

Northern Territory
Sexual Health and Blood Borne Viruses Unit
Surveillance Update

Department of Health and Community Services, Vol. 8 No. 1,

Jan-Mar 2007 & Apr-Jun 2007

A. Introduction

This surveillance update presents the quarterly statistics for notifiable sexually transmissible infections (STIs) and blood borne viruses (BBVs) at district level for the Northern Territory (NT) for the first two quarters of 2007. To make this report more informative and to put the disease statistics in perspective, where appropriate, disease rate comparisons with other jurisdictions and/or Australia as a whole are also provided. It is hoped that the information provided in this report may inform service providers who can use the information for the planning of targeted prevention and intervention programs.

The data used for this report include notification data extracted from the Northern Territory Notifiable Diseases Surveillance System (NTNDSS) and HIV and AIDS data from the HIV/AIDS Database maintained by the Sexual Health and Blood Borne Virus Unit (SHBBVU). The statistics of Australia and other states/territories used for comparison were extracted from '*HIV/AIDS, Viral Hepatitis and Sexually Transmissible Infections in Australia Annual Surveillance Report 2006*' published by National Centre in HIV Epidemiology and Clinical Research. As the population data for the year 2007 are not yet available, all 2007 rates are calculated with 2006 population data as used in the 2006 issues of this publication.

All notification rates for quarters and 6-month periods presented in this report are crude annualised rates. The sum of the numbers of notifications of districts is not always equal to the total number of notifications given at the beginning of each section as there are usually some notifications categorised as 'interstate' which will not be included in the tables.

As STI rates are known to be influenced by the amount of testing activities, some caution should be taken when interpreting the figures reported in this publication. This is particularly true for the NT where the STI rates have been high and an increase in the rate of STI notifications can often be due to an increase in testing or a large-scale community screening activity, and therefore does not necessarily represent a true increase in disease incidence/prevalence.

B. Quarterly Statistics

Table B.1.1 Number and rate of gonorrhoea, chlamydia, syphilis and trichomoniasis notifications, NT, Jan-Jun 2007

Quarter	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
	Cases	Rate	Cases	Rate	Case	Rate	Case	Rate
2007								
Jan-Mar	374	729.9	530	1034.3	45	87.8	461	899.7
Apr-Jun	533	1040.2	704	1373.9	98	191.3	623	1215.8
Total	907	885.0	1234	1204.1	143	139.5	1084	1057.8
2006								
Jan-Jun	965	941.6	1066	1040.2	156	152.2	516	503.5

Figure B.1.1 Notification rates of gonorrhoea, chlamydia, syphilis and trichomoniasis, NT, Jan-Jun, 2002-2007

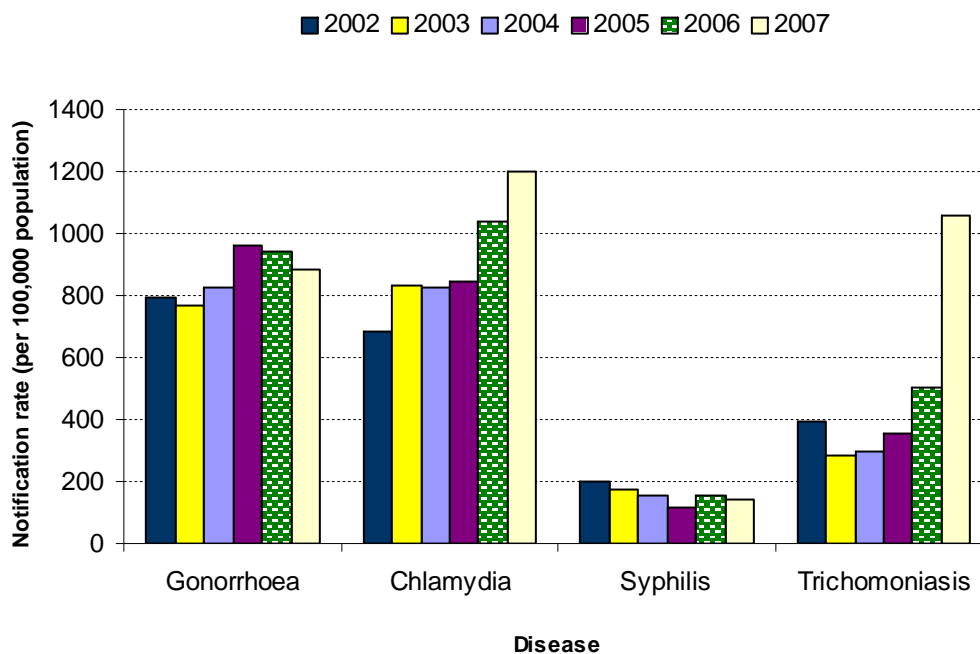


Figure B.1.2 Notification rates of gonorrhoea, chlamydia, syphilis and trichomoniasis, males, NT, Jan-Jun, 2002-2007

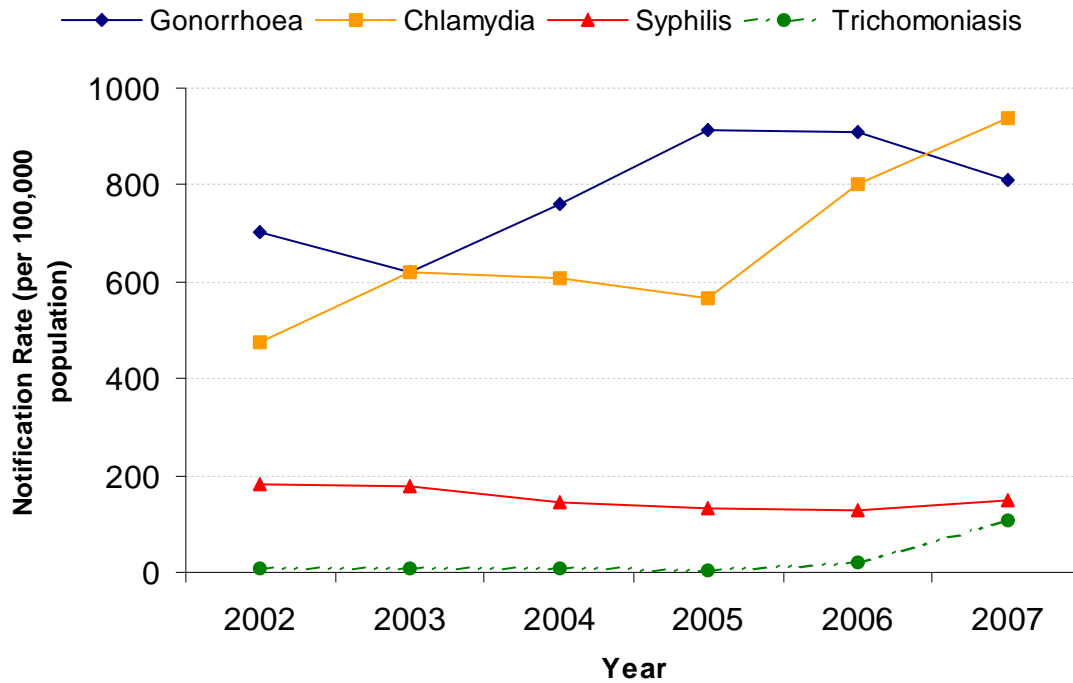


Figure B.1.3 Notification rates of gonorrhoea, chlamydia, syphilis and trichomoniasis, females, NT, Jan-Jun, 2002-2007

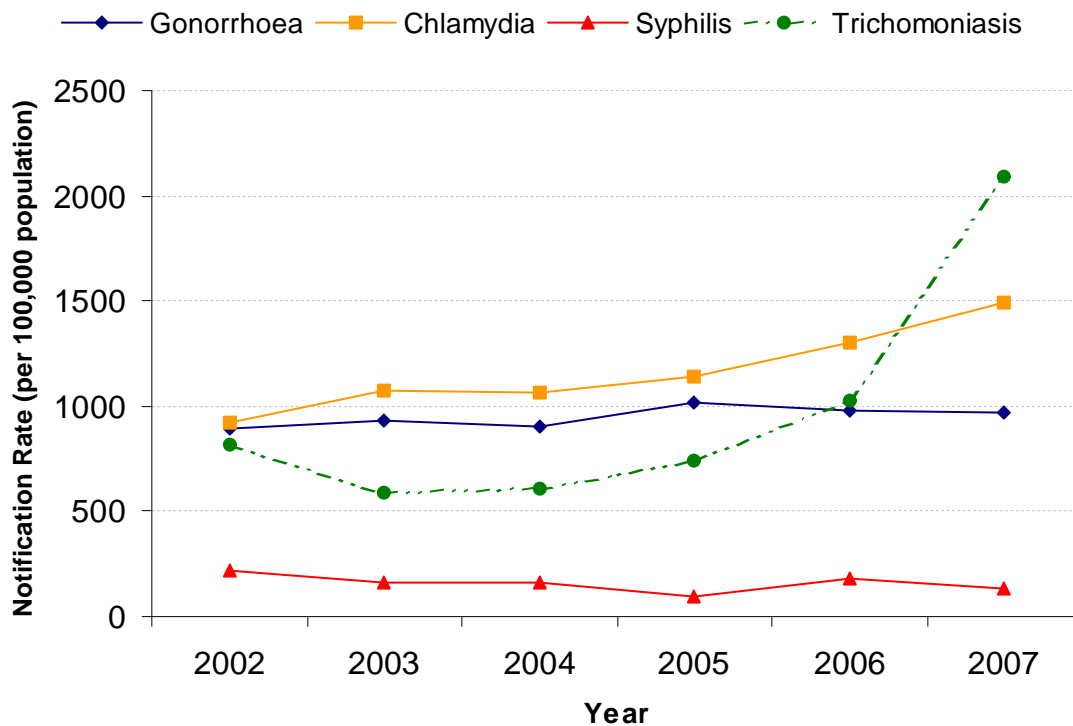


Table B.1.2 Number and rate of gonorrhoea, chlamydia, syphilis and trichomoniasis by sex, NT, Jan-Jun 2007

Gender	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Jan-Jun, 2007								
Males								
Jan-Mar	183	685.8	205	768.3	24	89.9	24	89.9
Apr-Jun	249	933.2	295	1105.6	55	206.1	33	123.7
Total	432	809.5	500	936.9	79	148.0	57	106.8
Females								
Jan-Mar	191	777.8	325	1323.5	21	85.5	437	1779.5
Apr-Jun	284	1156.5	409	1665.5	43	175.1	589	2398.5
Total	475	967.1	734	1494.5	64	130.3	1026	2089.0
Unknown								
Jan-Mar	0		0		0		0	
Apr-Jun	0		0		0		1	
Total	0		0		0		0	

Table B.1.3 Number and rate of gonorrhoea, chlamydia, syphilis and trichomoniasis notifications by indigenous status, NT, Jan-Jun 2007

Ethnicity	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis		
	Quarter	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Aboriginal									
Jan-Mar	327	2278.1	322	2243.2	41	285.6	421	2932.9	
Apr-Jun	495	3448.5	489	3406.7	90	627.0	593	4131.2	
Total	822	2863.3	811	2824.9	131	456.3	1014	3532.1	
Non-Aboriginal									
Jan-Mar	28	75.9	145	393.1	3	8.1	12	32.5	
Apr-Jun	25	67.8	148	401.2	8	21.7	10	27.1	
Total	53	71.8	293	397.2	11	14.9	22	29.8	
Unknown									
Jan-Mar	19		63		1		28		
Apr-Jun	13		67		0		20		
Total	32		130		1		48		

Table B.1.4 Number and rate of gonorrhoea, chlamydia, syphilis and trichomoniasis notifications by district, NT, Jan-Jun 2007

District	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Darwin								
Jan-Mar	87	272.9	210	658.7	6	18.8	134	420.3
Apr-Jun	53	166.2	205	643.0	7	22.0	98	307.4
Total	140	219.6	415	650.9	13	20.4	232	363.9
Katherine								
Jan-Mar	58	1260.0	52	1129.7	19	412.8	71	1542.5
Apr-Jun	62	1346.9	45	977.6	7	152.1	79	1716.3
Total	120	1303.5	97	1053.7	26	282.4	150	1629.4
East Arnhem								
Jan-Mar	27	756.9	54	1513.8	3	84.1	84	2354.8
Apr-Jun	23	644.8	50	1401.6	5	140.2	64	1794.1
Total	50	700.8	104	1457.7	8	112.1	148	2074.4
Barkly								
Jan-Mar	16	1206.6	15	1131.2	3	226.2	22	1659.1
Apr-Jun	16	1206.6	12	905.0	4	301.7	19	1432.9
Total	32	1206.6	27	1018.1	7	264.0	41	1546.0
Alice Springs								
Jan-Mar	179	1814.7	183	1855.3	14	141.9	142	1439.6
Apr-Jun	368	3730.8	386	3913.3	75	760.4	359	3639.6
Total	547	2772.8	569	2884.3	89	451.1	501	2539.6

Figure B.1.4 Notification rates of gonorrhoea, chlamydia, syphilis and trichomoniasis by district, NT, Jan-Jun 2007

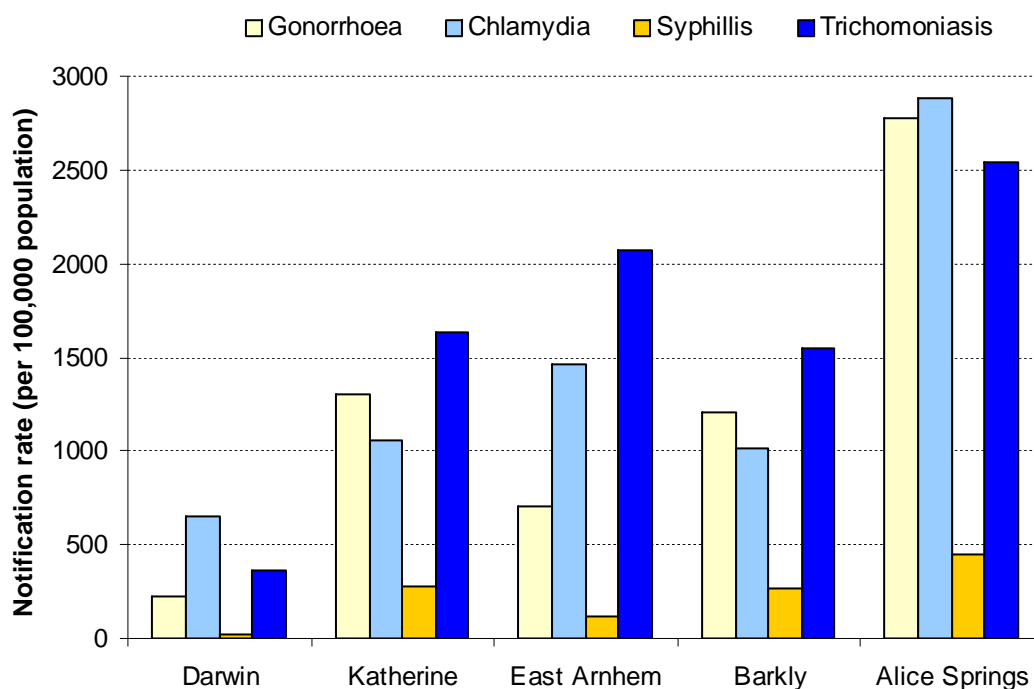
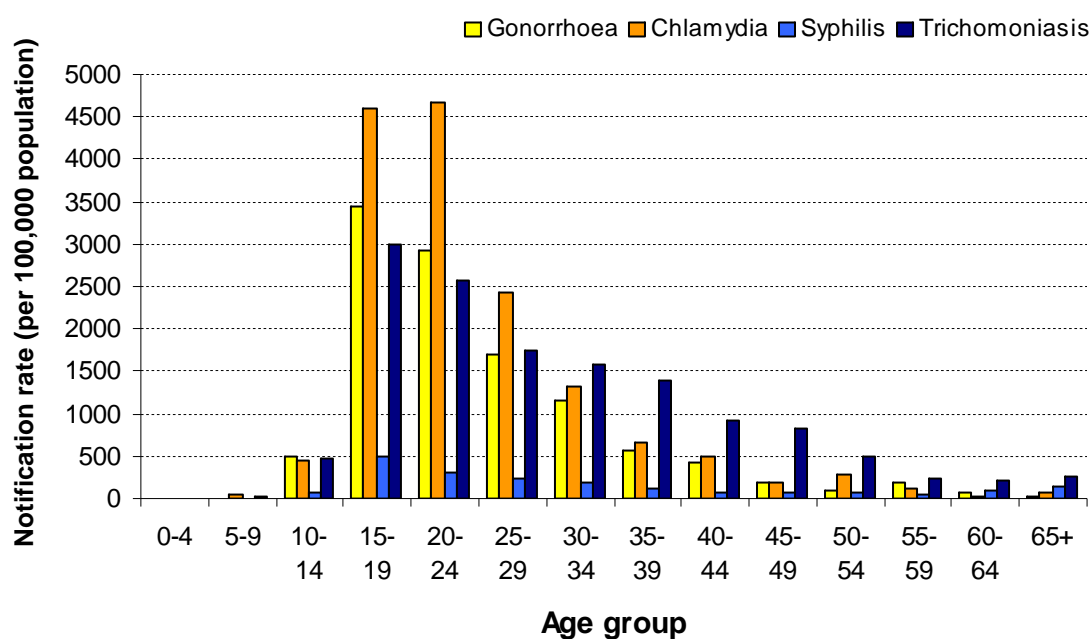


Table B.1.5 Number and rate of gonorrhoea, chlamydia, syphilis and trichomoniasis notifications by 5-year age group, Jan-Jun 2007

Age group	Gonorrhoea		Chlamydia		Syphilis		Trichomoniasis	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
<i>Jan-Jun 2007</i>								
0-4	1	11.2	1	11.2	0	0.0	0	0.0
5-9	0	0.0	4	47.4	0	0.0	1	11.9
10-14	40	488.0	36	439.2	5	61.0	39	475.8
15-19	260	3448.0	347	4601.8	38	503.9	225	2983.9
20-24	238	2929.4	380	4677.2	24	295.4	208	2560.2
25-29	147	1705.3	210	2436.2	20	232.0	151	1751.7
30-34	103	1155.4	117	1312.5	17	190.7	141	1581.7
35-39	50	573.7	57	654.0	10	114.7	121	1388.3
40-44	35	435.5	40	497.7	6	74.7	73	908.4
45-49	14	191.6	14	191.6	6	82.1	61	834.9
50-54	6	93.0	18	279.1	5	77.5	32	496.1
55-59	10	189.4	6	113.6	2	37.9	13	246.2
60-64	2	60.3	1	30.2	3	90.5	7	211.2
65+	1	21.5	3	64.5	7	150.4	12	257.9
Total	907	885.0	1234	1204.1	143	139.5	1084	1057.8

Figure B.1.5 Notification rate of gonorrhoea, chlamydia, syphilis and trichomoniasis notifications by 5-year age group, Jan-Jun 2007



B.1 Gonorrhoea

During this reporting period, a total of 907 gonorrhoea cases were notified, which gave an annualised rate of 885.0 cases per 100000 population (Table B.1.1). As shown in Figure B.1.1, this annualised notification rate for the first half of the year has been decreasing in the last three years.

The notification rate for females was about 20% higher than the male rate. (Table B.1.2). When compared with the corresponding rate for 2006, the male rate showed a 11% decrease in this reporting period (2007) while the female rate remained relatively stable. (Figure B.1.2 and Figure B.1.3).

About 91% of all notifications were Aboriginal. The notification rate for the Aboriginal population was about 40 times the non-Aboriginal rate (see Table B.1.3). However, the non-Aboriginal rate for the NT was still considerably higher than the rate for Australia (41.5 per 100000 in 2005, 2006 data not yet available).

Alice Springs district accounted for 60% of all notified cases in this 6-month period (Table B.1.4). The rates of gonorrhoea for the five districts were all considerably higher than the Australian rate, with the rate for Alice Springs being the highest at 2772.8 per 100000.

The highest notification rates continued to occur in the 15-19 and 20-24 years age groups, which accounted for 55% of all gonorrhoea notifications during this reporting period (Table B.1.5 and Figure B.1.5).

B.2 Genital Chlamydia

A total of 1234 notifications of genital chlamydia were reported in this 6-month period, giving an annualised notification rate of 1204.1 cases per 100000 population (see Table B.1.1 and Figure B.1.1). This represented a 16% increase over the corresponding rate for 2006.

The notification rate for females was about 1.6 times the male rate (Table B.1.2). Both female and male rates have increased considerably when compared with 2006 rates (Figure B.1.2 & Figure B.1.3).

Aboriginal population accounted for 66% of all notifications while the notification rate for Aboriginals was about 7 times the non-Aboriginal rate (Table B.1.3). Both Aboriginal and non-Aboriginal rates were considerably higher than the national notification rate (217.2 per 100000 in 2005).

Alice Springs District accounted for 46% of all chlamydia notifications, followed by Darwin District (34%). Alice Springs District also recorded the highest notification rate (2884.3 per 100000) in the NT, followed by East Arnhem (1457.7 per 100000, see Table B.1.4).

The highest age-specific rates were recorded in the 15-19 and 20-24 year age groups (Table B.1.5). These two age groups represented 59% of all notifications.

B.3 Syphilis

There were 143 syphilis notifications in this reporting period (excluding congenital syphilis), giving an annualised notification rate of 139.5 per 100000 population (Table B.1.1). This was slightly lower than the corresponding rate for 2006 (152.2 per 100000).

It is worth noting that the number and rate of notifications were both higher in males (Table B.1.2), but the opposite that was true in the past. Compared with the corresponding rates for 2006, the male rate increased by 17% while the female rate decreased also by 17%.

The notifications from the Aboriginal population represented 92% of all notifications. The Aboriginal rate was about 31 times the non-Aboriginal rate.

About 62% of all notifications were from Alice Springs District, where the highest notification rate was recorded (451.1 per 100000). Notably, there were 26 notifications from Katherine in this reporting period, which represented a 136% increase over the figure for the same time last year.

Like gonorrhoea and chlamydia, the highest number and rate of syphilis were recorded in the 15-19 and 20-24 year age groups (representing 43% of all syphilis cases, see Table B.1.5).

There were 2 notifications of congenital syphilis in this reporting period, both from Alice Springs district.

B.4 Trichomoniasis

Some caution needs to be taken when interpreting the notification data of trichomoniasis.

There was a prominent increasing trend in trichomoniasis notifications from early 2006 until now. The most likely reasons for this increasing trend include more consistent notification practice by the pathology laboratories and an increase in the number of the convenient nucleic acid tests performed, although an increase in disease incidence cannot be ruled out.

There were 1084 notifications of trichomoniasis recorded in the first two quarters of 2007, which gave an annualised rate of 1057.8 per 100000 population (Table B.1.1). This represented a 110% increase over the corresponding rate of 2006 (Figure B.1.1) and represented an accelerated increase on top of the previous increasing trend.

The majority (95%) of all notifications were female (Table B.1.2) and 94% were Aboriginal (Table B.1.3).

Alice Springs district recorded 501 (46%) notifications, followed by Darwin (232 notifications, Table B.1.4). In terms of notification rate, the highest was recorded in Alice Springs District (2539.6 per 100000), followed by East Arnhem District (2074.4 per 100000).

The highest rates were recorded in the 15-19 and 20-24 year age groups (Table B.1.5), which accounted for about 40% of all notifications.

B.5 Donovanosis

There was no notification of donovanosis in the NT in this reporting period.

B.6 Other Sexually Transmitted Infections

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

B.7 Hepatitis C

In this reporting period, there were 2 new and 119 unspecified hepatitis C notifications recorded (Table B.7.1), compared with 1 new and 149 unspecified hepatitis C notification in the same period of 2006. Despite the implementation of enhanced surveillance, the indigenous status was unknown for 9% of the notification. However, this represented an improvement when compared with the same figure for Jan-Jun 2006 when the enhanced surveillance was not yet implemented (16%, see Table B.7.2).

The notification rate for males was about 1.7 times the female rate. Non-Aboriginal population accounted for 77% of all notifications and the non-Aboriginal rate was 2.1 times the Aboriginal rate (Table B.7.1). The two new infections were both non-Aboriginal.

Table B.7.1 Number and rate of hepatitis C by sex and indigenous status, NT, Jan-Jun 2007

Quarter	Gender	Aboriginal		Non-Aboriginal		Unknown		Total	
		Case	Rate	Case	Rate	Case	Case	Rate	
<i>Jan-Mar</i>	Female	4	55.3	13	75.0	2	19	77.4	
	Male	4	56.1	35	179.0	5	44	164.9	
	Total	8	55.7	48	130.1	7	63	122.9	
<i>Apr-Jun</i>	Female	3	41.5	19	109.6	2	24	97.7	
	Male	6	84.2	26	132.9	2	34	127.4	
	Total	9	62.7	45	122.0	4	58	113.2	
<i>Jan-Jun</i>	Female	7	48.4	32	92.3	4	43	87.6	
	Male	10	70.2	61	155.9	7	78	146.2	
	Total	17	59.2	93	126.1	11	121	118.1	

Table B.7.2 Number of hepatitis C notifications by sex, indigenous status and disease categories, NT, Jan-Jun 2007

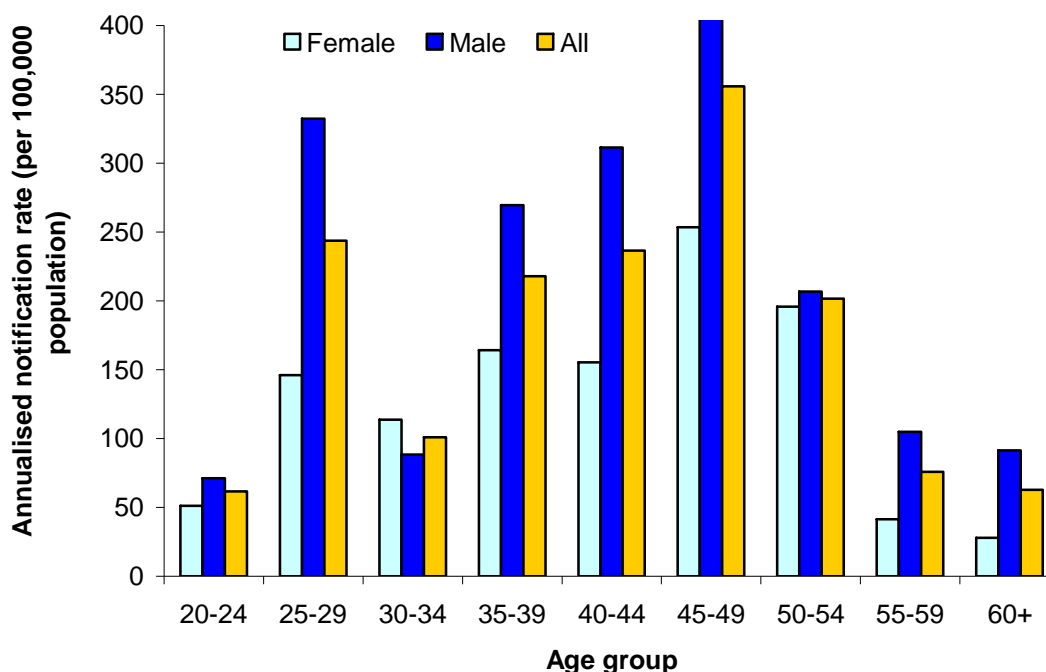
Type	Gender	Indigenous status			Total	Percentage
		Aboriginal	Non-Aboriginal	Unknown		
New	Female	0	1	0	1	0.8%
	Male	0	1	0	1	0.8%
Unspecified	Female	7	31	4	42	98.3%
	Male	10	60	7	77	
Total		17	93	11	121	
Percentage		14%	77%	9%		

The majority of the notifications were recorded in Darwin District (69%), followed by Alice Springs (16%, see Table B.7.3). The annualised notification rates for Darwin and Alice Springs (130.2 and 96.3 per 100000) were both considerably higher than the national rate (63.4 per 100000 in 2005). The highest rates were recorded in the relatively older age groups in both sexes (35-39, 40-44, and 45-49 year age groups, see Figure B.7.1). The exception was for the 25-29 year age group, which showed a 67% increase over the corresponding rate of 2006.

Table B.7.3 Number and annualised rate of hepatitis C notifications by sex and district, NT, Jan-Jun 2007

Quarter	Gender	District									
		Darwin		Katherine		East Arnhem		Barkly		Alice Springs	
		Case	Rate	Case	Rate	Case	Rate	Case	Rate	Case	Rate
Jan-Mar	Female	13	85.8	0	0.0	0	0.0	0	0	6	123.7
	Male	31	185.4	3	123.8	2	109.5	1	145.6	6	119.6
Apr-Jun	Female	14	92.4	2	91.8	0	0.0	1	156.5	5	103.1
	Male	25	149.5	3	123.8	0	0.0	1	145.6	2	39.9
Total Jan-Jun 2007		83	130.2	8	86.9	2	14.0	3	113.1	19	96.3
		69%		7%		2%		3%		16%	

Figure B.7.1 Annualised notification rate of hepatitis C by age groups, NT, Jan-Jun 2007



B.8 Human Immunodeficiency Virus (HIV)

A total of five new notifications were recorded in this reporting period, two of which were non-NT resident from overseas. All three NT cases were male and contracted the infection via male homosexual contact. All of them were non-Aboriginal. All diagnoses were made in Darwin.

B.9 Acquired Immunodeficiency Syndrome (AIDS)

There was no notification of AIDS in this 6-month period in the NT.

C. Surveillance of antibiotic sensitivity of *N. gonorrhoeae* in the NT, 2006

The consolidated 2006 NT data for the antibiotic sensitivity of *N. gonorrhoea* from the three reference laboratories, i.e. Institute for Medical and Veterinary Science (IMVS) in South Australia (for isolates from Central Australia), Prince of Wales Hospital (POW) in NSW (for isolates from Royal Darwin Hospital laboratory), and Royal Perth Hospital (RPH) in Western Australia (for isolates from Western Diagnostics laboratory), are presented below. For a detailed description of the significance of this surveillance system and current practice, please refer to the July-December 2004 issue of this publication.

A total of 549 isolates from the NT were sent to these three reference laboratories in 2006, representing about 14.0% of the 3937 isolates referred to or isolated in the laboratories of the Australian Gonococcal Surveillance Programme.

Out of the 549 isolates, 536 (98.1%) were viable. Only two isolates (0.4%) were found to be fully sensitive to penicillin (MIC \leq 0.03mg/L), while the vast majority (509, 95.0%) were categorised as less sensitive (MIC 0.06-05mg/L). Among the rest, four cases (0.8%) were relatively resistant (MIC 1-2mg/L) and 21 (3.9%) were penicillinase-producing *N. gonorrhoeae* (PPNG, MIC >2mg/L), compared to 2.4% of PPNG in 2005. In all, 4.6% were penicillin resistant (by either plasmid or chromosomal mechanisms), which was considerably lower than the 34% for Australia¹. This low level of penicillin resistance provides good evidence for the current treatment recommendations for gonorrhoea contained in *NT Guidelines for the Management of Sexually Transmitted Infections in the Primary health Care Setting*. Furthermore, there were no penicillin resistant isolates recorded in Central Australia so far, which is important as the gonorrhoea rates have remained extremely high in this area. In addition to sensitivity to penicillin, examinations of sensitivity to quinolone, tetracycline, ceftriaxone and spectinomycin are routinely performed. All 2006 isolates from NT were sensitive to ceftriaxone, the antibiotic recommended for those acquire the disease from overseas or interstate. Twenty-three isolates (4.3%) were quinolone resistant and twenty-four isolates (4.3%) tetracycline resistant. None of these resistant isolates were recorded in Central Australia.

¹ Australian Gonococcal Surveillance Programme. Annual report of the Australian Gonococcal Surveillance Programme, 2006. *Commun Dis Intell* 2007;31(2):180-184.

Table C.1 Penicillin sensitivity for N. Gonorrhoeae isolates from the NT by region, 2006

Sensitivity	Top End	%	Central Australia*	%	Total	%
Sensitive	1	0.2%	1	0.0	2	0.4%
Less Sensitive	413	94.1%	96	1.0	509	95.0%
Relatively Resistant	4	0.9%	0	0.0	4	0.7%
PPNG	21	4.8%	0	0.0	21	3.9%
Total	439		97		536	

* Including Tennant Creek and Alice Springs.

The NT PPNG Database maintained by Sexual Health and Blood Borne Viruses Unit showed that, among the 21 PPNG and 4 penicillin resistant cases, fifteen acquired the infection in Indonesia (eight of them being illegal fishermen), five in Thailand, one in Singapore, one in the Philippines, and three in the NT.

D. Consumer response

The SHBBVU 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.nt.gov.au/health/cdc/aids_std/report/index.shtml

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