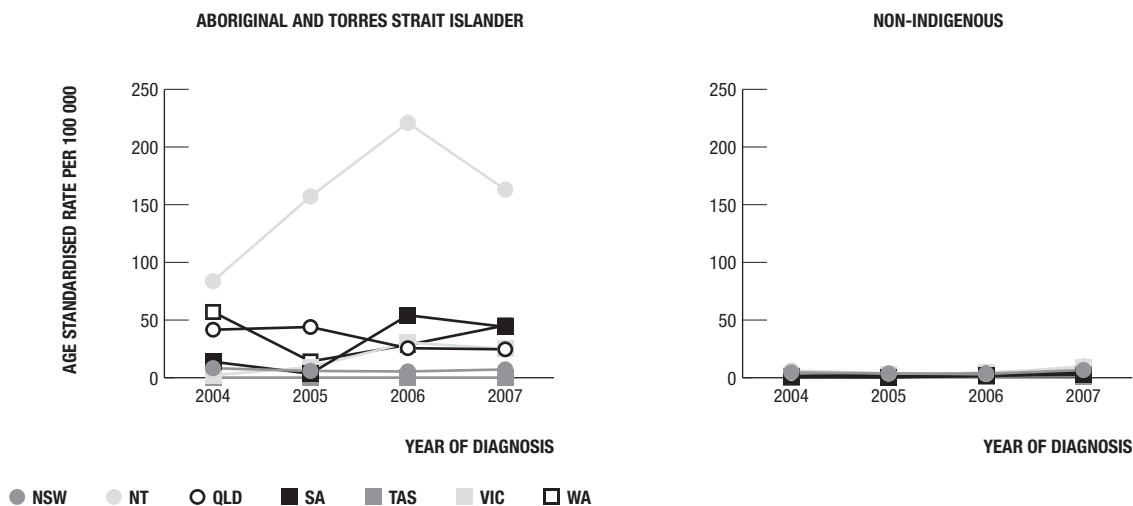
The rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population resident in all State and Territory health jurisdictions other than the Australian Capital Territory increased from 33 in 2004 to 40 in 2006 and declined to 46 per 100 000 population in 2007. In the non-Indigenous population, the rate doubled from 3 in 2006 to 6 in 2007 (Figure 18).

**Figure 18** 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 19 Infectious syphilis by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**

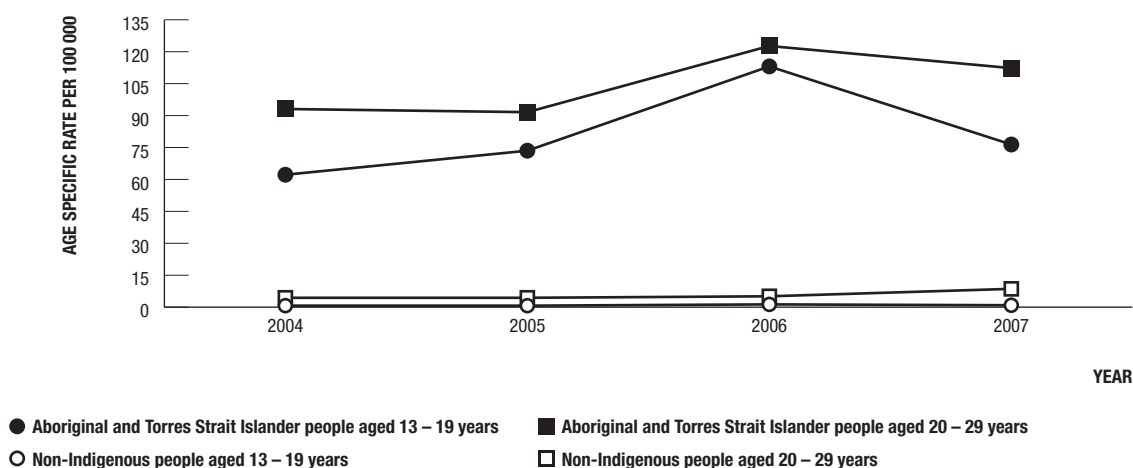


<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

In New South Wales, the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population remained stable from 2004 to 2007 at around 6 whereas in the non-Indigenous population the rate increased from 3 in 2006 to 7 in 2007. In the Northern Territory, the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population more than doubled from 84 in 2004 to 221 in 2006 and then declined to 163 in 2007 whereas in the non-Indigenous population, the rate increased from 3 in 2006 to 10 in 2007 (Figure 19).

In the Aboriginal and Torres Strait Islander population resident in Queensland, South Australia and Victoria, the rate of diagnosis of infectious syphilis declined from 26, 54, and 31 in 2006 to 25, 44 and 25, respectively, in 2007. In Western Australia the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population more than tripled from 14 in 2005 to 45 in 2007. The rate of diagnosis of infectious syphilis in the non-Indigenous population steadily increased in Queensland, South Australia, Victoria and Western Australia to 5.3, 2.6, 8.6 and 3.8, respectively, in 2007.

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



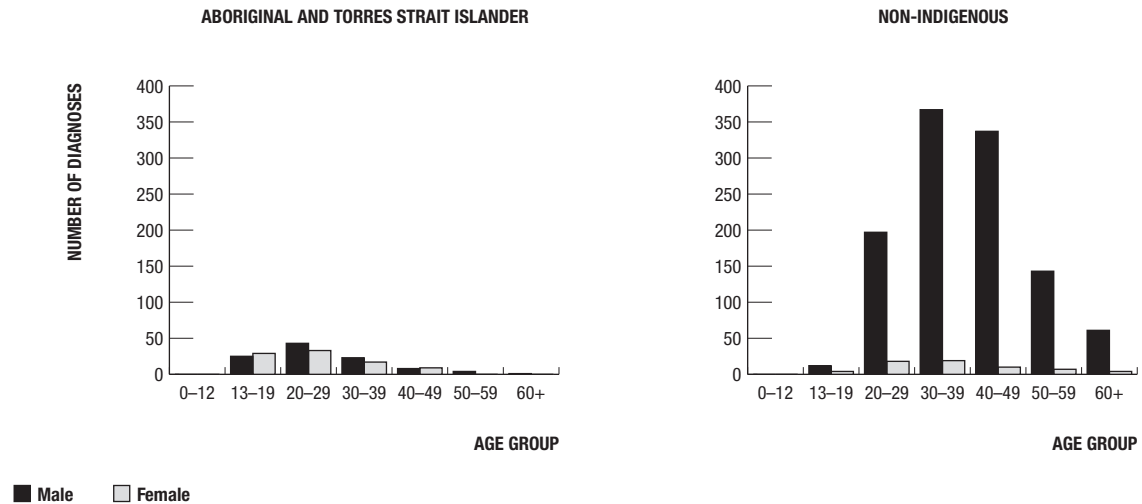
<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, TAS, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

The rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population aged from 13 to 19 years increased from 62.2 in 2004 to 113.1 in 2006 and declined to 76.4 in 2007. In the non-Indigenous population, the rate in the 13 – 19 year age group was stable at around 1 per 100 000 population between 2004 and 2007.

In the Aboriginal and Torres Strait Islander population aged from 20 to 29 years, the rate of diagnosis of infectious syphilis increased from 93.1 in 2004 to 122.7 in 2006 and declined to 112.3 in 2007. In the non-Indigenous population aged 20 to 29 years, the rate of diagnosis steadily increased from 4.4 in 2005 to 8.6 in 2007 (Figure 20).

In 2007, 104 and 88 cases of infectious syphilis were diagnosed in males and females, respectively, in the Aboriginal and Torres Strait Islander population whereas 1 117 and 61 cases were diagnosed among males and females, respectively, in the non-Indigenous population (Figure 21). The male to female ratio among the Aboriginal and Torres Strait Islander cases and the non-Indigenous cases was 1.2 and 18.3, respectively, suggesting transmission of infectious syphilis predominantly through heterosexual contact in the Aboriginal and Torres Strait Islander population and through male homosexual contact in the non-Indigenous population.

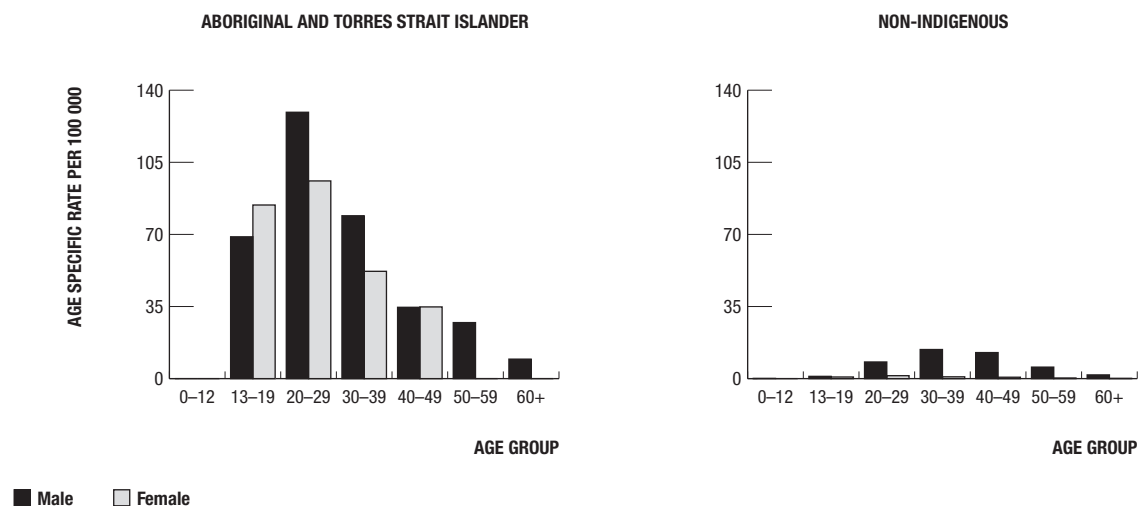
**Figure 21** Number of diagnoses of infectious syphilis in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



<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

Sixty eight percent of cases of infectious syphilis diagnosed in Aboriginal and Torres Strait Islander people in 2007 were aged less than 30 years whereas 20% of cases in the non-Indigenous population were aged less than 30 years. There were no reported diagnoses of infectious syphilis in persons aged 12 years or younger in either the Aboriginal and Torres Strait Islander, or in the non-Indigenous population.

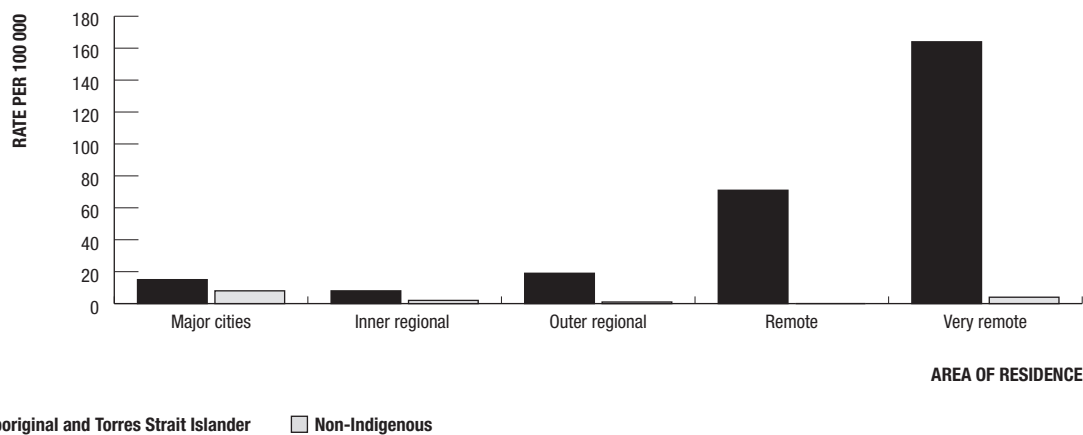
**Figure 22** Rate of diagnosis of infectious syphilis in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



<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

In 2007, the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population was highest among men (129 per 100 000) and women (96 per 100 000) aged 20 – 29 years. In the non-Indigenous population, the rate was highest among men in the age groups 30 – 39 years (27.3 per 100 000) and 40 – 49 years (24.3 per 100 000) (Figure 22).

**Figure 23 Infectious syphilis by Aboriginal and Torres Strait Islander status<sup>1</sup> and area of residence, 2007**



<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

In 2007, the rate of diagnosis of infectious syphilis in the Aboriginal and Torres Strait Islander population was highest among people living in remote and very remote areas of Australian other than the Australian Capital Territory. In the non-Indigenous population, the rate of diagnosis of infectious syphilis was highest among people resident in major cities.

## Bacterial sexually transmitted infections among young people

Much negative attention has focused on the occurrence of sexually transmitted infections among young Aboriginal and Torres Strait Islander people including linkage to child sexual assault.

The occurrence of chlamydia, gonorrhoea and infectious syphilis among people aged 15 years or younger at diagnosis is described, based on cases notified to the National Notifiable Diseases Surveillance System. The occurrence of sexually transmitted infections among young people is reported 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.

In the five years from 2003 to 2007, a total of 1 329 cases of chlamydia, 1 632 cases of gonorrhoea and 61 cases of infectious syphilis were diagnosed among Aboriginal and Torres Strait Islander people aged 15 years or younger at diagnosis. The vast majority (96% for chlamydia, 95% for gonorrhoea and 97% for infectious syphilis) of these diagnoses were among people aged from 12 to 15 years. A similar pattern of diagnosis occurred among non-Indigenous young people. From 2003 to 2007, 1 353 cases of chlamydia, 215 cases of gonorrhoea and 14 cases of infectious syphilis were diagnosed among non-Indigenous people aged 15 years or younger, with 96%, 94% and 64% of diagnoses of chlamydia, gonorrhoea and infectious syphilis, respectively, occurring in people aged between 12 and 15 years. More than 80% of the diagnoses of chlamydia and gonorrhoea were in 14 and 15 year old people in both the Aboriginal and Torres Strait Islander population and the non-Indigenous population.

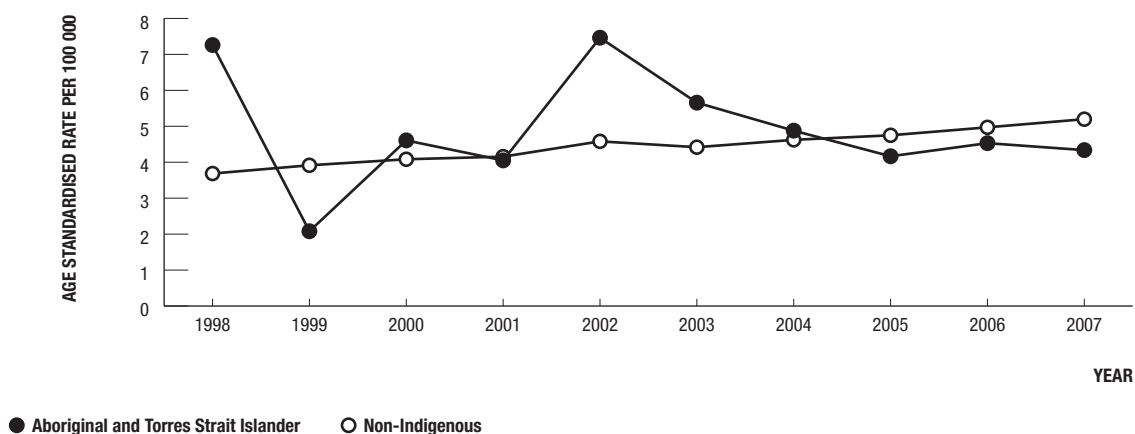
The majority of diagnoses of sexually transmitted infections in young Aboriginal and Torres Strait Islander people occurred in areas of known high endemicity where screening for sexually transmitted infections is routinely carried out. It is likely that sexually transmitted infections diagnosed among people aged 12 to 15 years occur as a result of early sexual debut and sexual activity among similar aged peers rather than as a result of child sexual assault.

## HIV INFECTION

- The number of new HIV diagnoses in Australia increased by 21% between 2003 and 2007.
- Differences between the States and Territories were observed in recent trends in newly diagnosed HIV infection. From 2003 to 2007, New South Wales recorded a stable population rate at around 6 per 100 000 population. Following a steadily increasing rate of HIV diagnosis in Victoria from 2.8 in 1999, the diagnosis rate was stable in 2006 – 2007 at 5.4 per 100 000 population. The population rate of HIV diagnosis increased in Queensland, South Australia, Tasmania and Western Australia from 3.3, 2.9, 0.4 and 2.8 in 2003 to 4.6, 3.6, 1.1 and 3.6, respectively, in 2007.
- HIV continued to be transmitted primarily through sexual contact between men.
- The rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population was similar to that in the non-Indigenous population in 2003 – 2007.
- 194 cases of HIV infection were newly diagnosed among Aboriginal and Torres Strait Islander people in 1998 – 2007, with 30% among women. In 2007, 14 and 4 Aboriginal and Torres Strait Islander men and women, respectively, were newly diagnosed with HIV infection.
- In 2007, the median age at diagnosis of HIV infection in the Aboriginal and Torres Strait Islander population (33 years) was younger than that in the non-Indigenous population (37 years).
- In the past five years, exposure to HIV was attributed to male homosexual contact in 50% of diagnoses in the Aboriginal and Torres Strait Islander population and 80% in the non-Indigenous Australian born population. A history of heterosexual contact only was reported in 28% of Aboriginal and Torres Strait Islander cases and in 12% of non-Indigenous Australian born cases. Injecting drug use was reported by 18% of Aboriginal and Torres Strait Islander cases and 3% of non-Indigenous Australian born cases.

From 1998 to 2007, there was little difference in the *per capita* rate of HIV diagnosis between the Aboriginal and Torres Strait Islander population and the non-Indigenous population (Figure 24). The rate of HIV diagnosis in the Aboriginal and Torres Strait Islander population was relatively stable at around 4.6 from 1998 to 2002 and around 4.5 from 2003 to 2007. In the non-Indigenous population, the rate of HIV diagnosis steadily increased from 3.7 in 1998 to 5.2 in 2007.

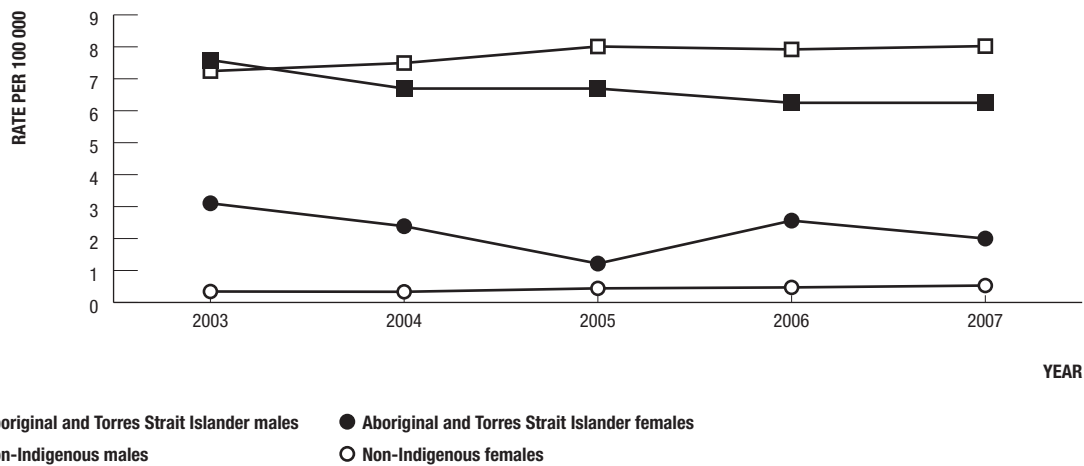
**Figure 24** Newly diagnosed HIV infection by Aboriginal and Torres Strait Islander status and year



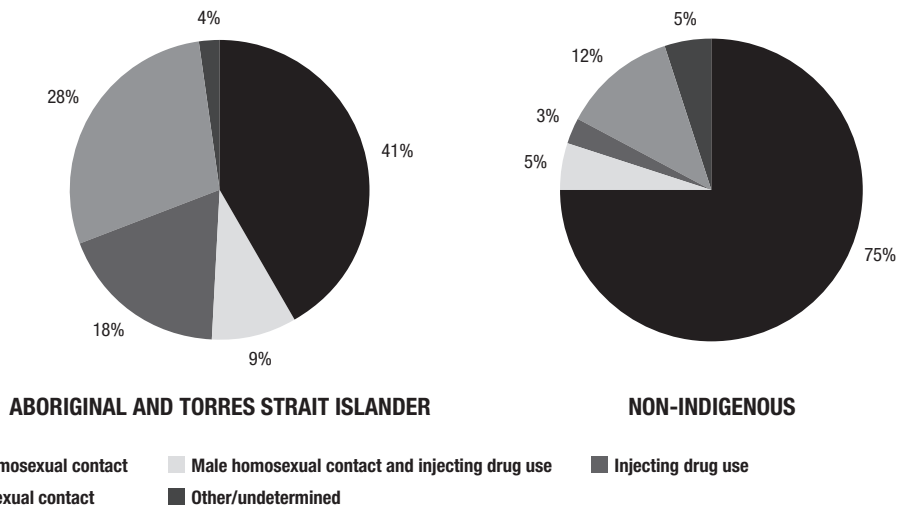
The rate of HIV diagnosis among Aboriginal and Torres Strait Islander women declined from 3.1 in 2003 to 2.0 in 2007 whereas among non-Indigenous Australian born women the rate increased from 0.3 in 2003 to 0.5 in 2007 (Figure 25). In the Aboriginal and Torres Strait Islander male population, the diagnosis rate declined from 7.6 in 2003 to 6.2 in 2007 whereas in the non-Indigenous Australian born male population, the rate increased from 7.2 in 2003 to 8.0 in 2007. In 2007, the male to female ratio of HIV diagnoses in the Aboriginal and Torres Strait Islander population was 3.5 and was 14.7 in the non-Indigenous Australian born population, suggesting different patterns of HIV transmission in the Aboriginal and Torres Strait Islander and the non-Indigenous Australian born populations (Figure 26).



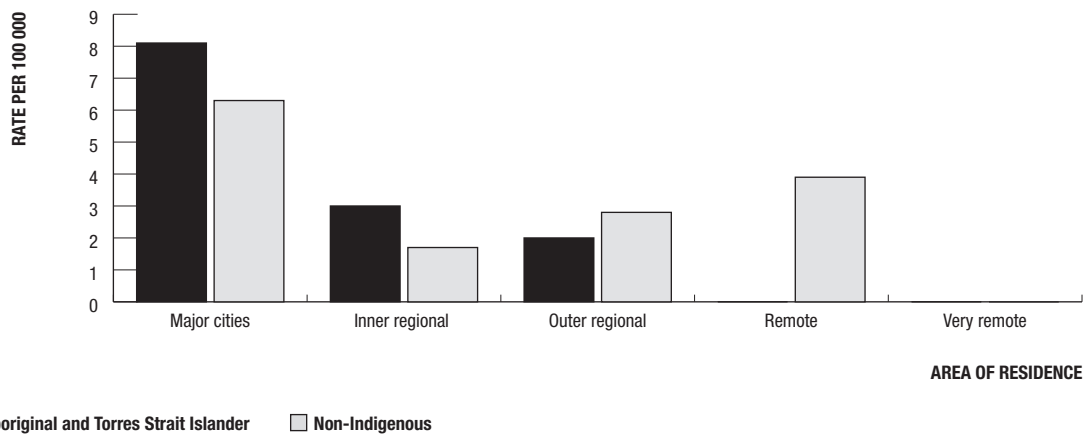
**Figure 25 HIV diagnoses in Australian born people by Aboriginal and Torres Strait Islander status, sex and year**



**Figure 26 HIV diagnoses in Australian born cases, 2003 – 2007, by Aboriginal and Torres Strait Islander status and HIV exposure category**

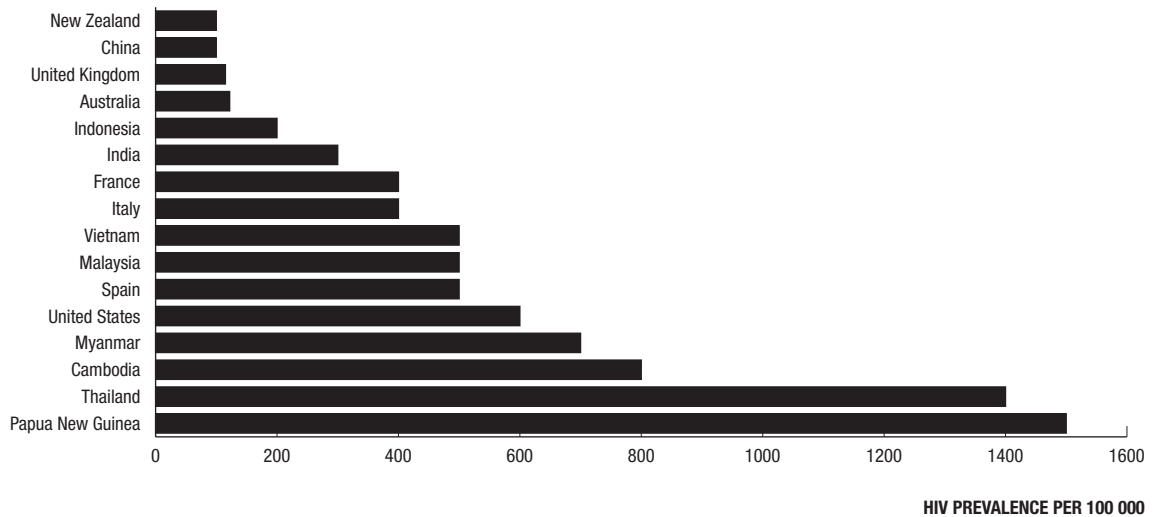


**Figure 27 Newly diagnosed HIV infection by Aboriginal and Torres Strait Islander status and area of residence, 2007**



In the five years from 2003 to 2007, the most frequently reported route of HIV transmission in the non-Indigenous Australian born population was male homosexual contact (80%) and heterosexual contact was reported in 12% (Figure 26). In the Aboriginal and Torres Strait Islander population, exposure to HIV was attributed to male homosexual contact in 50% of cases and heterosexual contact was the reported source of exposure to HIV in 28%. Aboriginal and Torres Strait Islander cases also differed from non-Indigenous cases in that a higher proportion of infections were attributed to injecting drug use (18% among Aboriginal and Torres Strait Islander cases vs 3% for non-Indigenous Australian born cases), and a higher proportion of infections were among women (25% among Aboriginal and Torres Strait Islander cases vs 6% for non-Indigenous Australian born cases). In 2007, the rate of HIV diagnosis was highest among cases resident in major cities in both the Aboriginal and Torres Strait Islander population and the non-Indigenous population (Figure 27).

**Figure 28 HIV prevalence in the population aged 15 – 49 years in selected countries**



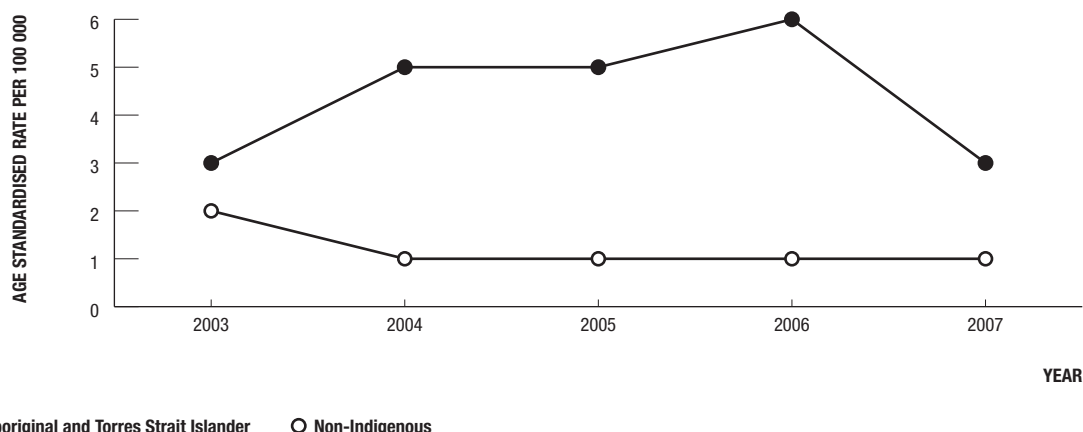
In the Oceania region of the world, Australia is among the countries with the lowest prevalence of HIV infection in its population aged 15 – 49 years. Australia’s nearest neighbour, Papua New Guinea, has the highest HIV prevalence in its population aged 15 – 49 years. It is important to view this data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

## VIRAL HEPATITIS

- The rate of diagnosis of newly acquired hepatitis B infection remained less than 2 per 100 000 population in Australia in the years from 2003 to 2007.
- The rate of newly diagnosed hepatitis C infection in Australia declined over the past five years to 58.8 per 100 000 population in 2007.
- At the end of 2007, an estimated 207 600 people were living in Australia with chronic hepatitis C infection including 47 600 with moderate to severe liver disease.
- Based on reported cases, hepatitis C transmission continued to occur in Australia predominantly among people with a recent history of injecting drug use. Similarly, reported cases of hepatitis B transmission were also attributed predominantly to injecting drug use.
- The rate of diagnosis of newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population increased from 3 per 100 000 population in 2003 to 6 in 2006 and then declined to 3 per 100 000 population in 2007. The rate in the non-Indigenous population was stable at 1 per 100 000 population in 2004 – 2007.
- Among people who have injected drugs, hepatitis C prevalence in the Aboriginal and Torres Strait Islander population increased from 63% in 2003 to 69% in 2007 whereas in the non-Indigenous population, hepatitis C prevalence increased from 58% in 2003 to 61% in 2007.
- In 2007, 15 cases of newly acquired hepatitis B infection and 198 cases of newly diagnosed hepatitis C infection were notified among Aboriginal and Torres Strait Islander people.

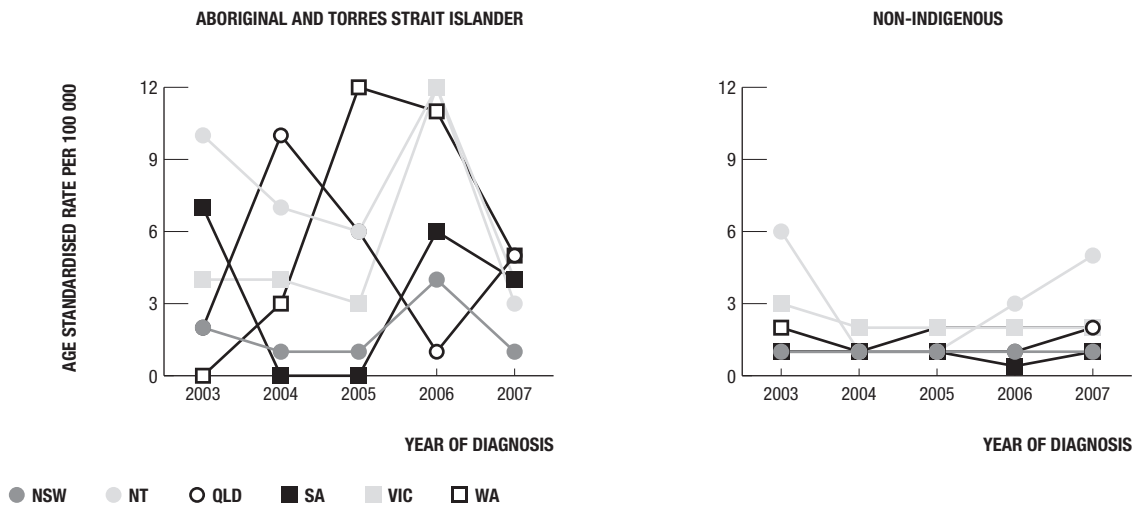
The rate of diagnosis of newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population increased from 3 in 2003 to 6 in 2006 and then dropped to 3 per 100 000 population in 2007 whereas in the non-Indigenous population, the diagnosis rate was stable at 1 per 100 000 population in 2004 – 2007 (Figure 29). In 2006, the diagnosis rate for newly acquired hepatitis B infection was relatively high (between 2-4 times the rate in the non-Indigenous population) in New South Wales, the Northern Territory, South Australia, Victoria 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 30).

**Figure 29** 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 & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

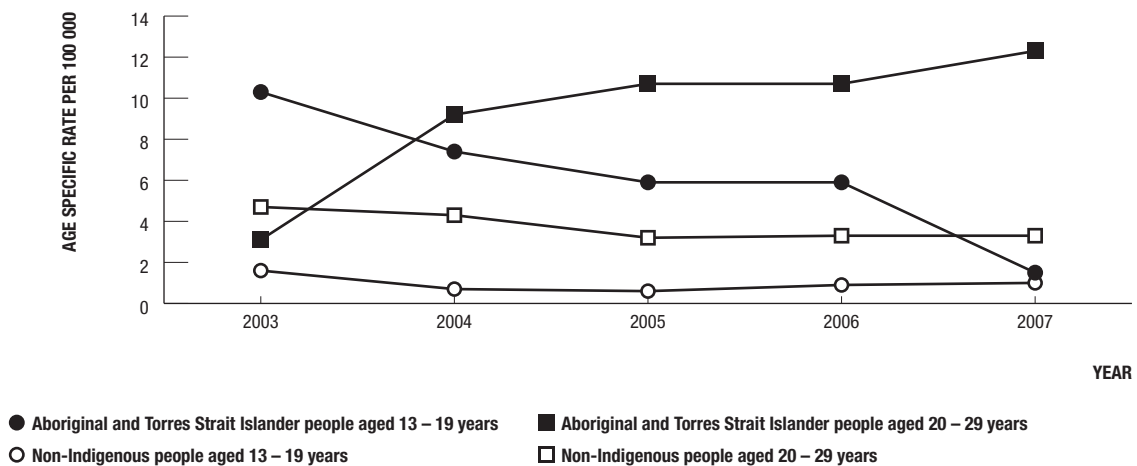
**Figure 30 Newly acquired hepatitis B by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**



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

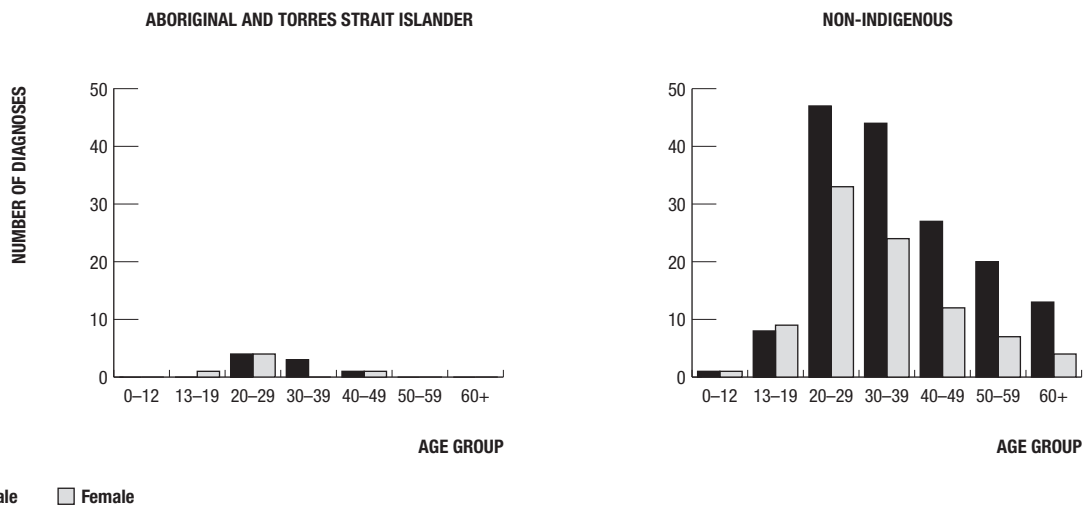
The rate of diagnosis of newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population in the age group 13 – 19 years declined from 10.3 in 2003 to 1.5 per 100 000 population in 2007, a rate similar to that in the non-Indigenous population aged from 13 to 19 years in 2007 (Figure 31). In contrast, the diagnosis rate for newly acquired hepatitis B infection in the Aboriginal and Torres Strait Islander population aged from 20 to 29 years increased from 3.1 in 2003 to 12.3 in 2007. In the non-Indigenous population, the rate of diagnosis of newly acquired hepatitis B infection declined in the 13 – 19 year age group, from 1.9 in 2003 to 1 per 100 000 population in 2007, and in the age group 20 – 29 year age group, from 4.7 in 2003 to 3.3 per 100,000 population in 2007.

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



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

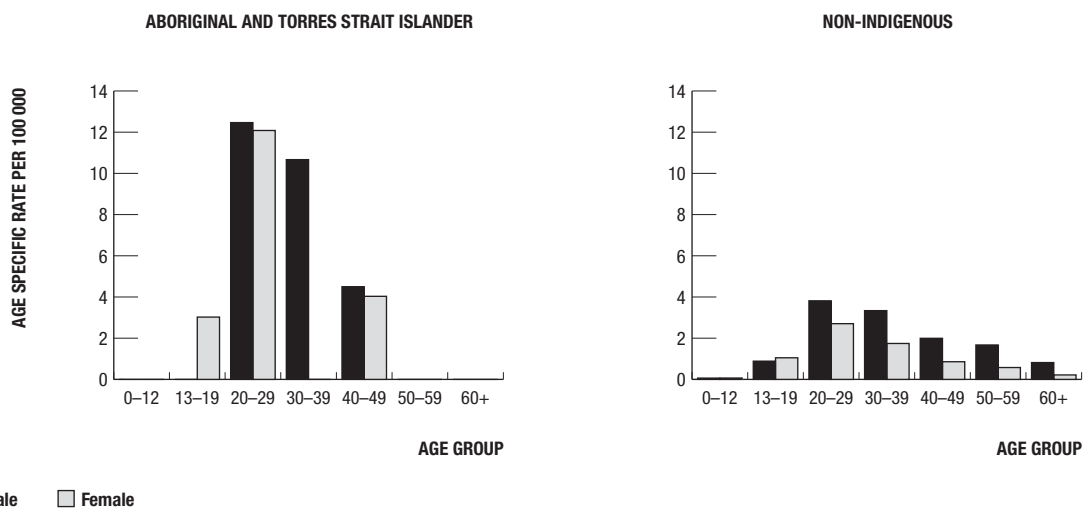
**Figure 32** Number of diagnoses of newly acquired hepatitis B in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



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

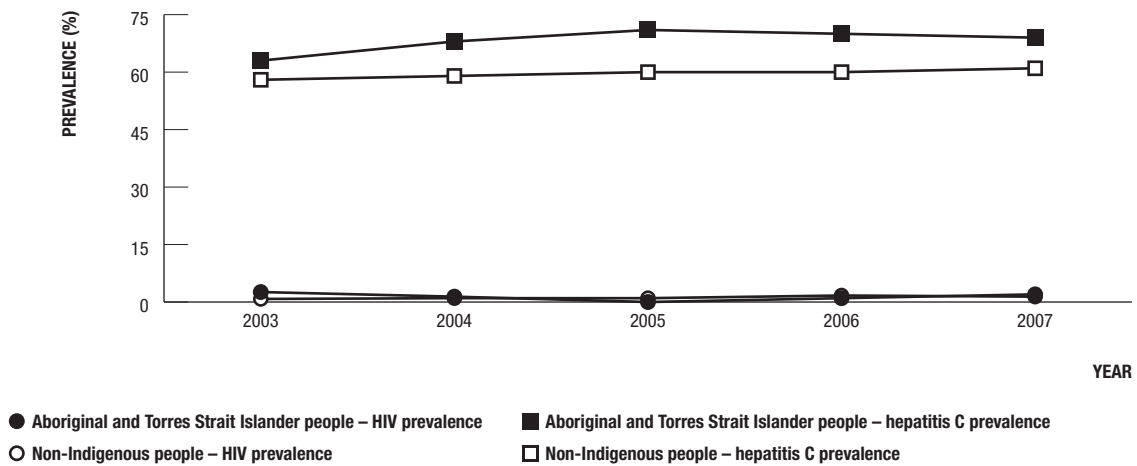
In 2007, 15 cases of newly acquired hepatitis B infection were diagnosed in Aboriginal and Torres Strait Islander people and 251 in non-Indigenous people (Figure 32). The rate of diagnosis of newly acquired hepatitis B infection among males in the Aboriginal and Torres Strait Islander population in the 20 – 29 and 30 – 39 year age groups was three times that for males in the non-Indigenous population in the same age groups (Figure 33). However, less than ten Aboriginal and Torres Strait Islander males in these age groups were diagnosed with infection.

**Figure 33** Rate of diagnosis of newly acquired hepatitis B in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group



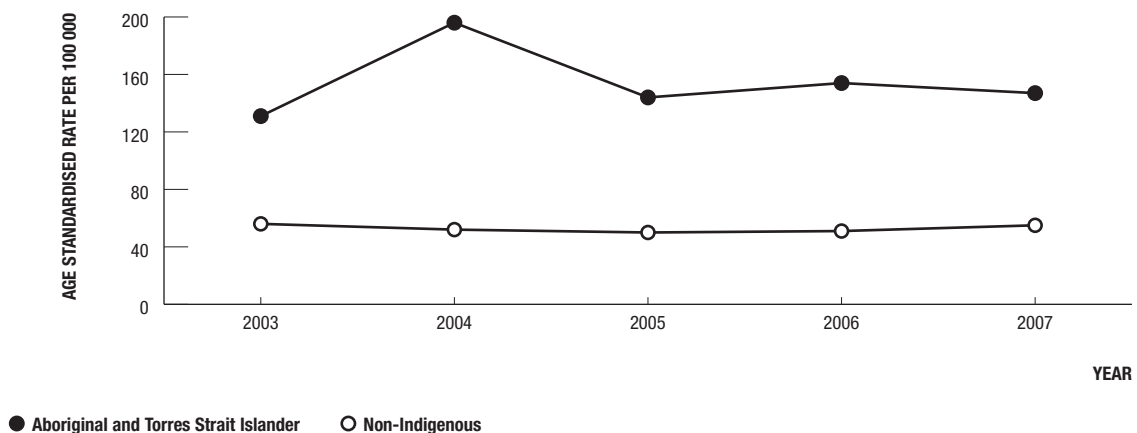
<sup>1</sup> Jurisdictions (NSW, NT, QLD, SA, VIC & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

**Figure 34 HIV and hepatitis C prevalence in people participating in the needle and syringe program surveys by Aboriginal and Torres Strait Islander status and year**



Hepatitis C antibody prevalence remained high in the five years from 2003 to 2007 in both the Aboriginal and Torres Strait Islander and the non-Indigenous population seen at needle and syringe programs (Figure 34). Hepatitis C antibody prevalence increased from 63% in 2003 to 69% in 2007 in the Aboriginal and Torres Strait Islander population. In the non-Indigenous population, hepatitis C antibody prevalence increased from 58% in 2003 to 61% in 2007. HIV prevalence remained low at around 1% in both the Aboriginal and Torres Strait Islander population and in the non-Indigenous population.

**Figure 35 Hepatitis C by Aboriginal and Torres Strait Islander status<sup>1</sup> and year**

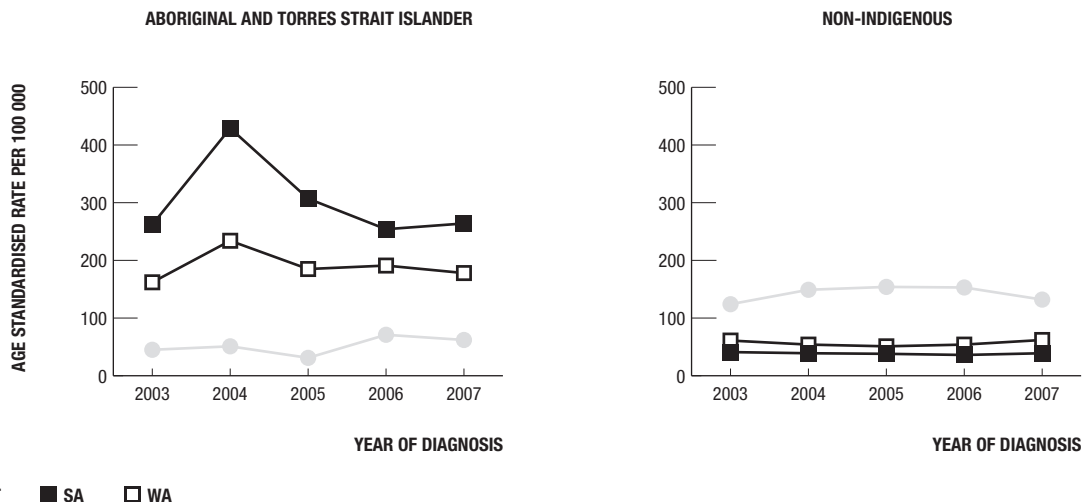


<sup>1</sup> Jurisdictions (NT, SA & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

Information on Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses of hepatitis C antibody in each of the past five years in the Northern Territory, South Australia and Western Australia. In these jurisdictions, the rate of newly diagnosed hepatitis C antibody in the Aboriginal and Torres Strait Islander population increased from 131 in 2003 to 147 in 2007 whereas the rate remained stable in the non-Indigenous population at around 52 per 100 000 population (Figure 35).

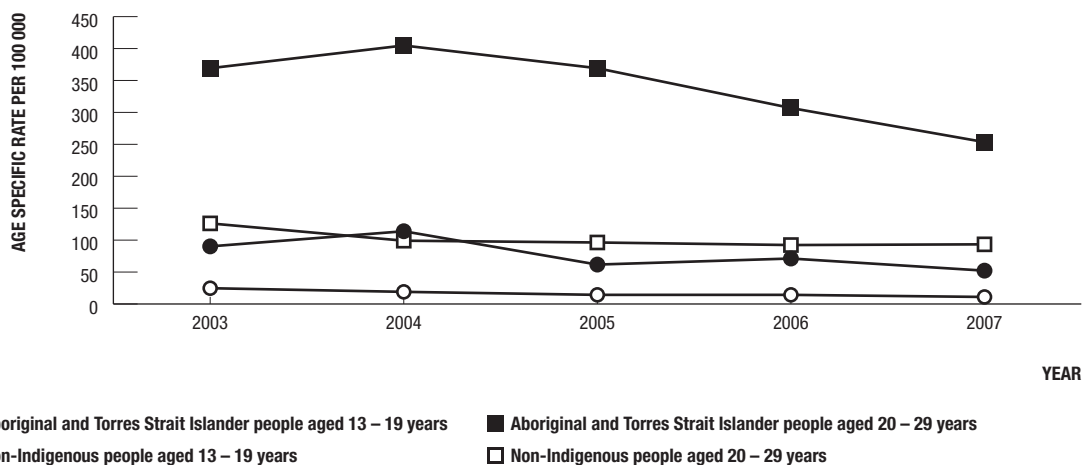
The rate of diagnosis of hepatitis C antibody in the Aboriginal and Torres Strait Islander population resident in the Northern Territory was substantially lower than that in Western Australia and South Australia (Figure 36). The hepatitis C diagnosis rate in the Aboriginal and Torres Strait Islander population was also substantially lower than that in the non-Indigenous population in the Northern Territory. In Western Australia, the hepatitis C diagnosis rate in the Aboriginal and Torres Strait Islander population was more than double that in the non-Indigenous population. This difference was even more marked in South Australia where the rate of diagnosis was almost 7 times higher in the Aboriginal and Torres Strait Islander population.

**Figure 36 Hepatitis C by Aboriginal and Torres Strait Islander status, State/Territory<sup>1</sup> and year**



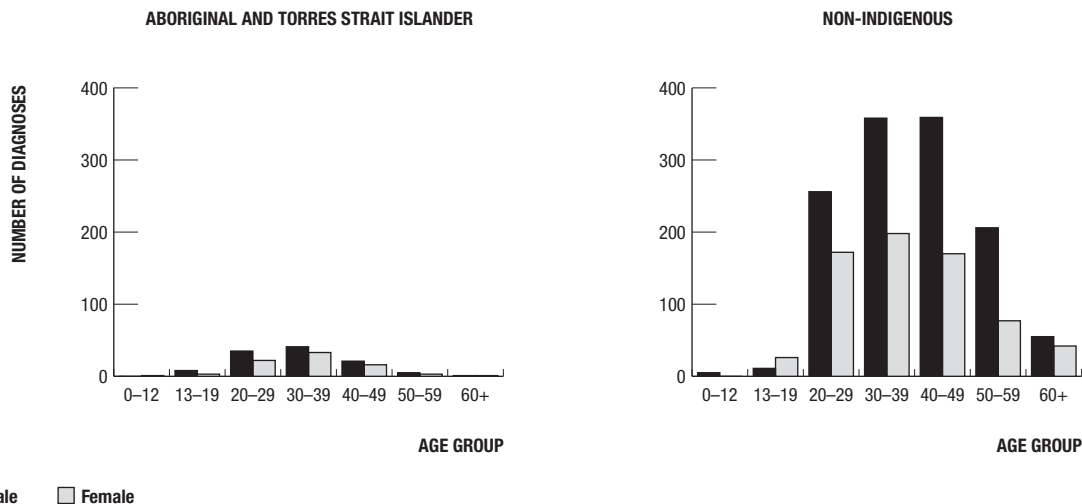
<sup>1</sup> Jurisdictions (NT, SA & WA) in which Aboriginal and Torres Strait Islander status was reported for more than 50% of diagnoses

**Figure 37 Hepatitis C in selected age groups by Aboriginal and Torres Strait Islander status<sup>1</sup> and year**



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

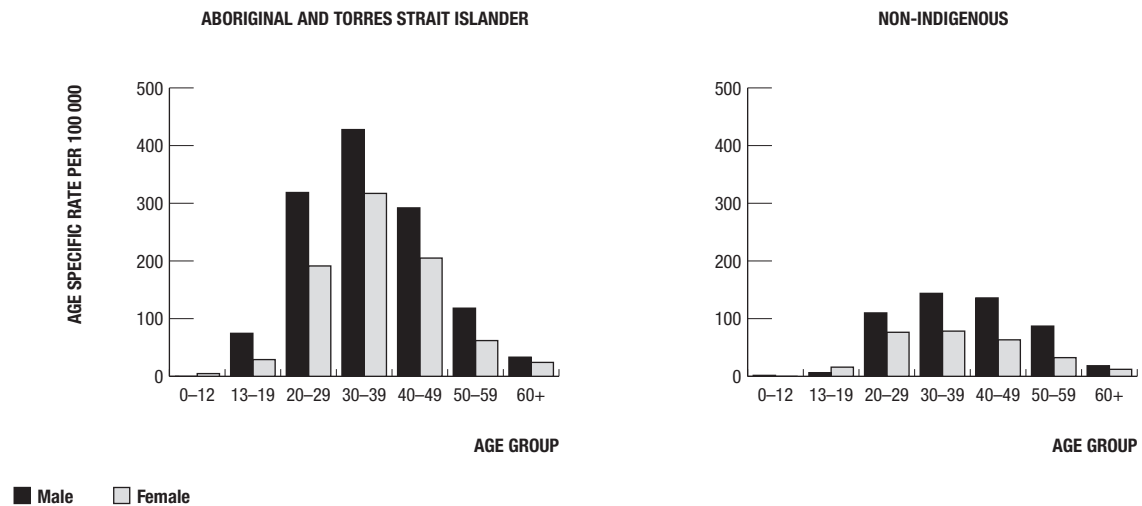
**Figure 38 Number of diagnoses of hepatitis C in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group**



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

In the five years from 2003 to 2007, the rate of diagnosis of hepatitis C antibody declined in both the Aboriginal and Torres Strait Islander population and in the non-Indigenous population in the age groups 13 – 19 years and 20 – 29 years (Figure 37). However, the rate of hepatitis C diagnosis in both age groups remained substantially higher in the Aboriginal and Torres Strait Islander population than in the non-Indigenous population. In 2007, the rate of new hepatitis C diagnoses in the Aboriginal and Torres Strait Islander population in the age groups 13 – 19 years and 20 – 29 years was 4.7 and 2.7 times the rate in the non-Indigenous population.

**Figure 39 Rate of diagnosis of hepatitis C in 2007 by Aboriginal and Torres Strait Islander status<sup>1</sup>, sex and age group**



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

In 2007, 190 diagnoses of hepatitis C were made among Aboriginal and Torres Strait Islander people and 1 935 among non-Indigenous people resident in the Northern Territory, South Australia and Western Australia (Figure 38). The rate of diagnosis of hepatitis C antibody in the Aboriginal and Torres Strait Islander population in 2007 in the age groups 13 – 19, 20 – 29 and 30 – 39 years was more than double the rate in the corresponding age groups in the non-Indigenous population (Figure 39).

## Chronic hepatitis B infection

In 2007, 2.5% of the Australian population identified as Aboriginal 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 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 (Dore *et al* 2006).



## The health of Aboriginal and Torres Strait Islander people in prison

Data from the National Prison Entrants' Bloodborne Virus and Risk Behaviour Survey Report 2004 and 2007 highlights the health of Aboriginal and Torres Strait Islander prisoners compared with non-Indigenous prisoners (Butler and Papanastasiou 2008).

The study was carried out among people entering prison over a two week period in October 2004 and in October 2007 in all State and Territory corrections jurisdictions other than the Northern Territory. Of 992 consecutive prison entrants, 740 participated in the study by completing a questionnaire and providing a blood sample. The study questionnaire sought information on injecting drug use, body piercing, tattooing, sexual activity, hepatitis B immunisation status and smoking status. The blood sample was screened for HIV antibody and antigen, hepatitis B surface antibody, hepatitis B core antibody, hepatitis B surface antigen, and hepatitis C antibody.

In 2004 and 2007, 100 and 128 Aboriginal and Torres Strait Islander people participated in the survey, accounting for 17% and 20% of participants in each survey year. The number of Aboriginal and Torres Strait Islander people who reported injecting drug use remained stable with 18% and 19% in the 2004 and 2007 survey, respectively.

No cases of HIV infection were diagnosed in the 110 Aboriginal and Torres Strait Islander people tested in the 2007 survey. Hepatitis C antibody was detected in 43% of the Aboriginal and Torres Strait Islander population and in 33% of the non-Indigenous population. A substantially higher proportion of Aboriginal and Torres Strait Islander women compared with non-Indigenous women had hepatitis C antibody in both survey years.

Of 106 Aboriginal and Torres Strait Islander people tested for hepatitis B core antibody, 42% tested positive compared with 17% in the non-Indigenous people in prison. A similar percentage of Aboriginal and Torres Strait Islander men and women were diagnosed with hepatitis B core antibody.



# 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 are notified by State/Territory health authorities to the National Notifiable Disease Surveillance System, maintained by the Australian Government Department of Health and Ageing. Chlamydia and gonorrhoea are notifiable in all health jurisdictions; infectious syphilis became notifiable in all jurisdictions in 2004. In most health jurisdictions, diagnoses of sexually transmitted infections are 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. Donovanosis was notifiable in all State and Territory health jurisdictions other than the Australian Capital Territory. The number and population rate of diagnosis of specific sexually transmitted infections was reported if Aboriginal and Torres Strait Islander status was reported to a State or Territory health jurisdiction for more than 50% of diagnoses in each year of the past five years.

Population rates of diagnosis of specific sexually transmitted infections were calculated by year and State/Territory of diagnosis using 2006 census data, 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 2006 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

#### ***National surveillance for newly diagnosed HIV infection***

Newly diagnosed HIV infection is a notifiable condition in each State/Territory health jurisdiction in Australia. Cases of newly diagnosed HIV infection are 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 newly diagnosed HIV infection includes 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. Language spoken at home has been reported in New South Wales, Victoria and Queensland for cases of HIV infection newly diagnosed from 1 January 2004 and in the Australian Capital Territory, Northern Territory, South Australia, Tasmania and Western Australia for cases newly diagnosed from 1 January 2008.

Population rates of newly diagnosed HIV infection were calculated by year and State/Territory of diagnosis using 2006 census data, available through the Australian Bureau of Statistics.

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

Information on Aboriginal and Torres Strait Islander status has been 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, in Victoria from June 1998 in Victoria and in the Australian Capital Territory from January 2005. Nationally, information on Aboriginal and Torres Strait Islander status at HIV diagnosis 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 1998 – 2007, 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).

Rates of HIV diagnosis by Aboriginal and Torres Strait Islander status and area of residence in Australia were calculated using the 2006 census population distribution, based on the Australian Standard Geographical Classification (see paragraph above "Rate of diagnosis of sexually transmitted infections by area of residence").

## **National surveillance for viral hepatitis**

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

Diagnoses of newly acquired hepatitis B and prevalent cases of hepatitis C infection are notifiable conditions in all State/Territory health jurisdictions in Australia. Cases are 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, available from the Australian Bureau of Statistics.

Hepatitis B 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.

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

Information was sought on Aboriginal and Torres Strait Islander status for newly acquired hepatitis B and hepatitis C antibody 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 from 2003 to 2007 using 2006 census data, available from the Australian Bureau of Statistics).



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