Northern Territory Government
Department of Health and Community Services

Northern Territory Sexual Health and Blood Borne Viruses Unit Surveillance Update

Department of Health and Community Services, Vol. 5 No 2, July-September 2004 & October-December 2004

1. Aims of the report

This surveillance update presents quarterly statistics for all sexually transmissible infections (STIs) and blood borne viruses (BBVs) in the Northern Territory (NT) for the two quarters of the latter half of 2004, namely, the quarters from July to September and from October to December.

This report is aimed at providing quarterly statistics of STIs and BBVs at district level. Where appropriate, we have also provided diseases rate comparisons with other states and/or Australia as a whole. As the NT continues to have extremely high rates of these preventable infections, regular surveillance reports on STIs and BBVs serve to raise awareness amongst service providers, and provide essential information for planning of targeted interventions and service provision as well as resource allocation.

2. Format and Data Sources

The report is divided into sections on notifiable sexually transmissible infections (gonorrhoea, chlamydia, syphilis and trichomoniasis) and blood borne viruses (hepatitis C and B and human immunodeficiency virus) respectively. Donovanosis is presented separately due to the small numbers of cases. In this issue, we have also presented a summary report on the surveillance of gonococcal sensitivity in the NT for 2004.

All data used for this report have been extracted from the Northern Territory Notifiable Diseases Surveillance System (NTNDSS), the HIV and AIDS Database maintained by the Sexual Health and Blood Borne Virus Unit (previously named the AIDS/STD Program) and sensitivity data of Neisseria gonorrhoea organisms supplied by relevant pathology laboratories. The statistics of Australia and other states/territories used for comparison were retrieved from Communicable Disease Australia website (http://www1.health.gov.au/cda/Source/CDA-index.cfm, accessed 15 April, 2005).

3. Limitations of the report

As this update report is based on disease notification data, it does not provide data on complications of STIs such as pelvic inflammatory disease, epididymo-orchitis or infertility (not notifiable by law). Furthermore, the data presented here must be interpreted with some caution. For instance, as enhanced surveillance of hepatitis C is not currently performed in the NT, all notifications are categorised as 'unspecified'. It is difficult to classify cases as either incident or prevalent cases; therefore, an increase in hepatitis C notifications may be the result of increased infection, an increase in the number of hepatitis C patients moving into the NT, or both. Furthermore, the number and rate of all STI/BBV cases will be a function of the amount of testing done. It is known that the amount of testing, particularly for screening of asymptomatic persons, varies enormously between districts, population groups and time periods. So, increased STI/BBV notifications may also be the result of enhanced awareness among the public and the clinicians resulting in more tests performed. We are endeavouring to collect NT-wide data on the total numbers of tests done from all laboratories processing NT specimens. Hopefully we will be able to publish such data in our next issue and thereby provide a better understanding of the observed patterns and eventual trends of diseases.

4. Quarterly Notifications

The following comments relate specifically to the cases and rates of infections for the two quarters covered by this report in comparison to the same time period in the previous years, or, where specified, the preceding six months of the last surveillance report.

4.1 Gonorrhoea

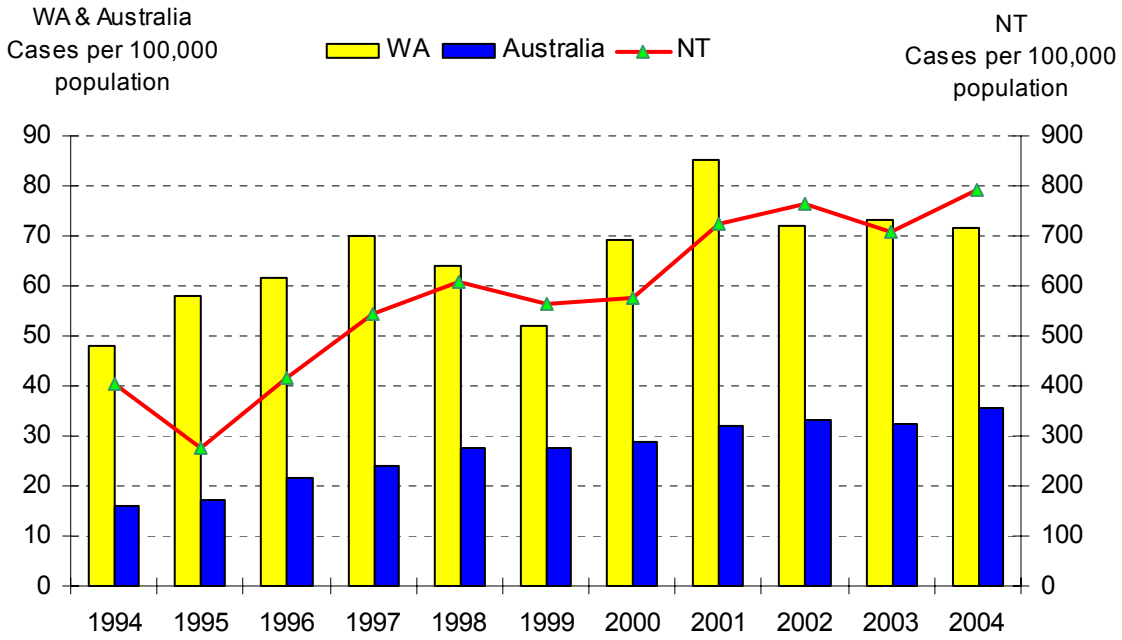
In this reporting period, 752 gonorrhoea cases were notified (752.3 cases per 100,000 population[1], see Table 1.1[2]). This compared with 2002 and 2003 figures of 730 and 672 cases respectively for the same reporting period. The majority of gonorrhoea cases were diagnosed in females (54%) and Aboriginal people (85%) (Table 1.2 and 1.3). The Aboriginal rate was about 23 times the non-Aboriginal rate, but both rates were considerably higher than the corresponding national average rate (35.8 per 100,000 in 2004).

[1] This rate is calculated by dividing 752 (the number of gonorrhoea cases for the two quarters) with half of the NT population.
[2] Figures and tables with Arabic numbers are placed at the back of the report.

The highest rates continued to occur in the 15 to 24 year age groups, which contributed 52% of all gonorrhoea notifications during this reporting period, not significantly different from the 58% reported in the same period in 2003 (Table 1.5). Alice Springs district continued to contribute over 50% of all notified cases (Table 1.4). The rates of gonorrhoea for the five districts were all considerably higher than the national average rate, with the rate for Alice Springs being the highest at nearly 2,000 per 100,000 (though slightly lower than that of the previous 6 months at 2289.4 per 100,0000).

It is also worth noting that the increasing trend in the NT rate of gonorrhoea has persisted since 1995, despite some minor downward deflections in 1999, 2000 and 2003 (Fig. A). The national rate has remained relatively stable at around 30 per 100,000 in the past five years, while the NT rate has increased from around 600 per 100,000 to nearly 800 per 100,000 during the same period of time.

Fig. A Rates of gonorrhoea for WA, NT and Australia, 1994-2004



4.2 Genital Chlamydia

There were 808 (808.4 cases per 100,000 population) cases of genital chlamydia notified in the NT between July and December 2004. This compared with 767 and 836 cases for the same reporting periods in 2002 and 2003 respectively. Both case number and rate were slightly lower than those for the previous two quarters (by about 3%). Females represented about 61% of all cases (Table 1.2), the same as the previous two quarters. In terms of case

numbers, Aboriginal people represented 64% of all cases, about 2.4 times the number of cases for non-Aboriginal people. Moreover, in terms of rate, the Aboriginal rate was 6 times the non-Aboriginal rate (Table 1.3). However both rates were considerably higher than the corresponding national rate (179.5 per 100,000 in 2004).

The high rates of gonorrhoea and chlamydia among non-Aboriginal population in the NT are worth noting as they have been apparent over many years. A further examination of chlamydia cases among non-Aboriginal population at district level is carried out here. In this reporting period, Darwin district has recorded the highest case number for non-Aboriginal people with 144, which represented 67.6% (144/213) of all NT non-Aboriginal cases. This also represented more than half of all chlamydia cases in Darwin district (144 out of 280, or 51%, see Table A and Table 1.4).

Table A Genital chlamydia in non-Aboriginal people in the NT, July-December, 2004

District	Female	Male	Unknown	Total
Alice Springs	22	15	1	**38**
Barkly	0	2	0	**2**
Darwin	83	61	0	**144**
East Arnhem	5	6	0	**11**
Katherine	14	4	0	**18**
Total	**124**	**88**	**1**	**213**

The averages of the 2002 to 2004 annual rates of chlamydia among non-Aboriginal population by district are displayed in Table B. As the populations of Barkly, East Arnhem and Katherine are all below 5000, even minor changes in case number can lead to great increase or decrease in the corresponding rate. This makes the comparison of their rates with other districts' rates less meaningful. However the high rate of chlamydia among non-Aboriginal women in Katherine may be worth further attention. Also, in comparison with the national average of 179.5 per 100,000, the male rate in Alice Springs and the female rates in Darwin and Alice Springs were considerably higher.

It can be seen from this brief analysis that the high rates of STIs in the NT are not only a public health issue for Aboriginal population, but also for non-Aboriginals.

Table B Average rates of Chlamydia by sex and district for non-Aboriginal population in the NT, 2002-2004

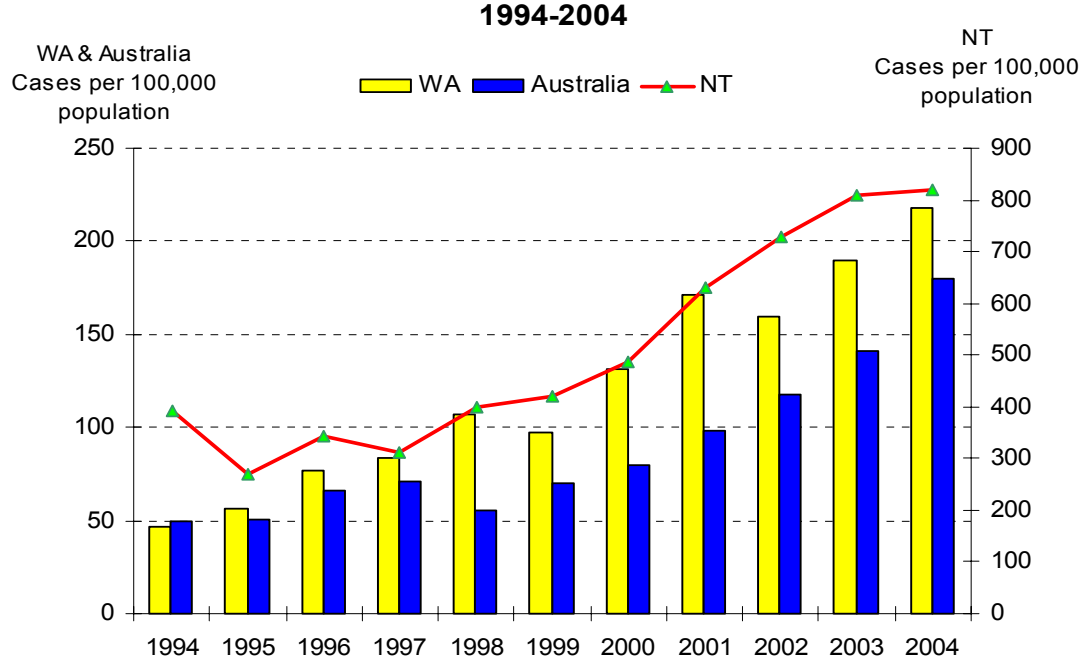
District	Mean Rate*	Standard Error	95% CI
Female			
Darwin	380.3	8.7	342.8-417.7
Alice Springs	301.1	29.0	176.4-425.7
Barkly	198.9	57.6	-48.9-446.7
East Arnhem	236.8	39.0	69.1-404.5
Katherine	467.7	114.9	-26.7-962.2
Male			
Darwin	174.0	21.9	79.8-268.2
Alice Springs	239.4	13.7	180.2-298.5
Barkly	136.1	54.0	-96.1-368.4
East Arnhem	219.5	30.0	90.3-348.7
Katherine	201.2	39.6	31.0-371.4

* Rates are per 100,000 population.

Chlamydia still occurred far more commonly amongst younger people (Table 1.5). The 15 to 24 year age group represented nearly 56% of all cases and had by far the highest rate of all age groups.

About 41% of all cases were notified in the Alice Spring district, followed by Darwin (35%) and Katherine (13%). Alice Spring also had the highest rate in the NT, about 3.6 times that of Darwin district (Table 1.4).

Fig. B Rates of chlamydia for WA, NT and Australia, 1994-2004



Similar to gonorrhoea rates, the chlamydia rate for the NT has been on the increase in the past 10 years (from around 300 per 100,000 in 1995 to 820 per 100,000 in 2004, a 273% increase). There is also a similar increasing trend in the national rate (Fig. B). The increases in the rates of gonorrhoea and chlamydia may be partly attributable to the introduction of and greatly increased use of PCR tests as well as more screening tests being performed. However, such explanations may be becoming less plausible as the increasing trends persist over the years. An analysis of rates of infection along with data concerning the number of tests done would permit a better understanding of this situation.

4.3 Syphilis

A total of 134 syphilis[3] notifications were recorded for this reporting period (Table 1.1), compared with 204 and 146 for the same time period in 2002 and 2003 respectively. The gender distribution of cases continued to be even (Table 1.2).

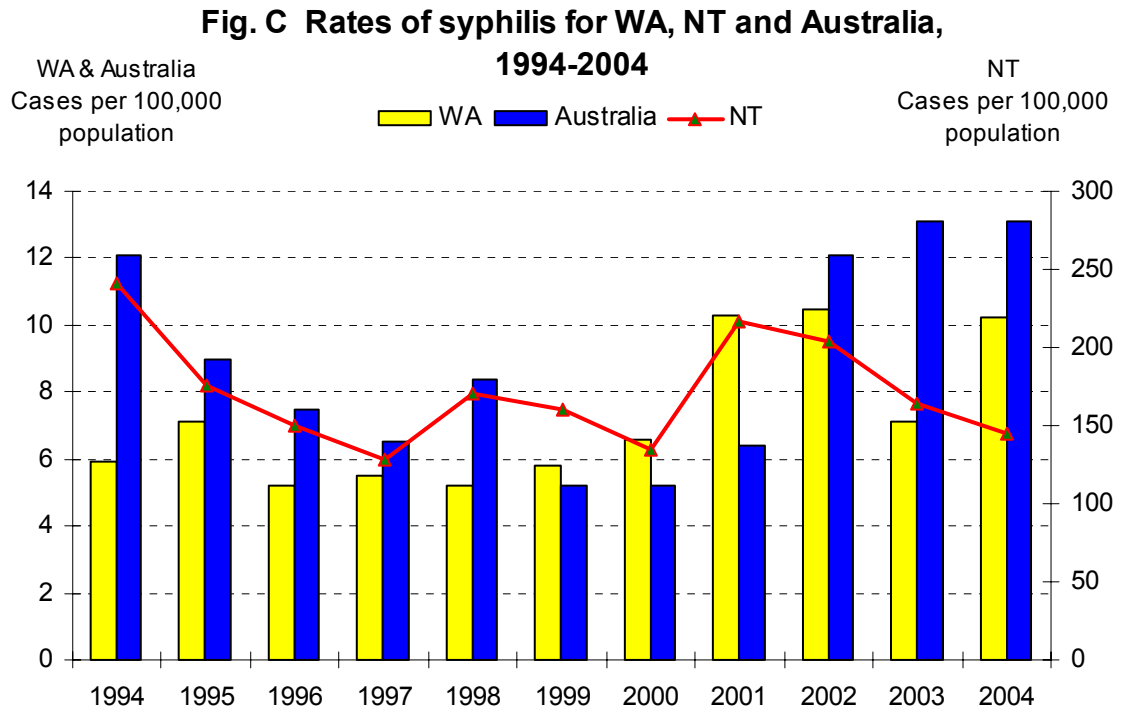
Aboriginal people accounted for 88% of the total notifications for this 6-month period (Table 1.3). 50 cases (37%) were notified in Alice Springs, followed by Katherine (44 cases or 33%) and Darwin (30 cases or 22%, Table 1.3). In terms of rates, Katherine has the highest among all districts (476.3 per 100,000), but the rates for the NT and all districts, including the NT non-Aboriginal rate (16.8 per 100,000), were all substantially higher than the national average of 2.9 per 100,000 in 2003.

When examined by age group, the rates were again highest in the 15 to 24 year olds (representing 41% of all syphilis cases, see Table 1.5), although not to the same degree as for gonorrhoea and chlamydia.

Further, although the NT rate of syphilis notification has shown a decreasing trend in the past four years, there is no reason for complacency as the 2004 rate of 145.1 per 100,000 remains extremely high when compared with either the national rate or the rates of other states/territories (Fig. C).

There were 6 cases of congenital syphilis notified in the NT in 2004, 2 of which were notified in the first quarter, 1 in the third and 3 in the fourth.

[3] This includes all categories of syphilis except congenital syphilis.



4.4 Trichomoniasis

A total of 268 notifications of Trichomoniasis were recorded in this reporting period, compared with 293 cases in the previous six months, and 296 and 299 in the same reporting periods of 2002 and 2003 respectively (Table 1.1). 60% of all notifications were recorded in the Alice Springs district and 21% in the Darwin district (Table 1.4). Alice Springs also had by far the highest rate (808.9 per 100,000), followed by East Arnhem (501.2 per 100,000). The vast majority of cases occurred in Aboriginal people (about 96%, see Table 1.3). Similar to syphilis, the highest rates were recorded in the 19 to 24 year age group, but they were not as high relative to those of other age groups as the rates for gonorrhoea and chlamydia (Table 1.5).

4.5 Donovanosis

Four cases of donovanosis were reported in this reporting period, two from Katherine and two from Alice Springs, all of them being Aboriginal (Table 3.1). The total case number for 2004 was 5, which was consistent with a slowly decreasing trend in the diagnosis of donovanosis in the NT in recent years (Fig. 3.1).

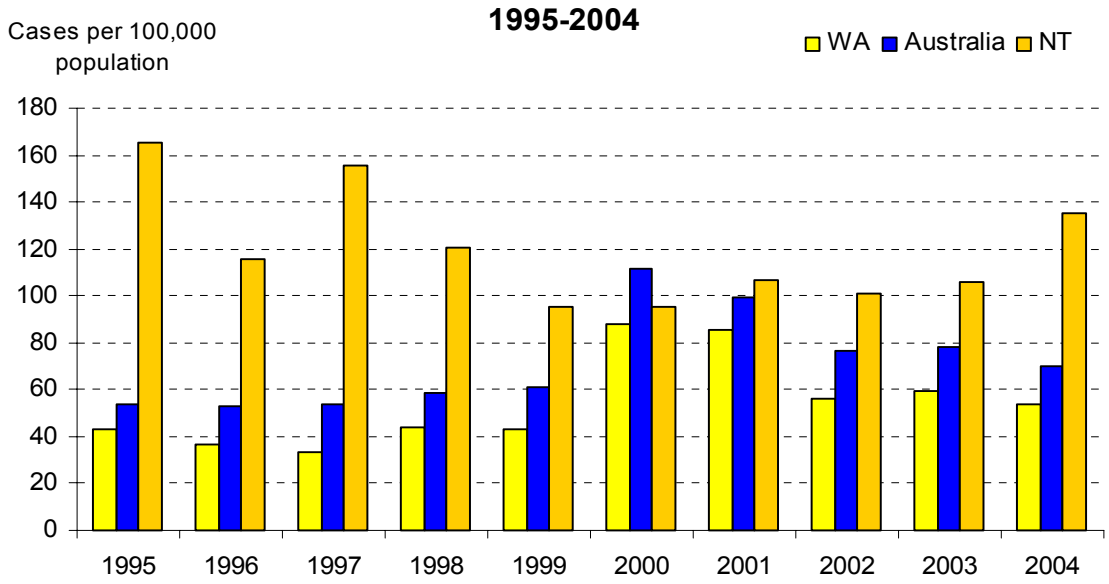
4.7 Other Sexually Transmitted Infections

There were no notifications of chancroid or lymphogranuloma venereum in this reporting period.

4.6 Hepatitis C

There were 142 new notifications of hepatitis C in this reporting period (Table 4.2). This figure represents a 27% increase in the total case number for the corresponding period in 2003 and 46% higher than that of 2002. The male rate was more than double the female rate, and the vast majority were non-Aboriginal (71.8%, see Fig. 4.1 and Fig. 4.2). Darwin district bore most of the disease burden (101 out of 142 or 71%, see Table 4.1 and Fig. 4.3). Moreover, the rate of hepatitis C for Darwin remained the highest among the districts and was more than double the national rate (70.2 per 100,000 in 2004). The notification rate of hepatitis C for the whole NT showed a gradually increasing trend in the past five years, in contrast to the gradually decreasing trend seen in the WA and Australia (Fig. D). In contrast to bacterial STIs, the highest rates were seen in the 40 to 49 years age group (Table 4.2).

Fig. D Rates of hepatitis C for WA, NT and Australia, 1995-2004



The increase in hepatitis C in 2004 was statistically significant (a 24% increase from 2003, with a rate ratio of 1.24, 95% confidence interval 1.03~1.49, p=0.021). The greatest change happened in Darwin Urban women (a rate increase of nearly 60% when compared with 2003 rate, with a rate ratio of 1.58, 95% confidence interval 1.06~2.39, p=0.019). As a result, an investigation was undertaken in early 2005 to explore the possibility of a point source of infection. As the investigation did not discover any suspicious point source, the apparent increase of hepatitis C notifications may be reasonably explained by greater awareness among the communities and health care providers of potential risky behaviours, and more testing being done as a result of public health campaigns targeting hepatitis C (such as the needle syringe exchange program).

4.7 Human Immunodeficiency Virus (HIV)

Two HIV cases were notified in this reporting period. Table 5.1 lists all ten cases reported in 2004, which included 6 males and 4 females. As was the situation in the same period of 2003, the majority (7 of 10 cases, or 70%) of HIV cases were heterosexually acquired. There was one Aboriginal case in the third quarter.

From 1991 to 2004, there were 108 notifications of HIV in the NT, 17 of which were not NT residents (people who have resided in the NT for at least 3 months). The 91 cases who were NT residents are summarised in Table C and Fig. E.

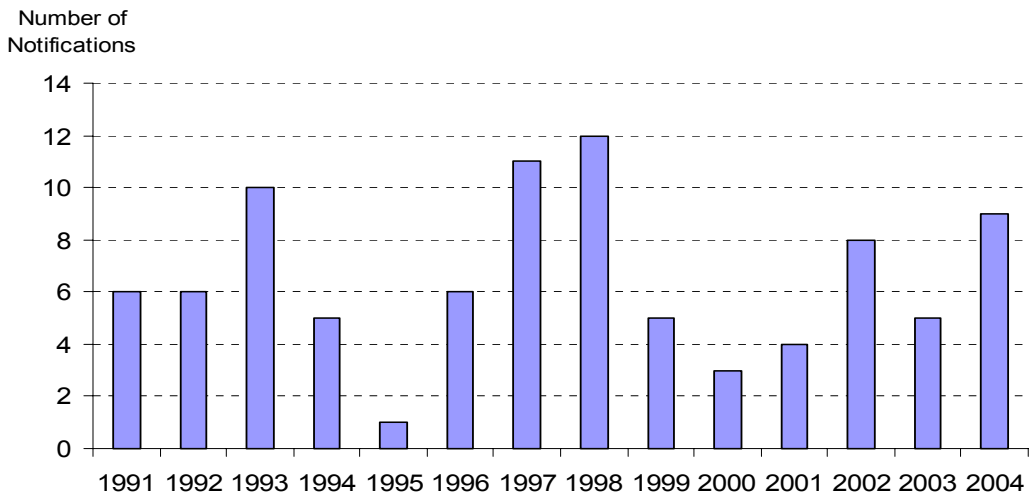
Over the past 14 years, the number of HIV notifications per year in the NT has remained below or around 10 cases. Males represented 80.6% of all cases. 60% of male patients were homosexual and only 6.7% were injecting drug users. While only 33.3% of male patients acquired HIV via heterosexual transmission, almost all (95%) female patients acquired HIV in this way. Overall, 44% of all patients in the NT from 1991 to 2004 acquired HIV via heterosexual contact, which is considerably higher than the national average of 18.0% in 2003.

Table C Notification of HIV in the NT, 1991-2004, by exposure category and sex

Exposure Category	Male		Female		Total	
	No.	%	No.	%	No.	%
Heterosexual contact	25	33.3	15	95.2	40	44.0
Injecting drug use	2	2.7	0	0	2	2.2
Male homosexual	1	1.3	0	0	1	1.1
Male homosexual / bisexual contact	37	49.3	0	0	37	40.7
Male homosexual / bisexual contact and IDU	2	2.7	0	0	2	2.2
Male homosexual/IDU	1	1.3	0	0	1	1.1
Male homosexual/bisexual contact	5	6.7	0	0	5	5.5
Mother-to-child	1	1.3	0	0	1	1.1
Other exposure / undetermined	1	1.3	1	4.8	2	2.2
Total	**75**	**80.6%***	**16**	**19.4%***	**91**	

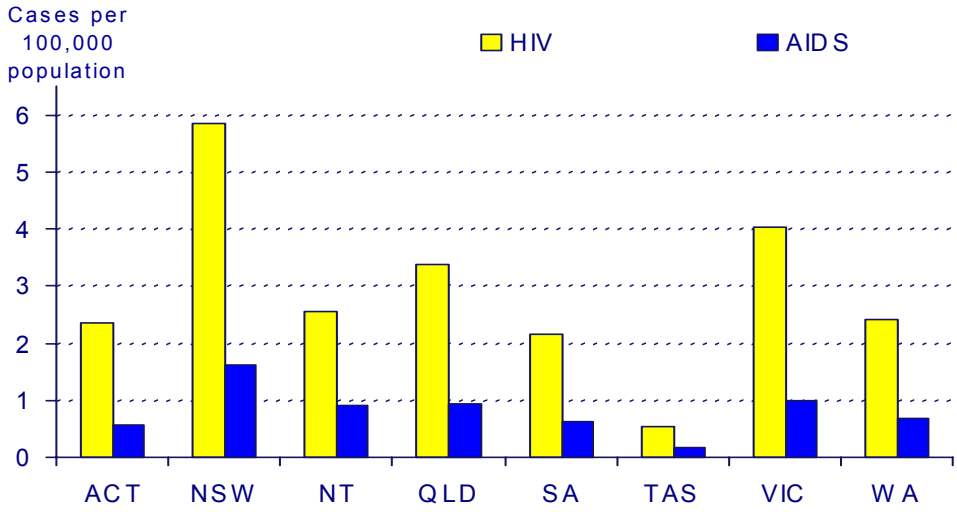
* percentage of the total of 91 cases

Fig. E Notifications of HIV in the NT, 1991-2004



A comparison of incidence rates of HIV and AIDS between state/territory is provided in the Fig. F.

Fig. F Average annual incidence of diagnoses of HIV infection and AIDS, 1999 – 2003, by State/Territory



4.8 Acquired Immunodeficiency Syndrome (AIDS)

There was only one case who presented with an AIDS defining illness during this reporting period (Table 5.2). In 2004, there were 4 cases of AIDS notified.

5. Surveillance of antibiotic sensitivity of N. Gonorrhoeae in the Northern

The pathogen for gonorrhoea, *Neisseria gonorrhoeae,* is able to develop resistance quickly to antibiotics through a variety of mechanisms. In relation to penicillin, it can do this by producing an enzyme (penicillinase) which inactivates the penicillin. This is known as Penicillinase Producing *Neisseria gonorrhoeae* or PPNG and all doses of penicillin are ineffective against it. The laboratory can detect this quickly by using a bench top test for the presence of the enzyme. *N. gonorrhoeae* can also, via chromosomally mediated mechanisms, become progressively resistant to penicillin. This is known as Chromosomally Mediated Resistant *Neisseria gonorrhoeae* or CMRNG. Higher doses of penicillin will still kill the organism but only to a certain point after which the organism is considered resistant. Laboratories are also able to detect this for individual patients. In addition to this local testing, culture specimens are also sent to a reference laboratory in order to measure the concentration of penicillin needed to kill the organism. It is then classified as "sensitive", "relatively resistant" or "resistant". This takes some considerable time and the information only becomes available in summary reports and not to clinicians in relation to individual patients. *N. gonorrhoeae* is also commonly resistant to tetracyclines and ciprofloxacin as a result of chromosomally mediated mechanisms. Laboratories are able to report this on an individual patient basis.

The importance of monitoring antibiotic resistance of *N. gonorrhoeae* lies in keeping health care providers aware of the most appropriate antibiotics to use whenever they see someone they suspect to be infected. In order to monitor the epidemiology of antibiotic resistant *Neisseria gonorrhoeae* (ARNG) and provide data on susceptibility patterns on a national basis, a dedicated national surveillance system, the Australian Gonococcal Surveillance Programme (AGSP) has been operating since 1979[4].

However, the provision of recommendations for standard treatment regimens is preferably based on local patterns of gonococcal susceptibility rather than aggregated national data. A locally operated gonococcal surveillance system can also best inform timely public health actions in response to newly detected penicillinase-producing *Neisseria gonorrhoeae* (PPNG).

The current gonococcal surveillance mechanism in the NT works in the following way. All major microbiology laboratories perform the initial testing on cultures to detect PPNG. Isolates are then sent to AGSP-designated laboratories where full antimicrobial susceptibility

[4] Communicable Diseases Intelligence 2004, 28: 187-193.

testing is performed. Isolates from Central Australia are mainly sent to the Institute for Medical and Veterinary Science (IMVS) in SA while those from Darwin are sent to the Prince of Wales Hospital (POW) in NSW. Isolates initially handled by Western Diagnostic Laboratory (which could include samples taken from either the Top End or Central Australia) are sent to Royal Perth Hospital (RPH). As the recommended first-line treatment for gonorrhoea thought to be acquired in the NT is penicillin, any isolates of PPNG are reported urgently to the CDC and the treating clinician to ensure there is appropriate treatment and effective contact tracing.

The aggregated 2004 NT data from these three sources are presented below.

Fig. G Statistics of penicillin sensitivity for N. Gonorrhoeae isolates from the NT, 2004

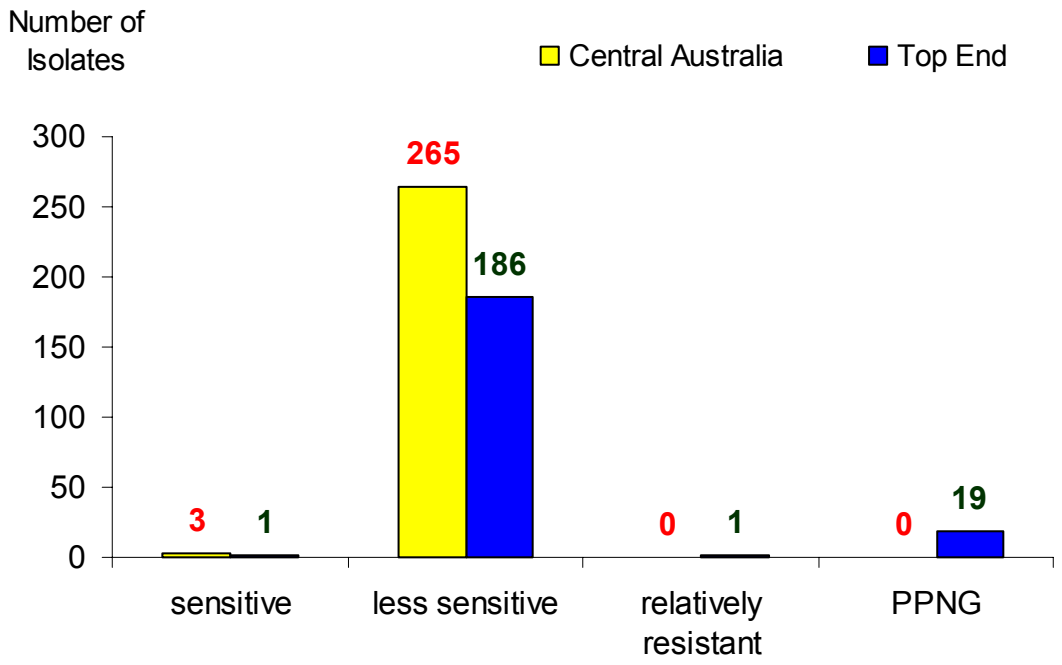


Table D Penicillin Sensitivity for N. Gonorrhoeae Isolates from the NT, 2004, by Region and Laboratory

Region / Lab	Sensitive	Less sensitive	Relatively resistant	PPNG
Central Australia				
IMVS	3	232	0	0
RPH	0	33	0	0
Subtotal	**3**	**265**	**0**	**0**
Top End				
POW	1	100	0	13
RPH	0	86	1	6
Subtotal	**1**	**186**	**1**	**19**
Total	**4**	**451**	**1**	**19**

There were in total 475 viable isolates from the NT sent to reference laboratories in 2004. The great majority (455, 95.8%) of them were either less sensitive or sensitive and should respond well to standard treatment regimen of Amoxicillin plus probenecid. A total of 19 PPNG isolates was reported in 2004. No PPNG isolates from Central Australia were reported. This can be explained by the facts that most PPNG cases were either acquired overseas or interstate or linked to importation, and that most of these cases were tourists and fishermen who were most likely to be diagnosed in Top End area rather than in Central Australia. As shown in Table D and Fig. H-1 and H-2, the vast majority (95%) of NT isolates were less sensitive (MIC 0.06-0.5 MG/L) to Penicillin, irrespective of which laboratory the isolates were examined in. Overall, less than 1% of isolates were sensitive (MIC 0.008-0.03 MG/L) to Penicillin, and PPNG accounted for 0.8% of all NT isolates.

Fig. H-1 Penicillin Sensitivity for N. Gonorrhoea Isolates from Top End, 2004

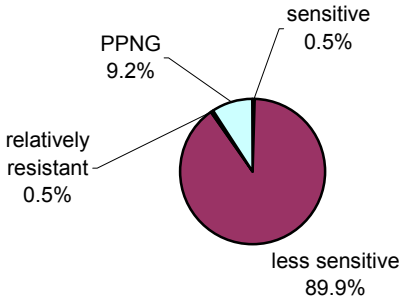
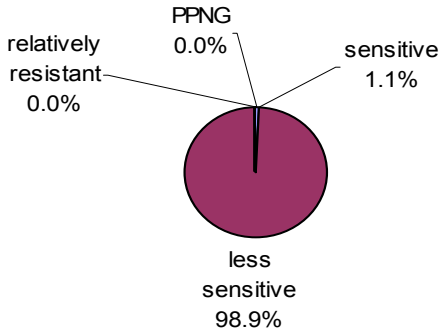


Fig. H-2 Penicillin Sensitivity for N. Gonorrhoea Isolates from Central Australia, 2004



In addition to sensitivity to Penicillin, examinations of sensitivity to Ciprofloxacin, Tetracycline, Ceftriaxone and Spectinomycin are routinely performed. There were 10 isolates resistant to Ciprofloxacin and 19 isolates resistant to Tetracycline. Among them, only one isolate resistant to Tetracycline was from Central Australia. Only two PPNG isolates (both from the Top End) were also resistant to both Ciprofloxacin and Tetracycline in 2004. Fortunately, both isolates were sensitive to Ceftriaxone.

6. Consumer response

The Sexual Health and BBV Unit is very interested in readers' responses to this report. Please forward any comments or suggestions to:

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All data in this report are provisional and subject to future revision.

This report is downloadable in PDF format from the Department of Health and Community Services website: http://www.health.nt.gov.au/

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1. Sexually transmissible infections (STIs)

Table 1.1 Gonorrhoea, chlamydia, syphilis and trichomoniasis rates in the Northern Territory, 2004

Quarter	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Jan-Mar	379	758.3	382	764.3	67	134.1	179	358.2
Apr-Jun	452	904.4	450	900.4	89	178.1	115	230.1
Subtotal	**831**	**831.4**	**832**	**860.8**	**156**	**156.1**	**294**	**294.1**
Jul-Sep	373	746.3	394	788.3	64	128.1	119	238.1
Oct-Dec	379	758.3	414	828.4	70	140.1	149	298.1
Subtotal	**752**	**752.3**	**808**	**808.4**	**134**	**134.1**	**268**	**268.1**
2004 NT Total	**1583**	**791.8**	**1640**	**820.4**	**290**	**145.1**	**562**	**281.1**

Figure 1.1 Gonorrhoea, chlamydia, syphilis and trichomoniasis rates in the Northern Territory, July-December 2004

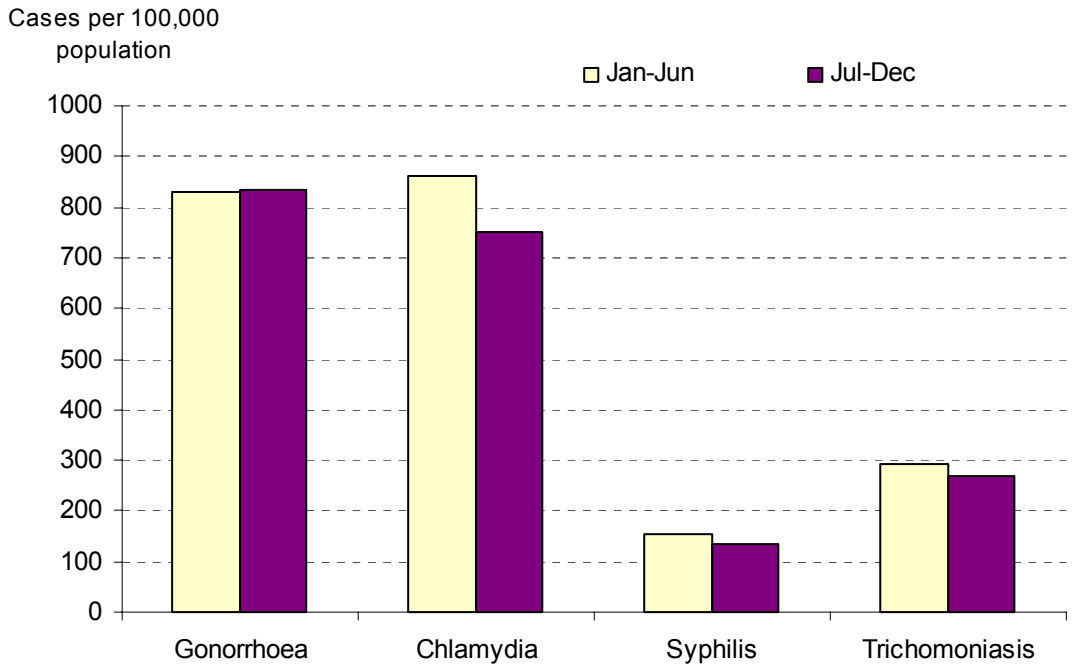


Table 1.2 Gonorrhoea, chlamydia, syphilis and trichomoniasis rates in the Northern Territory by gender, July-September and October-December 2004

	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
Gender	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Males								
Jul-Sep	160	608.5	151	574.3	34	129.3	2	7.6
Oct-Dec	189	718.8	160	608.5	35	133.1	0	0.0
Subtotal	**349**	**663.7**	**311**	**591.4**	**69**	**131.2**	**2**	**3.8**
Females								
Jul-Sep	213	899.3	242	1021.7	30	126.7	117	494.0
Oct-Dec	190	802.2	254	1072.4	35	147.8	149	629.1
Subtotal	**403**	**850.7**	**496**	**1047.1**	**65**	**137.2**	**266**	**561.5**
Unknown								
Jul-Sep	0		1		0		0	
Subtotal	**0**		**1**		**0**		**0**	
2004 Total								
Males	**749**	**712.2**	**635**	**603.8**	**147**	**139.8**	**6**	**5.7**
Females	**834**	**880.3**	**1004**	**1059.7**	**143**	**150.9**	**556**	**586.9**

Figure 1.2 Gonorrhoea, chlamydia, syphilis and trichomoniasis rates in the Northern Territory by gender, July-December 2004

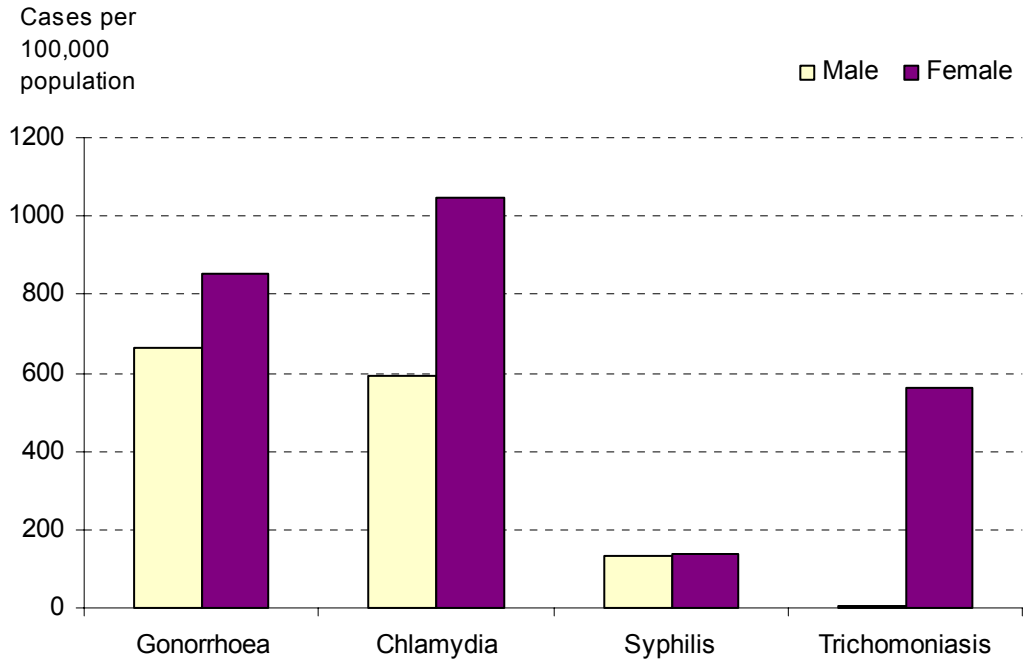


Table 1.3 Gonorrhoea, chlamydia, syphilis and trichomonas rates in the Northern Territory by Indigenous status, July-September and October-December 2004

Quarter	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Aboriginal								
Jul-Sep	314	2207.9	247	1736.8	55	386.7	113	794.6
Oct-Dec	324	2278.2	271	1905.6	63	443.0	144	1012.6
Total	**638**	**2243.1**	**518**	**1821.2**	**118**	**414.9**	**257**	**903.6**
Non-Aboriginal								
Jul-Sep	32	89.5	105	293.7	7	19.6	4	11.2
Oct-Dec	38	106.3	108	302.0	5	14.0	5	14.0
Total	**70**	**97.9**	**213**	**297.8**	**12**	**16.8**	**9**	**12.6**
Unknown								
Jul-Sep	27		42		2		2	
Oct-Dec	17		35		2		0	
Total	**44**		**77**		**4**		**2**	
2004								
Aboriginal	**1364**	**2397.8**	**1066**	**1873.9**	**261**	**458.8**	**539**	**947.5**
Non-Aboriginal	**137**	**95.8**	**422**	**295.0**	**23**	**16.1**	**16**	**111.9**
Unknown	**82**		**152**		**6**		**7**	

Figure 1.3 Gonorrhoea, chlamydia, syphilis and trichomonas rates in the Northern Territory by Indigenous status, July-December 2004

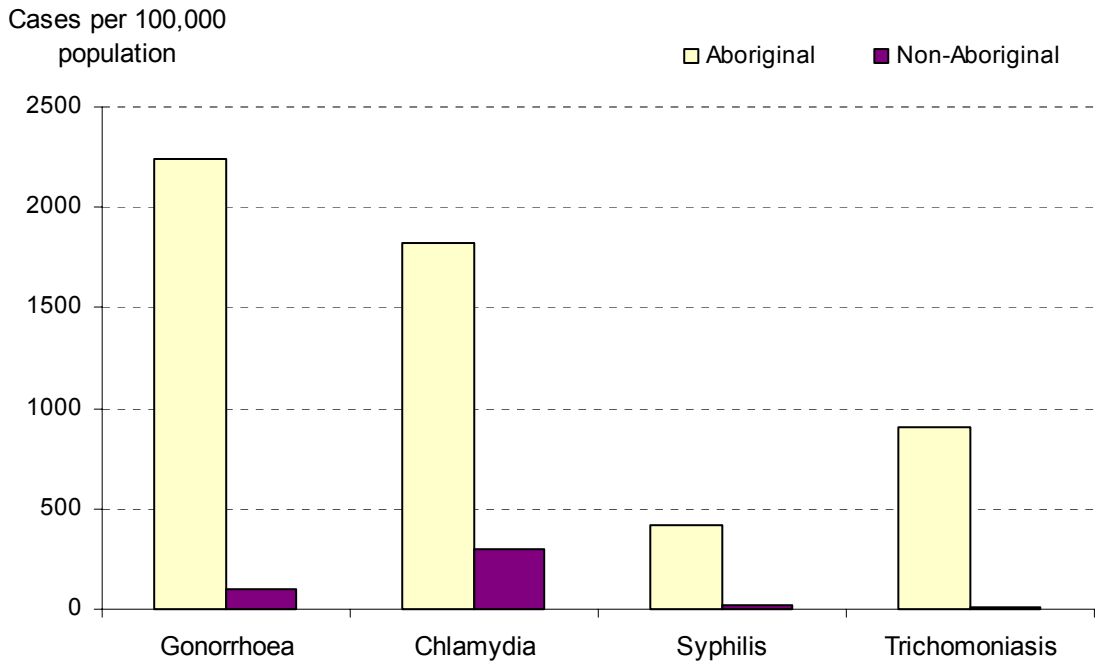


Table 1.4 Gonorrhoea, chlamydia, syphilis and trichomonas rates in the Northern Territory by district, July-September and October-December 2004

	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
District	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Darwin								
Jul-Sep	81	265.3	146	478.1	17	55.7	28	91.7
Oct-Dec	72	235.8	134	438.8	13	42.6	28	91.7
Total	**153**	**250.5**	**280**	**458.5**	**30**	**49.1**	**56**	**91.7**
Katherine								
Jul-Sep	62	1342.4	56	1212.5	21	454.7	6	129.9
Oct-Dec	65	1407.4	51	1104.3	23	498.0	7	151.6
Total	**127**	**1374.9**	**107**	**1158.4**	**44**	**476.3**	**13**	**140.7**
East Arnhem								
Jul-Sep	26	744.7	35	1002.4	1	28.6	17	486.9
Oct-Dec	30	859.2	39	1117.0	6	171.8	18	515.5
Total	**56**	**801.9**	**74**	**1059.7**	**7**	**100.2**	**35**	**501.2**
Barkly								
Jul-Sep	17	1231.2	8	579.4	0	0.0	1	72.4
Oct-Dec	9	651.8	7	507.0	3	217.3	2	144.8
Total	**26**	**941.5**	**15**	**543.2**	**3**	**108.6**	**3**	**108.6**
Alice Springs								
Jul-Sep	187	1879.1	149	1497.3	25	251.2	67	673.3
Oct-Dec	203	2039.9	183	1838.9	25	251.2	94	944.6
Total	**390**	**1959.5**	**332**	**1668.1**	**50**	**251.2**	**161**	**808.9**

Figure 1.4 Gonorrhoea, chlamydia, syphilis and trichomonas rates in the Northern Territory by district, July-December 2004

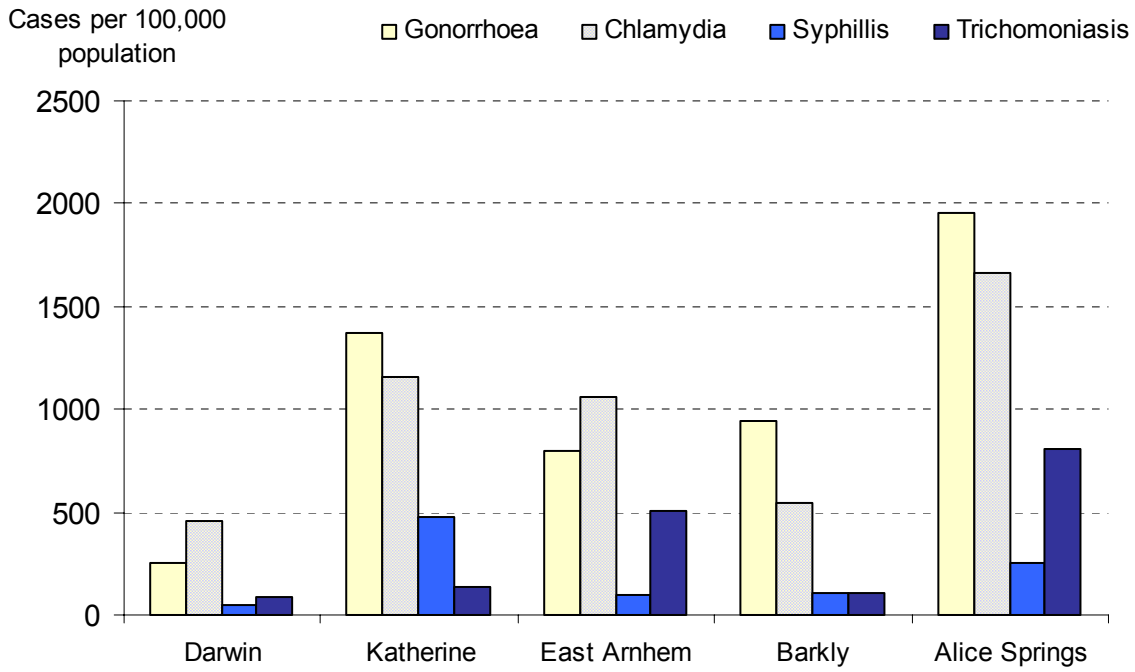
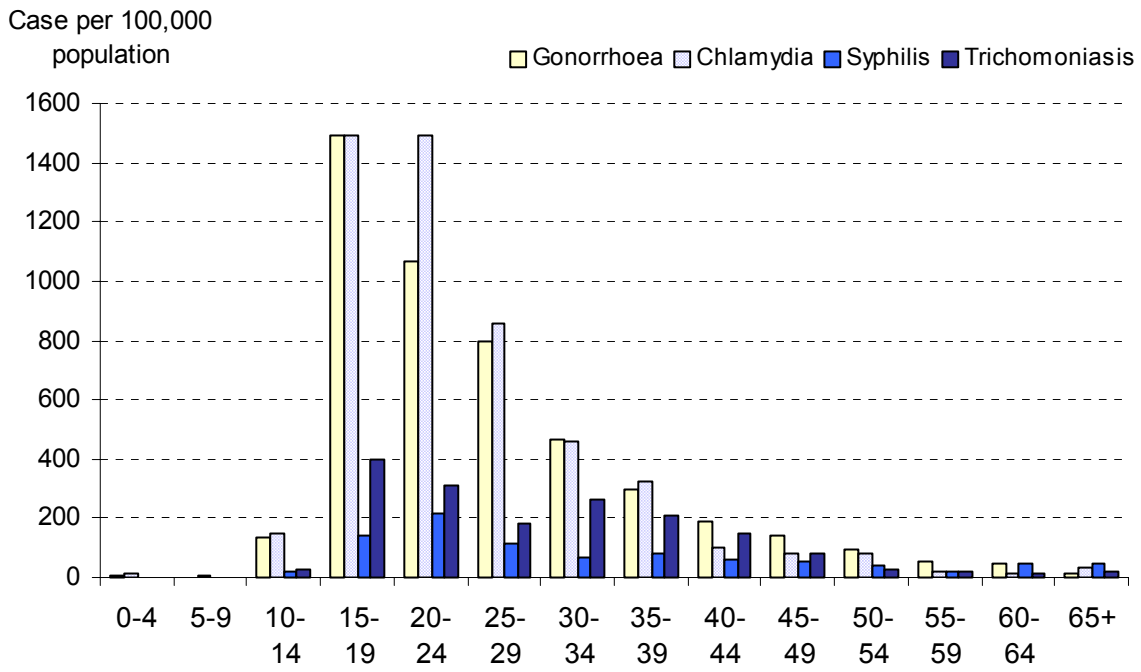


Table 1.5 Gonorrhoea, chlamydia, syphilis and trichomonas rates in the Northern Territory by five-year age group, July-December 2004

	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
Age group	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Jul-Dec 2004								
0-4	1	5.7	2	11.4	0	0.0	0	0.0
5-9	0	0.0	1	6.0	0	0.0	0	0.0
10-14	22	134.9	24	147.1	3	18.4	4	24.5
15-19	219	1494.7	219	1494.7	21	143.3	58	395.9
20-24	169	1064.6	237	1492.9	34	214.2	49	308.7
25-29	134	799.7	144	859.4	19	113.4	31	185.0
30-34	86	467.6	84	456.8	13	70.7	48	261.0
35-39	49	293.9	54	323.9	13	78.0	35	210.0
40-44	31	191.3	16	98.8	10	61.7	24	148.1
45-49	20	144.7	11	79.6	7	50.6	11	79.6
50-54	12	95.7	10	79.7	5	39.9	3	23.9
55-59	5	53.1	2	21.2	2	21.2	2	21.2
60-64	3	48.3	1	16.1	3	48.3	1	16.1
65+	1	11.4	3	34.1	4	45.4	2	22.7
Total	**752**	**752.3**	**808**	**808.4**	**134**	**134.1**	**268**	**268.1**

Figure 1.5 Gonorrhoea, chlamydia, syphilis and trichomonas rates in the Northern Territory by five-year age group, July-December 2004

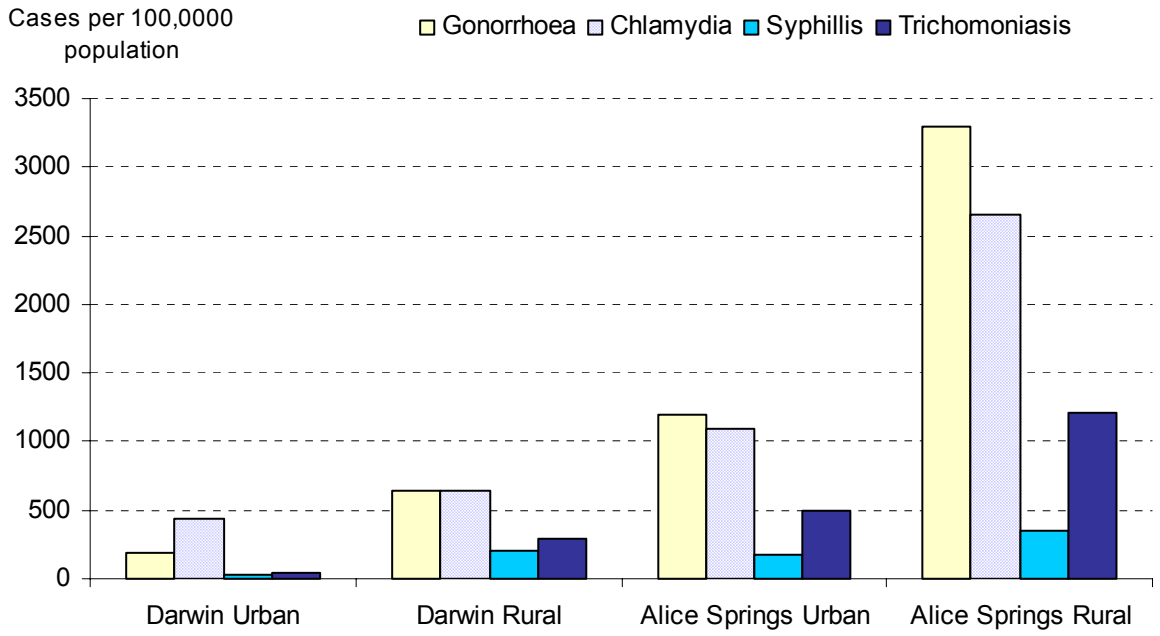


2. Urban and Rural Burden of Disease

Figure 2.1 Gonorrhoea, chlamydia syphilis and trichomonas rates in the Northern Territory by urban and rural split by district, July-September and October-December 2004

	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
District	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Darwin Urban								
Jul-Sep	48	177.3	118	435.7	8	29.5	12	44.3
Oct-Dec	52	192.0	116	428.4	8	29.5	13	48.0
Total	**100**	**184.6**	**234**	**432.1**	**16**	**29.5**	**25**	**46.2**
Darwin Rural								
Jul-Sep	33	954.8	26	752.3	9	260.4	11	318.3
Oct-Dec	18	520.8	18	520.8	5	144.7	9	260.4
Total	**44**	**636.5**	**44**	**636.5**	**14**	**202.5**	**20**	**289.3**
Alice Springs Urban								
Jul-Sep	76	1116.3	67	984.1	11	161.6	33	484.7
Oct-Dec	86	1263.2	81	1189.8	13	191.0	35	514.1
Total	**162**	**1189.8**	**148**	**1087.0**	**24**	**176.3**	**68**	**499.4**
Alice Springs Rural								
Jul-Sep	99	3149.4	74	2354.1	12	381.7	28	890.7
Oct-Dec	108	3435.7	93	2958.5	10	318.1	48	1527.0
Total	**207**	**3292.5**	**167**	**2656.3**	**22**	**349.9**	**76**	**1208.8**

Figure 2.2 Gonorrhoea, chlamydia syphilis and trichomonas rates in the Northern Territory by Urban and Rural split by district, July-December 2004

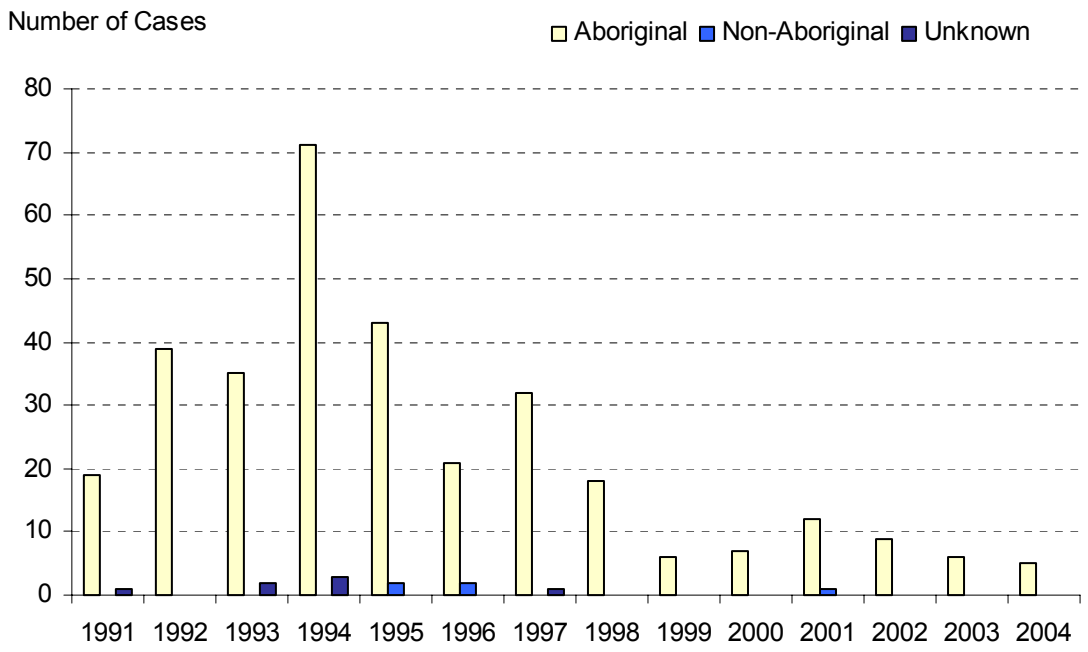


3. Donovanosis

Table 3.1 Number of cases of donovanosis diagnosed during the last two quarters of 2004 by gender, indigenous status, age and district.

Quarter	Cases	Gender	Indigenous status	Age group	District
Jul-Sep	1	Male	Aboriginal	25-29	Katherine
	1	Female	Aboriginal	30-34	Katherine
Oct-Dec	1	Male	Aboriginal	35-39	Alice Springs
	1	Female	Aboriginal	65-69	Alice Springs
Jul-Dec 2004 Total = 4 cases					

Figure 3.1 Donovanosis cases in the NT by year and indigenous status



4. Hepatitis C

Figure 4.1 Proportions of hepatitis C cases in the Northern Territory by gender, July-December 2004

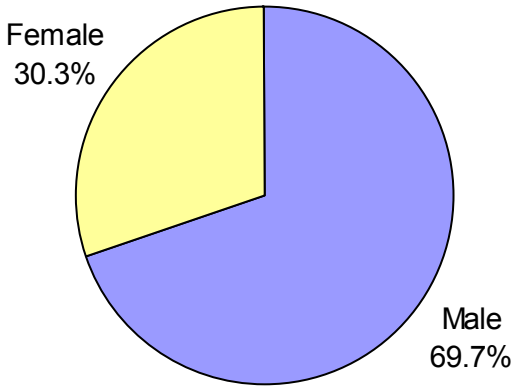


Figure 4.2 Proportions of hepatitis C cases in the Northern Territory by indigenous status, July-December 2004

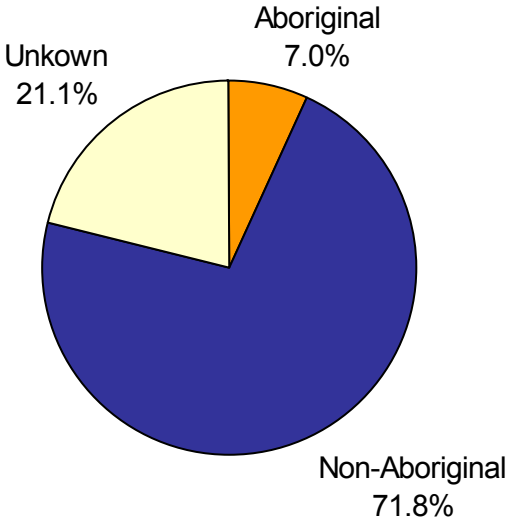


Table 4.1 Hepatitis C in the Northern Territory by district and gender, July-September and October-December 2004

	Darwin		Katherine		East Arnhem		Barkly		Alice Springs	
Gender	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**	**Cases**	**Rate**
Jul-Sep										
Male	32	198.0	1	40.6	1	55.0	2	277.5	9	175.3
Female	9	62.6	0	0.0	0	0.0	0	0.0	5	103.8
Oct-Dec										
Male	33	204.2	7	284.1	0	0.0	2	277.5	12	233.7
Female	27	187.8	0	0.0	0	0.0	0	0.0	2	41.5
Jul-Dec 2004	**101**	**165.4**	**8**	**86.6**	**1**	**14.3**	**4**	**144.8**	**28**	**140.7**

Figure 4.3 Hepatitis C in the Northern Territory by district, July-December 2004

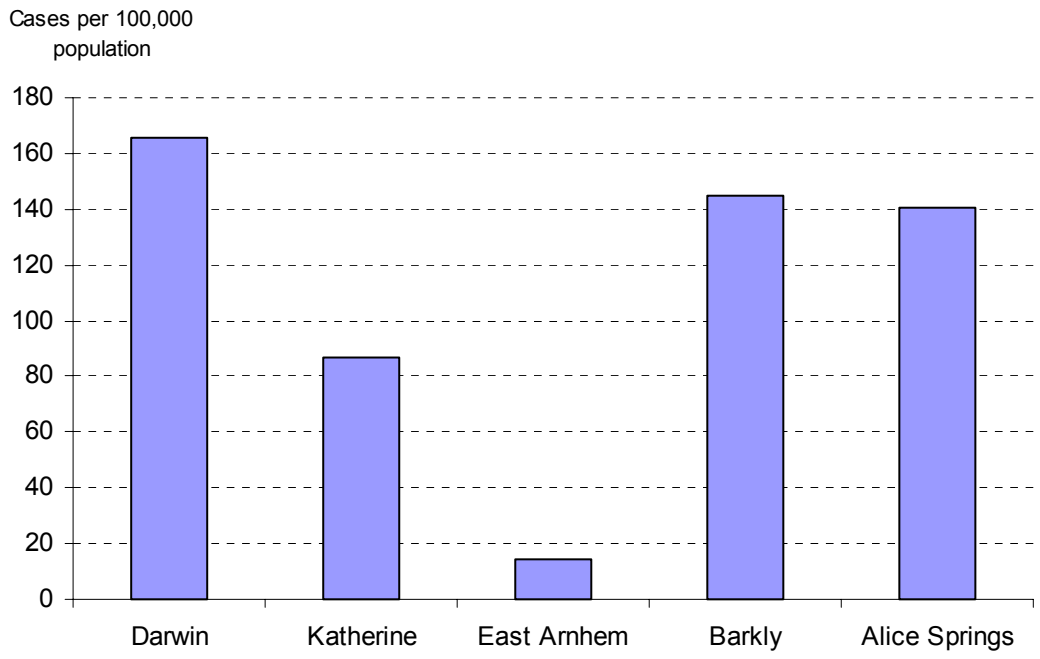
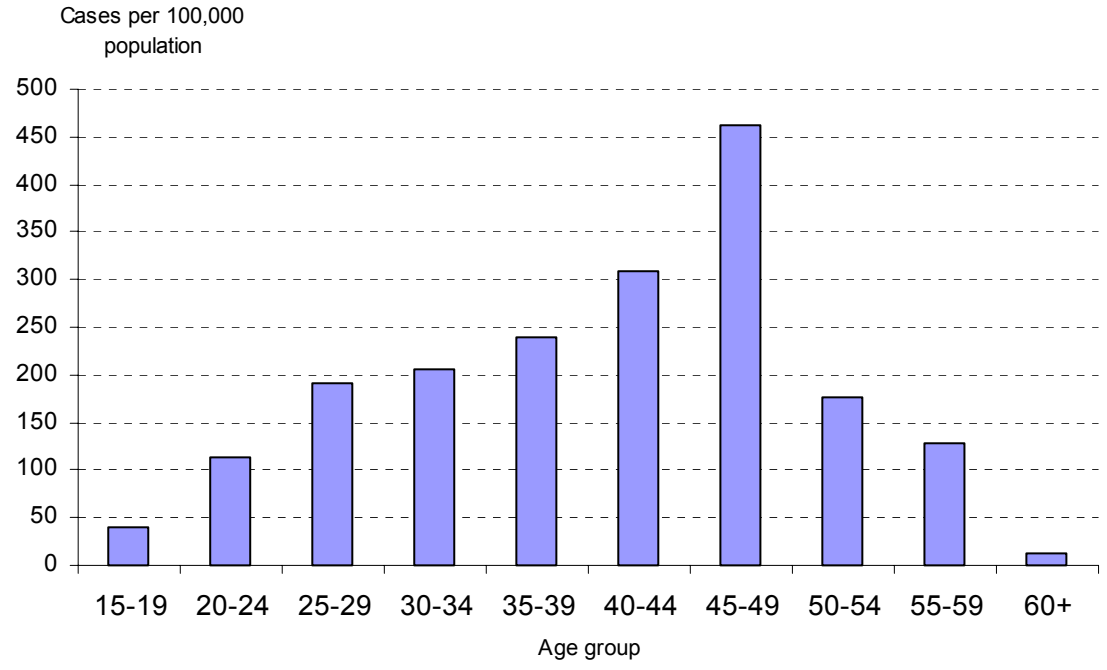


Table 4.2 Hepatitis C rates in the Northern Territory by five-year age group, July-December 2004

Age Group	Cases	Rate
Jul-Dec 2004		
15-19	3	41.0
20-24	9	113.4
25-29	16	191.0
30-34	19	206.6
35-39	20	240.0
40-44	25	308.6
45-49	32	463.0
50-54	11	175.4
55-59	6	127.3
60+	1	13.3
Total	**142**	**142.1**

Figure 4.4 Hepatitis C rates in the Northern Territory by five-year age group, July-December 2004



5. Human Immunodeficiency Virus (HIV)

Table 5.1 HIV cases in NT residents* notified in 2004 by gender, indigenous status, age group and mode of transmission

Quarter	Gender	Indigenous status	Age group	Mode of transmission
Jan-Mar	Male	Non-Aboriginal	30-34	Heterosexual
	Male	Non-Aboriginal	35-39	Male homosexual/bisexual contact
	Male	Non-Aboriginal	50-54	Heterosexual
	Female	Non-Aboriginal	35-39	Heterosexual
	Female	Non-Aboriginal	40-44	Heterosexual
Apr-Jun	Male	Non-Aboriginal	35-39	Male homosexual
	Male	Non-Aboriginal	40-44	Heterosexual
	Female	Non-Aboriginal	25-29	Heterosexual
Jul-Sep	Male	Aboriginal	20-24	Male homosexual/bisexual contact
	Female	Non-Aboriginal	40-44	Heterosexual

* Cases must have resided in the NT for longer than 3months to be considered NT residents

Table 5.2 AIDS cases in NT residents* notified in 2004 by gender, indigenous status, age group, AIDS defining illness and mode of transmission

Quarter	Gender	Indigenous status	Age group	Defining illness	Mode of transmission
Apr-Jun	Male	Non-Aboriginal	35-39	PCP#	Homosexual contact
	Female	Non-Aboriginal	25-29	Penicillosis	Heterosexual contact
	Female	Aboriginal	50-54	Oesophageal candidiasis and HIV wasting	Heterosexual contact
Oct-Dec	Male	Non-Aboriginal	25-29	PCP	Male homosexual/bisexual contact

* Cases must have resided in the NT for longer than 3months to be considered NT residents
# PCP: Pneumocystis carinii pneumonia