

**Sexually Transmitted Infections
in New Zealand**

**Annual Surveillance Report
2006**

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By

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Summary

Surveillance of sexually transmitted infections (STIs) in New Zealand continues to be based on voluntary data from several different sources including specialist Sexual Health Clinics (SHCs), Family Planning Clinics (FPCs), Student Youth Health Clinics (SYHCs) and government and commercial laboratories. Population and disease coverage varies with the source. In particular, the laboratory information is mainly for the Auckland, Waikato and the Bay of Plenty (BOP) regions and only includes data for chlamydia and gonorrhoea.

Although SHCs see only a portion of the population with STIs, their data provides the most comprehensive source of information on the epidemiology of STIs in New Zealand.

When comparing the same regions, laboratory surveillance reported nearly four times the number of cases of chlamydia and gonorrhoea compared with that reported by clinic surveillance. Reliable estimates of the burden of STIs for the whole of New Zealand population cannot be determined from current methods of STI surveillance.

Clinical Surveillance Key points

- *Chlamydia trachomatis* infection is the most commonly diagnosed STI in New Zealand.
- From 2002 to 2006 the number of cases of chlamydia and gonorrhoea diagnosed at SHCs has increased by 27.7% and 52.1% respectively. Over the same time period clinic visits increased by 10.5%.
- Genital warts remains the most common viral infection diagnosed and in SHCs the rate was highest in the 15–19 years age group.
- From 2002 to 2006 the number of genital herpes (first presentation) infections diagnosed at SHCs has remained relatively constant, fluctuating between 712 and 747 cases.
- SHCs reported 68 cases of syphilis in 2006, an increase of 44.7% from 2005.
- The total number of cases of NSU reported in 2006 by SHCs was 687. The rate of NSU has steadily decreased over the last five years, which may reflect the use of more sensitive chlamydia tests.
- Young people remain at high risk of STIs with those aged less than 25 years having the highest rates of consultation for chlamydia, gonorrhoea, and genital warts at SHCs.
- In 2006, 621 SHC attendees were diagnosed with concurrent infections. Young people, Maori and Pacific Peoples are at greater risk of concurrent infections.
- Of the 9 774 SHC patients diagnosed with an STI in 2006, 10.7% presented with a subsequent STI infection.

Laboratory Surveillance Key points

- Young people were confirmed as being at the greatest risk of chlamydia and gonorrhoea with the highest rates being in females aged 15 to 19 years (excepting chlamydia in Auckland which was 20 to 24 years) and in males aged 20 to 24 years.
- Infections in infants due to sexually transmissible organisms continue to be diagnosed, reinforcing the need for effective STI screening during pregnancy.

Efforts are being made to extend laboratory surveillance in terms of both population coverage and diseases. Additional laboratories have already started to supply data but coverage is not yet adequate to provide robust population rates.

Introduction

The report summarises the epidemiology of sexually transmitted infections (STIs) in 2006, and examines trends since 2002. It covers the STIs of public health importance, including chlamydia, gonorrhoea, genital herpes, genital warts, syphilis, non-specific urethritis, chancroid, granuloma inguinale and lymphogranuloma venereum.

Two major sources of data are used in the report; clinic-based and laboratories.

The clinic-based data is derived from SHCs, FPCs, and SYHCs throughout New Zealand. The laboratory data is from the Auckland, Waikato and BOP regions and has a limited dataset for only chlamydia and gonorrhoea. Since June 2004 the number of laboratories reporting from other regions in New Zealand has increased.

This report does not include some diseases traditionally included in surveillance systems for STIs in other countries, such as hepatitis B, trichomoniasis and *Pediculosis pubis*.

HIV/AIDS surveillance is carried out by the AIDS Epidemiology Group (AEG), Dunedin, and only a brief summary report is presented here.

STIs, except AIDS, are not notifiable in New Zealand and surveillance has traditionally been based on data from specialist SHCs. SHCs provide a free and confidential sexual health service. Although a significant proportion of the general population attend other health care settings for their sexual health, SHCs provide the most comprehensive source of information on the epidemiology of STIs in New Zealand.

Since mid 1998, surveillance has been progressively expanded to include data from FPCs and SYHCs to give a more comprehensive picture of the disease burden in New Zealand. FPCs provide sexual and reproductive health services. SYHCs often operate as drop-in centres and provide general and/or specialist health services for students and staff. FPCs and SYHCs charge a variable fee for their services.

The number of cases of STIs reported through the clinic-based surveillance system underestimates the true burden of disease in New Zealand because a substantial percentage of STIs are diagnosed by other health care providers, particularly primary health care practitioners (PHCPs). Laboratories receive specimens from all health providers, and so, provide a useful, complementary source of STI data.

A comparison of clinic-based and laboratory data for areas where both are collected has been made. This indicated that the incidence of chlamydia and gonorrhoea is nearly four times higher than that reported from clinics.

Laboratory-based surveillance of chlamydia and gonorrhoea has been operating since 1998 in the Waikato and BOP regions. In the Auckland region gonorrhoea surveillance began in 1998 and chlamydia surveillance in 2001.

In addition to collecting more data, laboratory surveillance also allows the use of population data as a denominator. In contrast, clinic-based surveillance denominators are based on the number of clinic visits.

Since June 2004, efforts have been made to extend STI surveillance to additional laboratories across New Zealand. Although data has been received from an increasing number of new laboratories, it is still very incomplete. This additional data is presented in a separate section.

Because of the marked differences between clinic-based and laboratory surveillance this report is divided into clinic-based and laboratory sections.

Individual diseases are presented separately under clinic surveillance and laboratory surveillance. An HIV/AIDS summary for 2006 is included together with some discussion of trends in all STIs from 2002. Possible factors underlying the observed distribution and trends are discussed.

Methods

All results and analyses are based on data submitted prior to the 15th March 2007. Any data submitted after this date is not included in this report due to time constraints.

Data collection

Clinics

Clinics record anonymous data on the age, sex and ethnicity of all individuals meeting one or more of the STI surveillance case definitions (see Appendix B). Each month clinics send the demographic data of their cases and the total number of clinic visits either directly to ESR or to a regional co-ordinator. Data are either entered directly onto the national STI surveillance database by ESR staff or entered onto a regional STI surveillance database by a regional co-ordinator. Data from regional STI surveillance databases are sent electronically to ESR each month where they are merged with data on the national STI surveillance database.

Laboratories

Laboratories in the Auckland, Waikato and BOP regions record anonymous data on laboratory confirmed cases of chlamydia and gonorrhoea by age and sex, as well as the total number of specimens and/or patients tested. Since June 2004, efforts have been made to extend STI surveillance to additional laboratories across New Zealand. Additional laboratories now sending data are located in the following District Health Boards (DHBs): Northland, Tairāwhiti, Hawke's Bay, Taranaki, Mid Central, Hutt Valley, Capital and Coast, Canterbury, West Coast, Otago and Southland.

With current laboratory data and reporting practice it is not possible to determine the total number of positive individuals and specimens. Furthermore, an individual with multiple positive specimens may be double counted. However, attempts are made to minimise such double counting.

Each month laboratories send data either directly to ESR, or to a regional co-ordinator who forwards the data to ESR. Laboratory data are entered onto a database by ESR staff.

Diseases under clinic-based STI surveillance

The list of STIs under clinic-based surveillance and the case definition for these infections has varied over time. They were most recently revised in 1998, when STI surveillance was expanded to include data from clinics other than SHCs. The infections currently under surveillance are shown in Table 1 and case definitions are presented in Appendix B.

Analysis methods

STI surveillance data from the above mentioned sources was extracted and analysed using the Statistical Analysis Software (SAS) System version 9.1. Descriptive analyses were carried out to investigate the cross-sectional effects and chi-square statistics were used to compare the distribution across age, sex and ethnicity strata. A p-value of <0.05 was taken to be statistically significant.

Table 1. STIs under clinic-based surveillance

Infection	Category or criteria	Site (for confirmed infections)
Chlamydia	Confirmed or probable (1 st diagnosis per month)	Uncomplicated lower anogenital, PID/Epididymitis, other site
Gonorrhoea	Confirmed or probable (1 st diagnosis per month)	Uncomplicated urogenital or anorectal, PID/Epididymitis, pharynx, other site
Genital warts	1 st diagnosis at reporting clinic	
Genital herpes	1 st diagnosis at reporting clinic	
Infectious syphilis	Primary, secondary or early latent	
Non-specific urethritis (NSU)	Males only	
Chancroid	Confirmed or probable	
Granuloma inguinale (GI)	Confirmed or probable	
Lymphogranuloma venereum (LGV)	Confirmed or probable	

STI case numbers

The STIs under surveillance include both probable and confirmed case definitions for chlamydia, gonorrhoea, chancroid, granuloma inguinale (GI), and lymphogranuloma venereum (LGV). Case numbers presented in the main body of this report relate to confirmed cases of these diseases only (unless otherwise stated). Probable case numbers are presented in Appendix A.

STI rates

Rates have been generated for both clinic, and laboratory-based STI surveillance data. To highlight that the denominator of the clinic-specific rates is the number of clinic visits (see below), these rates are referred to as “clinic visit” rates.

Calculation of rates

The reader is urged to use caution when interpreting rates printed in this report which are based on fewer than five cases as these rates are likely to be unstable and imprecise. Care should also be exercised when interpreting and comparing rates based on fewer than twenty cases.

Readers are also advised to consider the absolute number of cases in the categories analysed by rate. This is because categories with the highest rates may sometimes involve a relatively small proportion of the overall disease burden.

Numerator data

Clinic visit rates: the total number of reported cases by disease for the specific clinic. For gonorrhoea and chlamydia only confirmed cases are included in the rates presented in the main body of the report. Appendix A tables incorporate both confirmed and probable rates.

Laboratory-specific rates: the total number of reported cases for chlamydia and gonorrhoea by participating laboratories in the Waikato DHB, the BOP region (BOP DHB and Lakes DHB), and the Auckland region (Auckland DHB and Counties Manukau DHB. For chlamydia this also included Waitemata DHB).

Denominator data

Clinic visit rates: the denominator for the calculation of clinic-specific infection rates is defined as the total number of clinic visits for any reason. This denominator includes all new and follow-up visits

made by clinic attendees, whether for sexual or other health reasons. For specialised youth centres (one-stop shops), denominator does not include non-clinical visits such as career advice and counselling.

Laboratory-specific rates: the denominator for the calculation of laboratory-specific infection rates is the total ‘usually resident’ population data for the DHBs included in each region as described in the numerator data section. Data was supplied from the 2006 Census, Statistics New Zealand.

Population rates

Population rates can only be determined in the Auckland, Waikato and BOP regions where laboratory surveillance collects data from the majority of the laboratories. Because a majority of laboratories within the new regions are not routinely reporting STI data, population rates cannot be calculated accurately yet for any additional areas. Data submitted from newly participating laboratories are presented as the number of test-positive cases by age and sex.

Rates could not be calculated separately for the less than one age group, as the 2006 population data was not available. An overall rate for the 0-14 years age group is provided.

Clinic data cannot be used to calculate population rates due to problems with defining clinic catchments, clientele and variation in geographical distribution.

Comparison with previous years

From 2002 to 2006 the number of clinic data sources and laboratory data sources from the Auckland, Waikato and BOP regions have been relatively stable therefore year-on-year comparisons for this period are reasonably valid.

Data Limitations

Data completeness

Twenty-seven SHCs, thirty-six FPCs and sixteen SYHCs provided STI surveillance data to ESR for the period, January to December 2006. FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods. Two SYHCs provided less than 10 of the 12 months data requested for 2006.

NB: During the later half of 2006 the Auckland SHC experienced difficulties in providing complete

case data to ESR. Therefore caution is required when comparing and interpreting SHC case data and rates.

Of the fifteen laboratories in the Auckland, Waikato and BOP regions, chlamydia data was provided for all 15 laboratories and gonorrhoea data for 11/15 (73%) of laboratories.

Since June 2004, an increasing numbers of additional laboratories from other regions in New Zealand have submitted data on chlamydia and gonorrhoea (see Appendix C & D).

Laboratories only report specimens received directly from health care settings within their own region. They do not report data on specimens, which were subcontracted to their laboratory from outside their region.

The diagnostic tests used for chlamydia are not standardised. Some use nucleic acid amplification and others enzyme immunoassay. These tests have different sensitivities and specificities that may influence the data.

Generalisability

Clinics participating in STI surveillance are located in cities and some larger rural towns. Most other rural towns and isolated populations have limited or

no access to the services offered by SHCs and FPCs and rely on other health care providers. University and polytechnic student health clinics provide services only to those students and staff who attend their institution.

While STIs are diagnosed and treated by a range of primary health care providers, including General Practitioners (GPs), SHCs diagnose a substantial proportion of the total number of STIs and their data can provide an alert for changes occurring in the wider population. Data presented for SYHCs in New Zealand may not be representative of all SYHCs because not all provide STI surveillance data and some provide incomplete data.

Valid comparisons between infection rates at different clinic types are not possible due to differences in the range of services provided which affect the denominator (total clinic visits for any reason) used to calculate infection rates. SHCs provide mainly STI-related sexual health services, FPCs provide mainly non-STI sexual and reproductive health services and SYHCs provide mainly general health services. Those attending SHCs are more likely to have concerns about STIs and are more likely to have opportunistic STI testing than those attending other clinic types for other reasons. As a result, STI rates at SHCs are higher than STI rates at other clinic types.

Clinical Surveillance

Clinic Overview

Sexual Health Clinics (SHCs)

SHC attendees

SHCs reported 88 681 clinic visits during 2006, 58.9% of which were by females. Compared to 2005, the number of clinic visits increased by 1.9% in 2006. Age and ethnicity were not recorded for 0.2% and 1.6% of clinic attendees, respectively. Where age and ethnicity information were provided, 49.3 % were aged less than 25 years, 66.9% were of European ethnic group, 19.7% were Maori, 3.8% were Pacific Peoples and 9.6% were Other ethnic groups.

STI diagnosis at SHCs

In 2006, a total of 9 774 STI cases were diagnosed, representing a clinic visit rate of 11.0% in SHC attendees with chlamydia being the most commonly reported STI (see Table 2).

There were 4 295 cases of chlamydia and 803 cases of gonorrhoea diagnosed at SHCs. No cases of chancroid, granuloma inguinale (GI) or lymphogranuloma venereum (LGV) were reported during 2006.

Figures 1 and 2 show the infection clinic visit rates for the five main STIs reported by SHCs from 2002 to 2006 by sex. From 2005 to 2006, male and female gonorrhoea clinic visit rates increased by 2.4% and 34.0%, while other STI clinic visit rates decreased. Male NSU clinic visit rates steadily decreased from 2002.

Figure 1. Male STI clinic visit rates diagnosed at SHCs: 2002 to 2006

Denominator is the number of male clinic visits

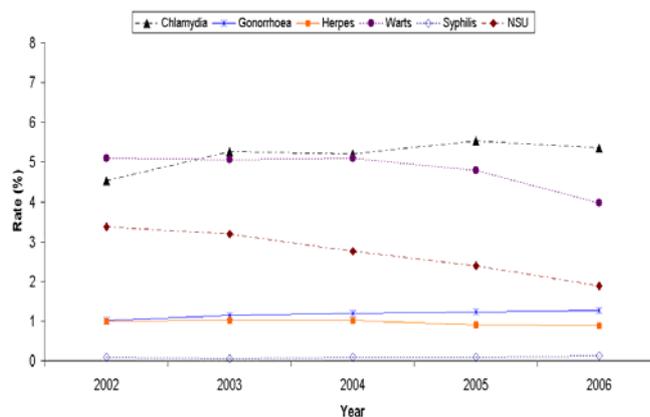


Figure 2. Female STI clinic visit rates diagnosed at SHCs: 2002 to 2006

Denominator is the number of female clinic visits

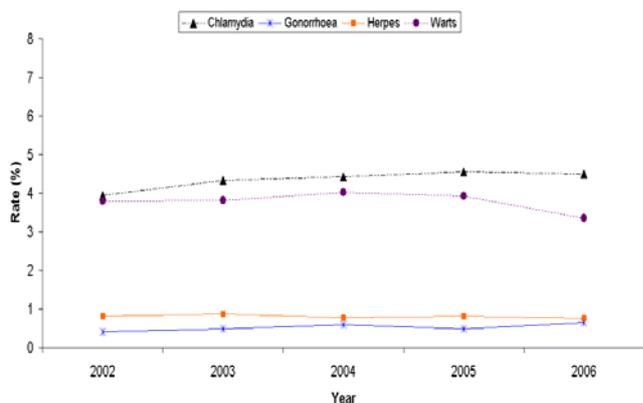


Table 2. Number of STI diagnoses, clinic visit rates and age comparisons at SHCs, 2006

Infection	Cases	Rate [†]	Mean age (years)	Age range (years)
Chlamydia	4 295	4.8%	22	13-69
Gonorrhoea	803	0.9%	24	13-57
Genital herpes (first presentation)	720	0.8%	28	15-68
Genital warts (first presentation)	3 201	3.6%	24	2-79
Syphilis	68	0.1%	32	16-80
NSU (males only)	687	1.9%	31	14-69
STI cases	9 774	11.0%		
Total clinic visits	88 681			

[†] Cases / total number of clinic visits. For NSU denominator is male clinic visits only.

Family Planning Clinics (FPCs)

FPC attendees

FPCs reported 183 479 clinic visits during 2006, 95.4% of which were by females. Compared to 2005, the number of clinic visits increased by 1.6% in 2006.

Age and ethnicity were not recorded for 0.2% and 4.2% of clinic attendees, respectively. Where age and ethnicity information were provided, 67.5 % were aged less than 25 years, 72.8% were of European ethnic group, 8.7% were Maori, 4.0% were Pacific Peoples and 14.5% were Other ethnic groups.

STI diagnosis at FPCs

In 2006, a total of 3 995 STI cases were diagnosed, representing a clinic visit rate of 2.2% in FPC attendees with chlamydia being the most commonly reported STI (see Table 3).

There were 3 037 cases of chlamydia and 196 cases of gonorrhoea diagnosed at FPCs. No cases of chancroid, GI or LGV were reported during 2006.

Figures 3 and 4 show the infection clinic visit rates for the five main STIs reported by FPCs from 2002 to 2006 by sex. From 2002 to 2006, clinic visit rates of chlamydia more than doubled for both males and females. However, there was only a little change in the other STI clinic visit rates for either sex.

Figure 3. Male STI clinic visit rates diagnosed at FPCs: 2002 to 2006

Denominator is the number of male clinic visits

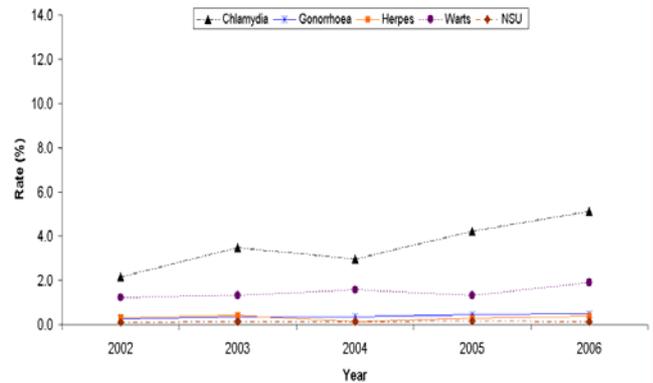


Figure 4. Female STI clinic visit rates diagnosed at FPCs: 2002 to 2006

Denominator is the number of female clinic visits

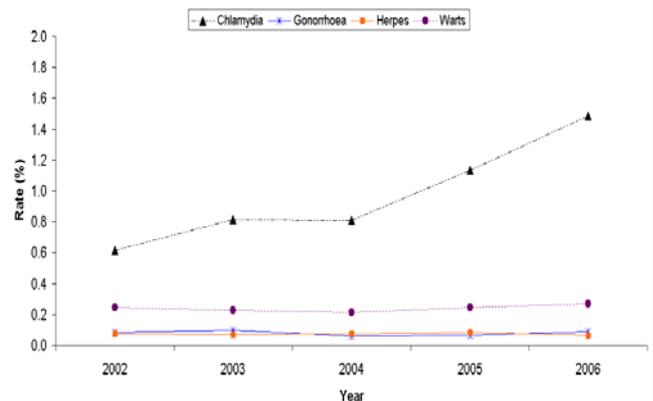


Table 3. Number of STI diagnoses, clinic visit rates and age comparisons at FPCs, 2006

Infection	Cases	Rate [†]	Mean age (years)	Age range (years)
Chlamydia	3 037	1.7%	20	13-57
Gonorrhoea	196	0.1%	20	14-55
Genital herpes (first presentation)	137	0.1%	24	14-59
Genital warts (first presentation)	611	0.3%	21	13-57
Syphilis	3	0.0%	23	16-27
NSU (males only)	11	0.1%	22	19-30
STI cases	3 995	2.2%		
Total clinic visits	183 479			

[†] Cases / total number of clinic visits. For NSU denominator is male clinic visits only.

Student and Youth Health Clinics (SYHCs)

SYHC attendees

SYHCs reported 202 514 clinic visits during 2006, 70.0% of which were by females. Compared to 2005, the number of clinic attendances increased by 30.2% in 2006.

Age and ethnicity were not reported for 41.2% and 41.1% of clinic attendees, respectively. Demographics of SYHC attendees are not routinely collected and as some clinics are not computerised the collation of data manually may not be completed due to time restraints.

Where age and ethnicity information were provided, 72.3% were aged less than 25 years, 66.6% were of European ethnic group, 10.0% were Maori, 2.5% were Pacific Peoples and 20.8% were Other ethnic groups.

STI diagnosis at SYHCs

In 2006, a total 1 079 STI cases were diagnosed, representing a clinic visit rate of 0.5% in SYHC attendees with chlamydia being the most commonly reported STI (see Table 4).

There were 751 cases of chlamydia and 48 cases of gonorrhoea diagnosed at SYHCs. No cases of syphilis, chancroid, GI or LGV were reported during 2006.

Figures 5 and 6 show the infection clinic visit rates for the five main STIs reported by SYHCs from 2002 to 2006.

From 2005 to 2006 there were increases in the clinic visit rates of chlamydia, gonorrhoea and genital herpes in both males and females, and no change in NSU clinic visit rates in males.

Table 4. Number of STI diagnoses, clinic visit rates and age comparisons at SYHCs, 2006

Infection	Cases	Rate [†]	Mean age (years)	Age range (years)
Chlamydia	751	0.4%	21	14-58
Gonorrhoea	48	0.02%	21	15-32
Genital herpes (first presentation)	68	0.03%	23	17-54
Genital warts (first presentation)	206	0.1%	21	14-39
Syphilis	0	0.0%	-	-
NSU (males only)	6	0.0%	19	17-20
STI cases	1 079	0.5%		
Total clinic visits	202 514			

[†] Cases / total number of clinic visits. For NSU denominator is male clinic visits only.

Figure 5. Male STI clinic visit rates diagnosed at SYHCs: 2002 to 2006

Denominator is the number of male clinic visits

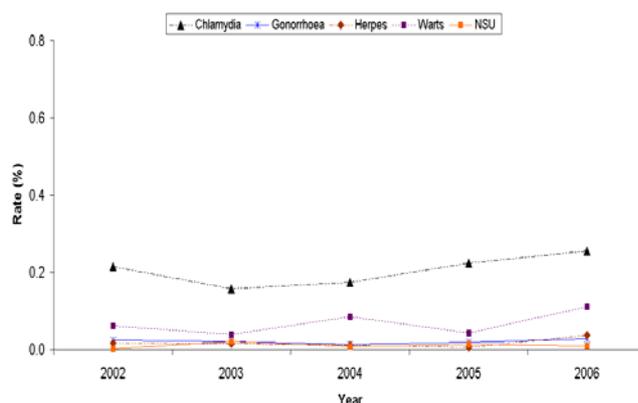
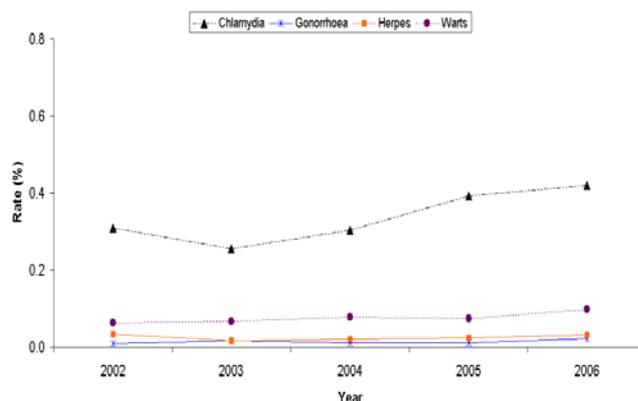


Figure 6. Female STI clinic visit rates diagnosed at SYHCs: 2002 to 2006

Denominator is the number of female clinic visits



Chlamydia

In 2006, genital chlamydia infection was the most commonly diagnosed STI in New Zealand. Chlamydia infection is asymptomatic in approximately 70% of female and 25% of male cases(1). Untreated infection can lead to the development of serious sequelae, including pelvic inflammatory disease (PID), ectopic pregnancy and infertility in females and urethritis, epididymo-orchitis, reactive arthritis and infertility in males. Infants born vaginally to infected mothers can be infected during delivery resulting in neonatal conjunctivitis or pneumonia(2).

Cases of chlamydia in 2006

Between 2005 and 2006 the number of cases of chlamydia decreased by 0.4% in SHCs (4 295 compared to 4 313). In contrast there was an increase of 31.9% in FPCs (3 037 compared to 2 303) and 41.2% in SYHCs (751 compared to 532).

Higher clinic visit rates were reported in males attending both SHCs and FPCs compared to females, with rates 1.2 times and 3.4 times higher respectively (see Table 5). Males are more likely to be symptomatic and are also more likely to seek treatment at SHCs. The high rate ratio for FPCs reflects that the males attending are partners of chlamydia positive patients contacted through partner notification; the number of male cases was actually six times fewer.

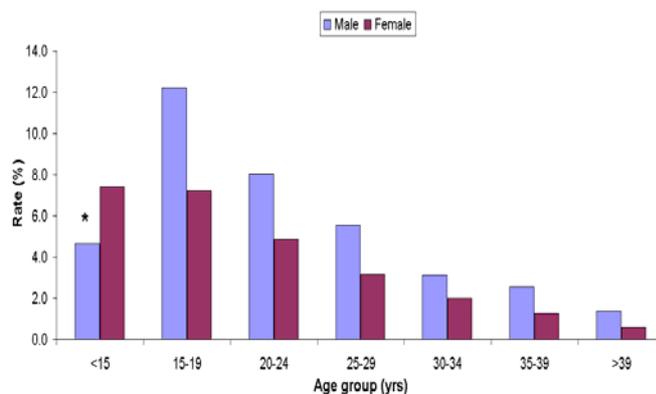
In contrast, laboratory surveillance, which includes diagnoses from all health care settings including GPs, reports higher testing rates in females than males. This may be explained by females attending health care professionals on a more regular basis e.g. to obtain contraception, for cervical smears and antenatal check-ups, thus providing an opportunity to screen for asymptomatic infection.

In 2006, 72% of cases of chlamydia at all clinics were aged less than 25 years. The mean age of cases of chlamydia was 22 years in SHCs and 20 years in FPCs and 21 years in SYHCs.

In SHCs, FPCs and SYHCs, the number of males with chlamydia was highest in the 20 to 24 years age group with 738, 198 and 80 cases respectively. For females, the greatest number occurred in a younger age group, 15 to 19 year olds, for both SHCs (1 192 cases) and FPCs (1 361 cases) and amongst 20 to 24 years age group for SYHCs (280 cases). Figures 7 to 9 present the rates by age groups for clinic settings.

Figure 7. Clinic visit rates of chlamydia diagnosed at SHCs by age group and sex, 2006

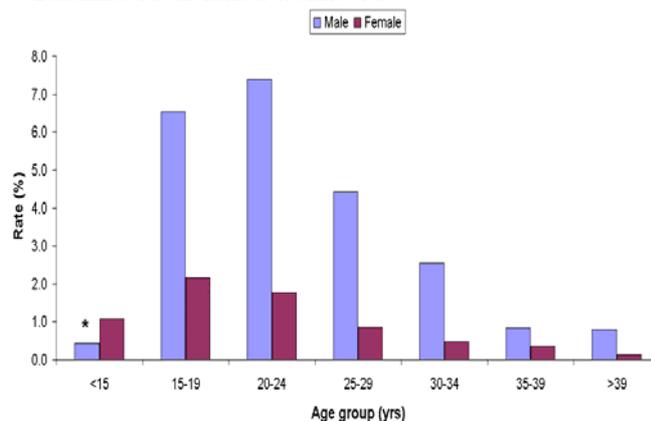
Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

Figure 8. Clinic visit rates of chlamydia diagnosed at FPCs by age group and sex, 2006

Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

Note: In FPCs the male to female ratio of attendees is 1:21.

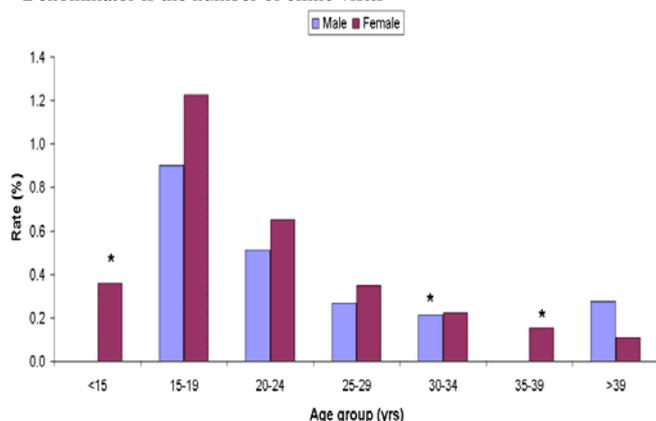
Table 5. Number and clinic visit rates of cases of chlamydia by sex and health care setting, 2006

Clinic type	No. of cases			Clinic visit rate [†] (%)		
	Female	Male	Total	Female	Male	Total
SHCs	2 345	1 950	4 295	4.5	5.3	4.8
FPCs	2 600	437	3 037	1.5	5.1	1.7
SYHCs	596	155	751	0.4	0.3	0.4

[†] cases/number of clinic visits

Figure 9. Clinic visit rates of chlamydia diagnosed at SYHCs by age group and sex, 2006

Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

From 2002 to 2006, for SHCs, the number of cases of chlamydia showed a greater percentage increase in those aged 40+ than for all ages combined.

Of the 4 295 cases of chlamydia in SHCs, 54% were European, 36% were Maori, 5% were of Other ethnicity, 4% were Pacific peoples and 1% were of unknown ethnicity. Of the 3 037 cases of chlamydia in FPCs, 56% were European, 18% were Maori, 14% were of Other ethnicity, 8% were Pacific peoples and 3% were of unknown ethnicity. Of the 751 cases of chlamydia in SYHCs, 62% were European, 23% were Maori, 7% were of Other ethnicity, 4% were Pacific peoples and 4% were of unknown ethnicity.

In all health care settings, the clinic visit rates of chlamydia varied by ethnic group. Maori chlamydia clinic visit rates were more than double European rates in all clinic settings (SHCs – 8.9% vs. 4.0%, FPCs – 3.6% vs. 1.3% and SYHCs – 1.4% vs. 0.6%). Similarly, Pacific chlamydia clinic visit rates were 1.4 to 2.6 times higher than European rates across the clinic types. This may reflect variation in the accessibility of sexual health care provision for different ethnic groups.

See Table 18 for chlamydia site of infection data.

Complicated infections

In 2006, 2.4% of cases of chlamydia in SHCs, 3.0% in FPCs and 6.0% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 187 females (79 in SHCs, 83 in FPCs and 25 in SYHCs) were diagnosed with PID, 79.7% of whom were aged less than 25 years. Of the females with complicated chlamydia, 50.8% were European, 30.5% Maori and 8.0% Pacific Peoples.

A total of 53 males (25 in SHCs, 8 in FPCs and 20 in SYHCs) were diagnosed with epididymitis, 67.9% of whom were aged less than 25 years. Of the males with complicated chlamydia, 52.8% were European, 20.8% Maori and 11.3% Pacific Peoples.

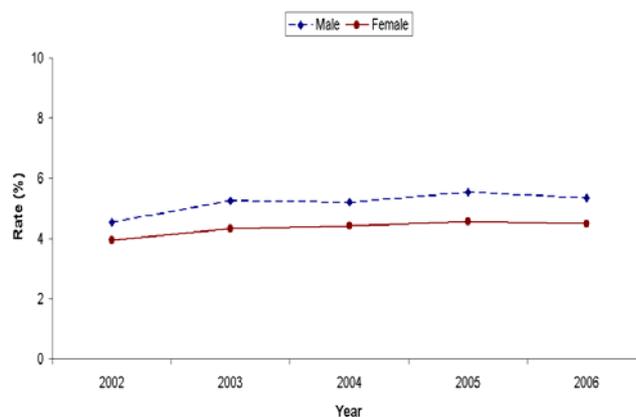
Recent trends

From 2002 to 2006, the number of cases of chlamydia has increased by 27.7% in SHCs and more than doubled in FPCs and SYHCs. The clinic visit rate of chlamydia diagnosed at SHCs has increased by 15.6% (Figure 10).

These trends are supported by the rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions which was 757 per 100 000 population in 2006, an increase of 43.3% since 2002.

Increasing professional awareness resulting in increased screening and the introduction of more sensitive nucleic acid amplification tests in the laboratories may have contributed to the increasing trends. However, regardless of these factors the high level of chlamydial infection represents a considerable burden of disease in New Zealand and demonstrates the urgent need for more effective intervention programmes.

Figure 10. Clinic visit rates of chlamydia diagnosed at SHCs: 2002 to 2006



Denominator is the number of clinic visits

The true number of infected people is likely to be much higher than the number of cases reported because of the reservoir of undiagnosed, asymptomatic infection. Opportunistic screening for chlamydia can identify asymptomatic cases enabling treatment and cure. Currently, there are no national chlamydia screening guidelines at present in NZ(3). However, the Ministry of Health has suggested which population groups be offered testing(4), and in early 2007 established a sexual health advisory group that will consider this and other sexual health issues pertinent to New Zealand.

Gonorrhoea

Infections due to *Neisseria gonorrhoeae* can cause dysuria and vaginal discharge in females and urethral discharge in males. Asymptomatic infection can occur in up to 50% of females and 5% of males(5). Untreated gonococcal infection may be associated with long-term serious sequelae, including pelvic inflammatory disease (PID) in females, epididymo-orchitis in males and severe conjunctivitis in neonates(2).

Cases of gonorrhoea in 2006

Between 2005 and 2006, the number of cases of gonorrhoea increased by 16.0% in SHCs (803 compared to 692), 29.8% in FPCs (196 compared to 151) and 128.6% in SYHCs (48 compared to 21).

Across health care settings the highest clinic visit rates were reported in males, and male case numbers were also higher (1.4 times) than the females in SHCs (see Table 6). However, female case numbers were 1.8 (SYHCs) to 3.9 (FPCs) times higher than male case numbers in the other two clinic settings. Males are more likely to be symptomatic and to seek treatment than females, but less likely to seek care at FPCs in particular, compared with other clinic types.

In 2006, 64% at SHCs, 88% at FPCs and 88% at SYHCs of the cases of gonorrhoea diagnosed were in those aged less than 25 years. The mean age of cases of gonorrhoea was 24 years in SHCs, 20 years in FPCs and 21 years in SYHCs.

In SHCs, cases of gonorrhoea were highest in males aged 20 to 24 years (121 cases) and in females aged 15 to 19 years (171 cases). In FPCs, cases of gonorrhoea were highest for both males and females aged 15 to 19 years (20 and 92 cases). Figure 11 and 12 presents the clinic visit rates by age groups. The clinic visit rates are distorted for the age group less than 15 years due to small number of cases and visits.

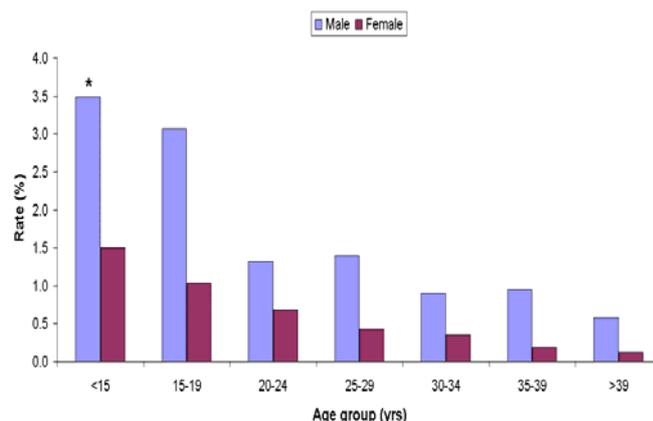
Of the 803 cases of gonorrhoea in SHCs, 42% were European, 43% were Maori, 7% were of Other ethnicity, 6% were Pacific peoples and 2% were of unknown ethnicity. Of the 196 cases of gonorrhoea

in FPCs 49% were European, 24% were Maori, 14% were of Other ethnicity, 10% were Pacific peoples and 4% were of unknown ethnicity. In all health care settings higher clinic visit rates were found in Maori and Pacific Peoples ethnicity compared to European.

See Table 19 for gonorrhoea site of infection data.

Figure 11. Clinic visit rates of gonorrhoea diagnosed at SHCs by age group and sex, 2006

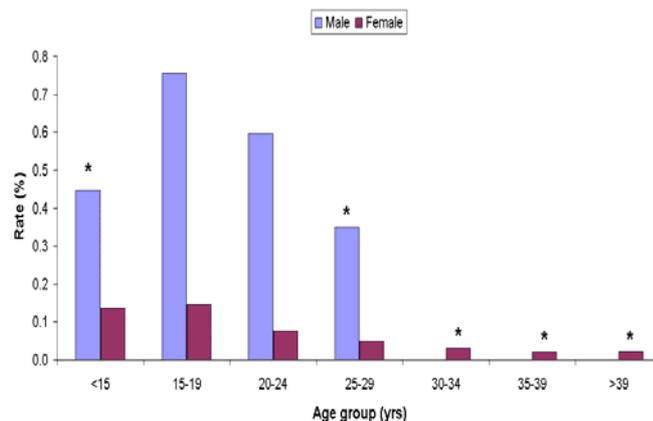
Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

Figure 12. Clinic visit rates of gonorrhoea diagnosed at FPCs by age group and sex, 2006

Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

Note: In FPCs the male to female ratio of attendees is 1:21.

Table 6. Number and clinic visit rates of cases of gonorrhoea by sex and health care setting, 2006

Clinic type	No. of cases			Clinic visit rate [†] (%)		
	Female	Male	Total	Female	Male	Total
SHCs	341	462	803	0.7	1.3	0.9
FPCs	156	40	196	0.1	0.5	0.1
SYHCs	31	17	48	0.02	0.03	0.02

[†] cases/number of clinic visits

Complicated infections

In 2006, 4.2% of cases of gonorrhoea in SHCs, 4.6% in FPCs and 12.5% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 32 females (23 in SHCs, 8 in FPCs and 1 in SYHCs) were diagnosed with PID, 78.1% of whom were aged less than 25 years. Of the females with complicated gonorrhoea, 40.6% were European, 46.9% Maori and 6.3% Pacific Peoples.

A total of 17 males (11 in SHCs, 1 in FPCs and 5 in SYHCs) were diagnosed with epididymitis, 41.2% of whom were aged less than 25 years.

Of the males with complicated gonorrhoea, 47.1% were European, 35.3% Maori and 5.9% Pacific Peoples.

Recent trends

From 2002 to 2006, the number of cases of gonorrhoea reported increased by 52.1% in SHCs (803 compared to 528), 19.5% in FPCs (196 compared to 164) and more than doubled in SYHCs (48 compared to 18). The clinic visit rate of gonorrhoea diagnosed in males and females combined at SHCs has increased by 37.6% (see Figure 13).

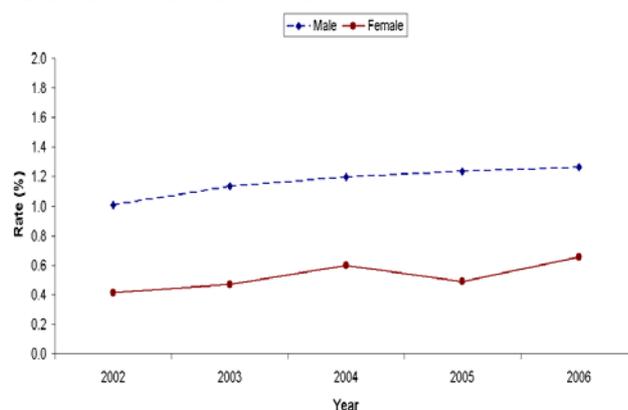
These trends are supported by the rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions which was 128 per 100 000 population in 2006, double the rate in 2002.

In New Zealand, the increase in gonorrhoea may reflect failure to act on safe sex messages, the need for more targeted sexual health promotion, shortfalls in partner notification or barriers to accessing sexual health services.

Antibiotic resistance in gonorrhoea is also increasing in New Zealand, particularly ciprofloxacin resistance. According to data collected by ESR from the majority of New Zealand hospital and community laboratories, ciprofloxacin resistance more than doubled from 2003 (8.1%) to 2005 (16.4%)(6). This level of resistance is well above the 5% threshold acceptable for first-line therapy(7). In 2005, ciprofloxacin resistance was more than three times higher than penicillin resistance (5.2%)(6). There are, however, wide geographical differences in rates of ciprofloxacin and penicillin resistance. Gonococci remain universally susceptible to ceftriaxone.

Figure 13. Clinic visit rates of gonorrhoea diagnosed at SHCs: 2002 to 2006

Denominator is the number of clinic visits



Genital Herpes (first presentation)

Genital herpes infection is caused by the *Herpes simplex* virus (HSV) types 1 or 2. HSV2 is traditionally regarded as the primary cause of genital infection and HSV1 is mainly associated with oral infections. However, HSV1 has been increasingly associated with genital infection.

Symptomatic first infections are associated with anogenital ulcerations and recurrent infections are common. Vaginal delivery in pregnant women with active genital infection, particularly if a primary infection, carries a higher risk of infection in the foetus or newborn. Genital herpes can cause severe systemic disease in neonates and those who are immune suppressed. The ulcerative lesions of HSV can also facilitate the transmission of HIV infection.

Cases of genital herpes in 2006

Between 2005 and 2006, the number of cases of genital herpes decreased by 3.6% in SHCs (720 compared to 747) and 16.0% in FPCs (137 compared to 163). In contrast there was an increase of 126.7% in SYHCs (68 compared to 30).

Across all health care settings the highest clinic visit rates were reported in males, although case numbers were always higher in females, ranging from 1.2 times higher in SHCs to 5.5 times higher in FPCs (see Table 7).

In 2006, 46% at SHCs, 65% at FPCs and 72% at SYHCs of the cases of genital herpes diagnosed were in those aged less than 25 years. The mean age of cases of genital herpes was 28 years in SHCs and 24 years in FPCs and 23 years in SYHCs.

In SHCs, cases of genital herpes were highest in males aged 25 to 29 years (78 cases) and in females aged 20 to 24 years (115 cases). There were no cases aged less than 15 years. In FPCs, cases of genital herpes were highest in males aged 20 to 24 years (11 cases) and in females aged 15 to 19 years (43 cases). Figure 13 and 14 presents the clinic visit rates by age group.

In all health care settings the majority of cases of genital herpes were in those of European ethnicity (SHCs - 76%, FPCs - 86% and SYHCs - 76%).

Figure 14. Clinic visit rates of genital herpes (first presentation) diagnosed at SHCs by age group and sex, 2006

Denominator is the number of clinic visits

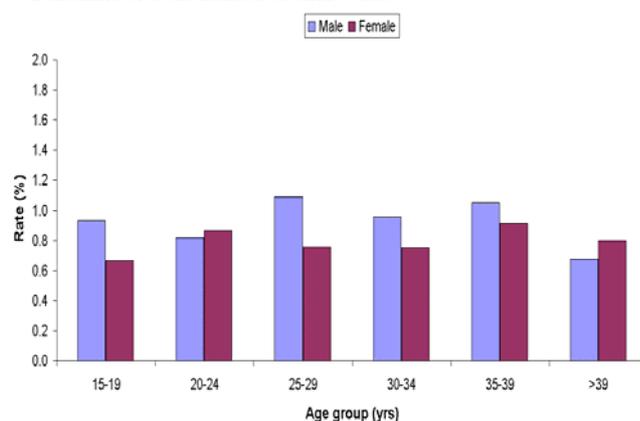
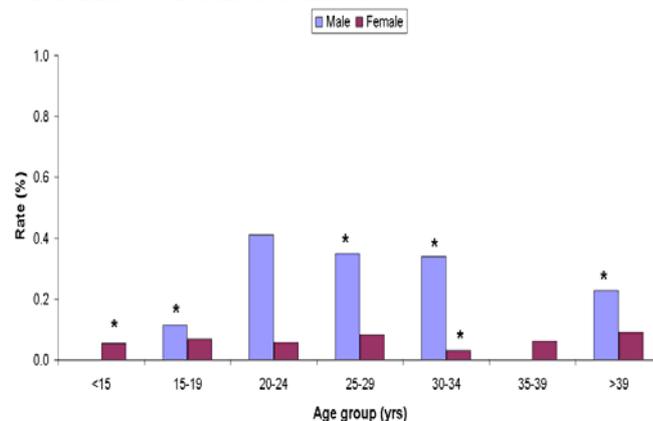


Figure 15. Clinic visit rates of genital herpes (first presentation) diagnosed at FPCs by age group and sex, 2006

Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5. Note: In FPCs the male to female ratio of attendees is 1:21.

Table 7. Number and clinic visit rates of cases of genital herpes (first presentation) by sex and health care setting, 2006

Clinic type	No. of cases			Clinic visit rate [†] (%)		
	Female	Male	Total	Female	Male	Total
SHCs	393	327	720	0.8	0.9	0.8
FPCs	116	21	137	0.1	0.2	0.1
SYHCs	45	23	68	0.03	0.04	0.03

[†] cases/number of clinic visits

Recent trends

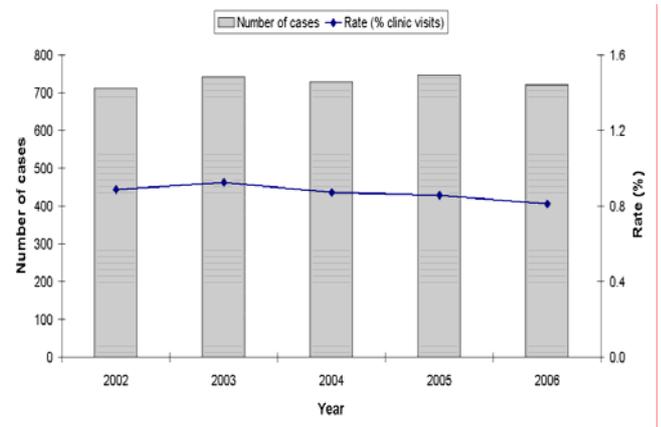
From 2002 to 2006, the number of cases of genital herpes reported by SHCs has fluctuated. However the clinic visit rate has remained between 0.8% and 0.9% (see Figure 16).

Clinic surveillance methods in New Zealand do not facilitate the collection of data on the type of HSV infection and so it is not possible to determine if the trends in genital herpes differ by type of viral infection.

Surveillance as reported here covers only the initial presentation of genital herpes. This is an underestimate of the burden of disease caused by genital herpes. The prevalence in the population is much higher and increases with age. The prevalence of HSV-2 antibodies in the Dunedin birth cohort was 3.4% at age 21, 11% at age 26, and 18.4% at age 32(8).

Figure 16. Case numbers and clinic visit rates of genital herpes (first presentation) diagnosed at SHCs: 2002 to 2006

Denominator is the number of clinic visits



Genital Warts (first presentation)

In 2006, genital warts, a visible manifestation of human papillomavirus (HPV) infection, was the most commonly reported viral STI in New Zealand. Genital warts are of particular public health importance because of the association between some types of human papillomavirus (HPV, mainly types 16 and 18) and cervical, penile and anal cancers. However, approximately 90% of genital warts are caused by HPV types 6 or 11, which are not associated with cervical cancer(9).

Cases of genital warts in 2006

Between 2005 and 2006, the number of cases of genital warts decreased by 14.2% in SHCs (3 201 compared to 3 732). In contrast there was an increase of 14.6% in FPCs (611 compared to 533) and 104.0% in SYHCs (206 compared to 101).

The highest clinic visit rates in all health care settings were reported in males (see Table 8).

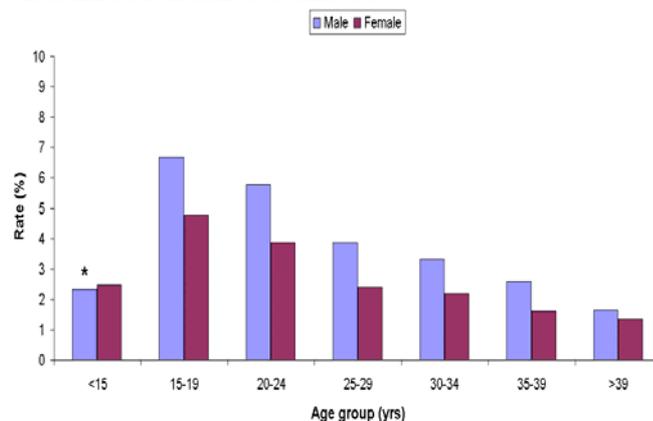
In 2006, the majority of cases of genital warts at all clinics were aged less than 25 years (SHCs, 66% of cases; FPCs, 84% of cases; SYHCs 80% of cases). The mean age of cases of genital warts was 24 years in SHCs, and 21 years in both FPCs and SYHCs.

In SHCs, genital warts were most common in males aged 20 to 24 years (530 cases) and in females aged 15 to 19 years (789 cases). Similarly in FPCs case numbers of genital warts were highest in males aged 20 to 24 years (69 cases) and in females aged 15 to 19 years (245 cases). Figure 17 and 18 presents the clinic visit rates by age groups.

In all health care settings the majority of cases of genital warts were in those of European ethnicity (SHCs - 73%, FPCs - 74% and SYHCs - 76%) followed by Maori ethnicity (SHCs - 18%, FPCs - 10% and SYHCs - 10%).

Figure 17. Clinic visit rates of genital warts (first presentation) diagnosed at SHCs by age group and sex, 2006

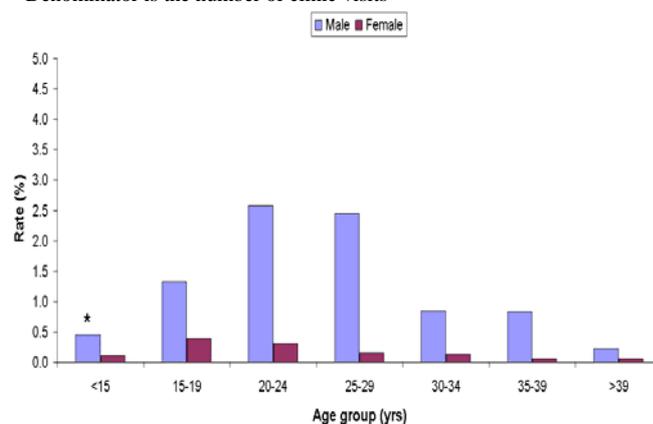
Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

Figure 18. Clinic visit rates of genital warts (first presentation) diagnosed at FPCs by age group and sex, 2006

Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.
Note: In FPCs the male to female ratio of attendees is 1:21.

Table 8. Number and clinic visit rates of cases of genital warts (first presentation) by sex and health care setting, 2006

Clinic type	No. of cases			Clinic visit rate [†] (%)		
	Female	Male	Total	Female	Male	Total
SHCs	1 753	1 448	3 201	3.4	4.0	3.6
FPCs	473	138	611	0.3	1.6	0.3
SYHCs	139	67	206	0.1	0.1	0.1

[†] cases/number of clinic visits

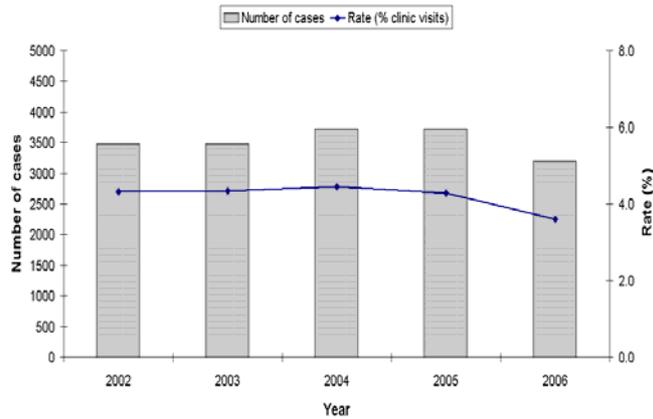
Recent trends

From 2002 to 2006 the number of cases of genital warts reported by SHCs had decreased by 7.9% (see Figure 19).

Between 2002 and 2005 the clinic visit rate was relatively stable between 4.3% to 4.5% but decreased in 2006 to 3.6%

Figure 19. Case numbers and clinic visit rates of genital warts (first presentation) diagnosed at SHCs: 2002 to 2006

Denominator is the number of clinic visits



Infectious Syphilis

Infectious syphilis (primary, secondary or early latent) is caused by *Treponema pallidum*. The first stage of the disease presents as an ulcerative infection that heals spontaneously. If untreated, secondary syphilis will develop in two to eight weeks, and one-third of cases will progress to tertiary syphilis some years later. Untreated early syphilis during pregnancy almost always results in perinatal death or congenital infections and complications. In untreated cases, vertical transmission of syphilis, i.e. from mother to baby, can occur for at least four years, whereas sexual transmission is usually only for one year(10). Only cases of infectious syphilis (primary, secondary and early latent) are reported by clinics for surveillance purposes.

Cases of syphilis in 2006

Between 2005 and 2006, the number of cases of syphilis increased by 44.7% in SHCs (68 compared to 47) and 50.0% in FPCs (3 compared to 2). No cases of syphilis were reported in SYHCs for either year. In 2006, the clinic visit rate of syphilis at SHCs was 0.1%.

The mean age of cases of syphilis was 32 years (range 16 to 80 years). Of the 71 cases of syphilis reported in 2006 (across all clinic types), 47 (66.2%) were male and 24 (33.8%) were female.

In SHCs, the highest number of case of syphilis for males was in the over 39 years age group (16 cases with a clinic visit rate of 0.2%). For females, highest case numbers were in the 20 to 24 age group (6 cases) and highest clinic visit rates were in the 35 to 39 years and over 39 years age groups (0.1%). For females, just over half (11 cases) were aged between 15 and 24 years.

Of the 47 males with syphilis in SHCs, 51% were European, 30% were of Other ethnicity, 13% were Maori, 4% were Pacific peoples and 2% were of unknown ethnicity. Of the 21 females with syphilis in SHCs, 38% were of Other ethnicity, 33% were Pacific peoples, 19% were European and 10% were Maori (see Table 23).

Recent trends

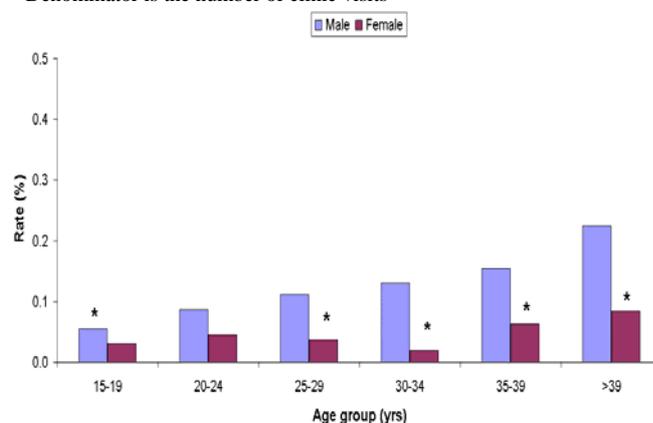
In 2006, the majority of cases of syphilis (70.4%) occurred in the Auckland and greater Wellington regions. In the Auckland region the number of cases

reported increased from 21 to 32 and in the greater Wellington region from 8 to 18 in 2005 and 2006 respectively.

Although the overall number of cases of syphilis remains low compared to other STIs, between 2002 and 2006 case numbers increased by almost 1.5 times from 48 to 71, and there were 22 more cases in 2006 compared with 2005 (49 cases) (see Figure 21).

Figure 20. Clinic visit rates of syphilis diagnosed at SHCs by age group and sex, 2006

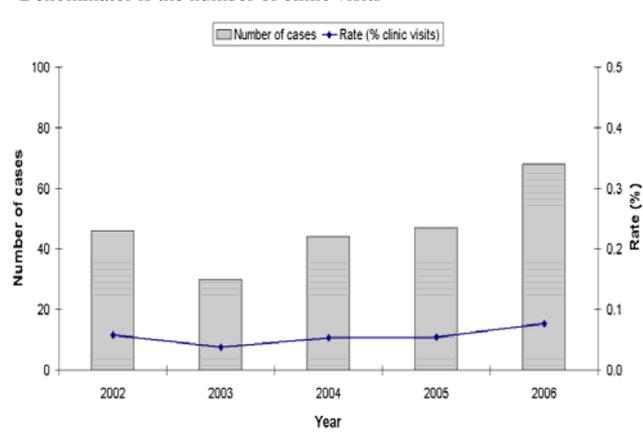
Denominator is the number of clinic visits



* Clinic visit rates are unreliable as the case numbers are less than 5.

Figure 21. Case numbers and clinic visit rates of syphilis diagnosed at SHCs: 2002 to 2006

Denominator is the number of clinic visits



NSU (males only)

Non-specific urethritis is reported in males only and is defined as the presence of a urethral discharge where a laboratory confirmed or probable diagnosis of chlamydia or gonorrhoea has been excluded.

In 2006, there were 687 reported cases of NSU in SHCs, 11 cases in FPCs and 6 cases in SYHCs.

Cases of NSU in 2006

The mean age for cases of NSU was 31 years in SHCs (range 14 to 69 years), 22 years in FPCs (range 19 to 30 years), and 19 years (range 17 to 20 years) in SYHCs.

The highest NSU numbers in SHCs were observed in 20 to 24 age group with 184 cases. However, the highest SHCs NSU clinic visit rates were observed in 15 to 19, 20 to 25 and 35 to 39 age groups with a clinic visit rate of 2.0%.

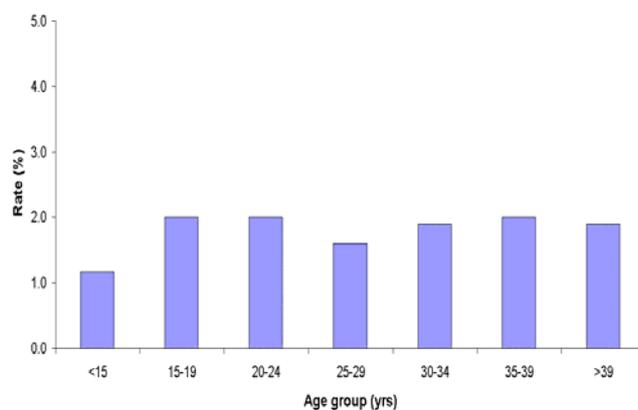
Recent trends

Between 2002 and 2006, the number of cases of NSU diagnosed at SHCs has decreased by 38.2% (687 compared to 1 112) (see Figure 23).

This may be partly due to the change to more sensitive and specific nuclear amplification technologies used in the diagnosis of chlamydia.

Figure 22. Clinic visit rates of NSU diagnosed at SHCs by age group, 2006

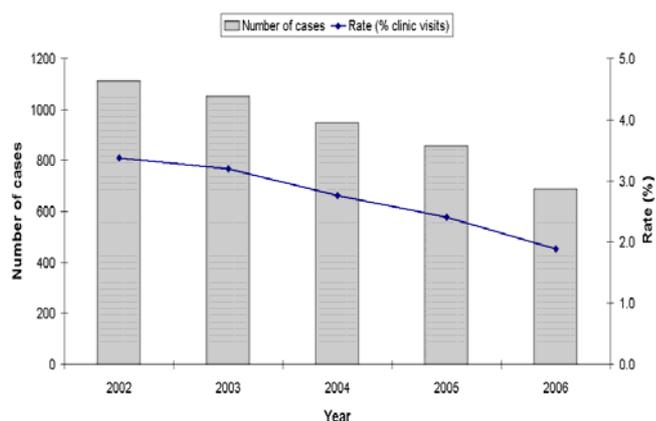
Denominator is the number of male clinic visits



Note: Only one NSU case was aged less than 15 years.

Figure 23. Case numbers and clinic visit rates of NSU diagnosed at SHCs: 2002 to 2006

Denominator is the number of male clinic visits



Multiple infections

This section of the report refers to data received from SHCs only. Some SHCs attendees are diagnosed with more than one confirmed STI during the same year. Multiple confirmed STIs can be diagnosed at the same time (i.e. in the same month) or at different times (i.e. in two or more months of the same year). Multiple STIs diagnosed in the same month are referred to as concurrent infections. Multiple STIs diagnosed in different months are referred to as subsequent infections. Some clinic attendees are diagnosed with both concurrent and subsequent infections.

To be identified as having multiple STIs, cases must have the same ID number, age, sex and ethnicity. If any of these details are recorded incorrectly or inconsistently, people with multiple STIs may not be identified. The data presented below underestimates the true number of multiple infections, due to a number of factors. These include inconsistent recording of a patient's details during different visits and the analysis does not take into account diagnoses made in a different year or where a patient attends different health care settings.

Concurrent infections

In 2006, 621 SHC visits were for concurrent infections. Of these 606 (97.6%) were diagnosed with two infections, 13 (2.1 %) were diagnosed with three infections and 2 (0.3%) were diagnosed with four infections. It is not possible to determine what proportion of clinic attendees were diagnosed with concurrent infections, as SHC surveillance does not record the number of patients attending, but rather the total number of clinic visits. In an effort to overcome this problem, some data cleaning was used to try and determine the actual number of cases of concurrent infections reported in Tables 12 and 13.

There were slightly more male SHC attendees compared to females who were diagnosed with two or more STIs (see Table 9).

Table 9. Comparison of the sex of attendees with one or concurrent STIs diagnosed at SHCs, 2006

Sex	One STI (%)	Two or more STIs (%)
Male	4 162 (49.4)	322 (51.8)
Female	4 261 (50.6)	299 (48.2)
Total	8 423	621

A significantly higher proportion of those with multiple STIs were in young people. Over 75% of those with concurrent infections were aged less than 25 years (see Table 10).

Table 10. Comparison of the age group of attendees with one or concurrent STIs diagnosed at SHCs, 2006

Age group (years)	One STI (%)	Two or more STIs (%)
<15	88 (1.0)	14 (2.3)
15-19	2 573 (30.5)	279 (44.9)
20-24	2 618 (31.1)	190 (30.6)
25-29	1 356 (16.1)	81 (13.0)
30-34	765 (9.1)	28 (4.5)
35-39	459 (5.4)	14 (2.3)
>39	560 (6.6)	15 (2.4)
Unknown	4 (0.0)	-
Total	8 423	621

Compared to SHC attendees with one STI infection, a greater proportion of attendees of Maori or Pacific Peoples ethnicity had concurrent infections (see Table 11).

Table 11. Comparison of the ethnicities of attendees with one or concurrent STIs diagnosed at SHCs, 2006

Ethnicity	Number of patients	% with one STI	% with two or more STIs
European	5687	94.5	5.5
Maori	2380	89.9	10.1
Pacific Peoples	315	89.2	10.8
Other	545	95.2	4.8
Unknown	117	93.2	6.8
Total	9 044		

The different combinations of STIs diagnosed in attendees with two and three infections are shown in tables 12 and 13, respectively. There were a further two males with four STIs: chlamydia, gonorrhoea, genital herpes and genital warts.

In SHC attendees with two STIs the combination of chlamydia and gonorrhoea accounted for 47.5% of concurrent infections. Chlamydia and genital warts accounted for a further 35.6% of concurrent infections.

In those with three STIs diagnosed the combination of chlamydia, gonorrhoea and genital warts accounted for 76.9% of concurrent infections.

Table 12. Number of patients with two concurrent STI diagnoses at SHC, 2006

STIs	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	288				
Genital herpes	37	1			
Genital warts	216	9	21		
Syphilis	4	0	0	1	
Non-specific urethritis (NSU)	NA	NA	7	22	0

Note: NA=not applicable

Table 13. Number of patients with three concurrent STI diagnoses at SHC, 2006

First STI	Second STI	Third STI	Numbers of patients
Chlamydia	Gonorrhoea	Genital warts	10
Chlamydia	Gonorrhoea	Genital herpes	2
Genital herpes	Genital warts	Syphilis	1

Subsequent infections

Of the 9 774 SHC patients diagnosed with an STI in 2006, 1 047 patients (10.7%) were diagnosed with subsequent infections. Of these, 934 SHC patients were diagnosed with an STI twice in 2006, and a further 113 patients were diagnosed with an STI on three separate occasions in 2006.

Subsequent infections were more common among females (51.6%), young people aged under 25 years (75.4%) and people of European ethnicity (53.2%). Maori were over-represented with 36.6% of subsequent infections in cases from this ethnic group.

Subsequent infections were diagnosed in 11.3% of male patients (507 out of 4 484), compared to 11.8% of female patients (540 out of 4 562). The greatest proportion of males and females who suffered subsequent infections were those initially diagnosed with genital warts.

Subsequent infections were diagnosed in 41.1% of SHC patients aged 15 to 19 years and 32.6% of patients aged 20 to 24 years, compared with 11.5% of patients aged 30 years and older. Subsequent infections were diagnosed in 36.6% of Other ethnic groups, 30.2% of Maori and 16.5% of European ethnicity.

Those with prior STIs are known to be at greater risk of re-infection or subsequent infections. Because of this, recent guidelines(11) recommend opportunistic testing of those with a recent history of an STI. It is important health providers are aware of this issue so as to best target populations at risk.

Laboratory Surveillance

Chlamydia

Auckland region

In 2006, laboratories in the Auckland region tested 136 433 specimens for chlamydia, of which 10 001 (7.3%) specimens tested positive from 9 522 patients.

The overall rate for the region was 722 per 100 000. The rate in females (1 049 per 100 000) was nearly three times the rate in males (373 per 100 000).

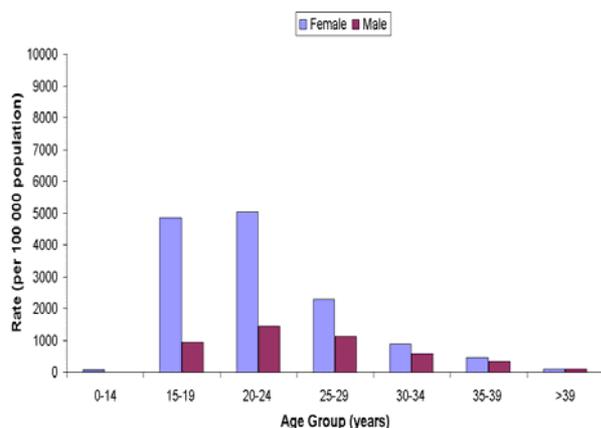
The mean age of cases of chlamydia was 24 years (median age 22 years, range 0 to 93 years). Sixty-six per cent of all cases of chlamydia were aged less than 25 years.

Seventy-one cases of chlamydia were reported for the less than one-year age group. Rates could not be calculated separately for this age group, as population data was not available.

The highest rates of chlamydia in females and males were observed in the 20 to 24 years age group, with rates of 5 030 and 1 448 per 100 000 population. The second highest female rates were in 15 to 19 years age group, with a rate of 4 843 per 100 000 population. Comparatively, the second highest male rates were in 25 to 29 years age group, with a rate of 1 122 per 100 000 population.

Figure 24. Rates of chlamydia in the Auckland region by age group and sex, 2006

Denominator is the population in each age-sex group for the region



Waikato region

In 2006, laboratories in the Waikato region tested 24 469 specimens for chlamydia, of which 2 349 (9.6%) specimens tested positive from 2 343 patients.

The overall rate for the region was 691 per 100 000. The rate in females (972 per 100 000) was two and half times the rate in males (382 per 100 000).

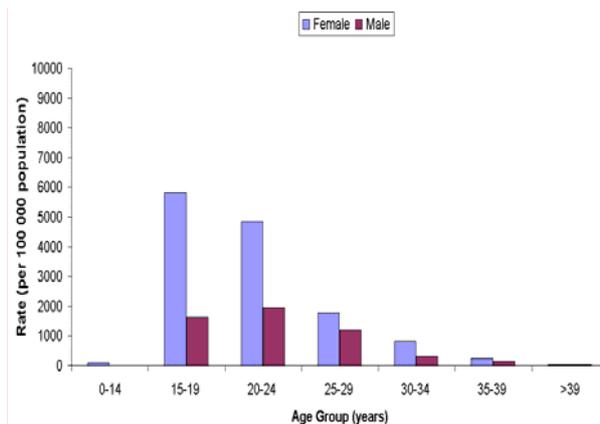
The mean age of cases of chlamydia cases was 22 years (median age 20 years, range 0 to 66 years). Seventy-seven per cent of all cases of chlamydia were aged less than 25 years.

Twenty-three cases of chlamydia were reported for the less than one-year age group. Rates could not be calculated separately for this age group, as population data was not available.

The highest female rates were observed in the 15 to 19 years age group, with a rate of 5 824 per 100 000 population, which equates to more than eight times the regional rate. Comparatively, in males rates were highest in the 20 to 24 years age group with a rate of 1 939 per 100 000 population, followed by the 15 to 19 years age group, with a rate of 1 629 per 100 000 population.

Figure 25. Rates of chlamydia in the Waikato region by age group and sex, 2006

Denominator is the population in each age-sex group for the region



Bay of Plenty region

In 2006, laboratories in the BOP region tested 24 688 specimens for chlamydia, of which 2 924 (11.8%) specimens tested positive from 2 907 patients.

The overall rate for the region was 991 per 100 000. The rate in females (1 518 per 100 000) was nearly three and half times the rate in males (434 per 100 000).

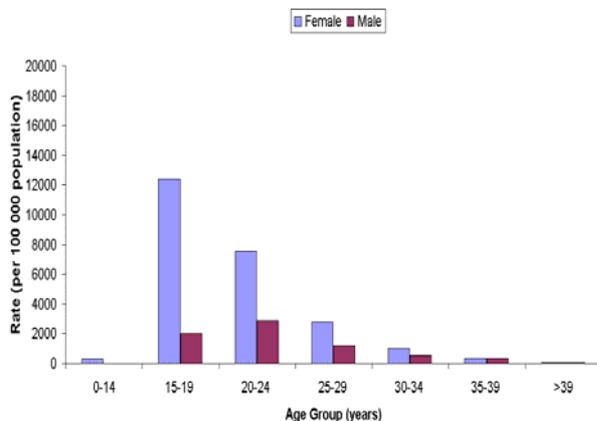
The mean age of cases of chlamydia was 21 years (median age 19 years, range 0 to 60 years). Eighty per cent of all cases of chlamydia were aged less than 25 years.

Seventeen cases of chlamydia were reported for the less than one-year age group. Rates could not be calculated separately for this age group, as population data was not available.

The highest female rate was observed in the 15 to 19 years age group, with 12 392 per 100 000 population. The highest male rate was observed in the 20 to 24 years age group with a rate of 2 873 per 100 000 population.

Figure 26. Rates of chlamydia in the BOP region by age group and sex, 2006

Denominator is the population in each age-sex group for the region



Other regions

In 2006, laboratories in other regions reported 7 543 (10.7%) test positive specimens for chlamydia from 7 083 patients.

The majority of cases of chlamydia (71%) in these regions were in females.

The mean age of cases of chlamydia was 22 years (median age 20 years, range 0 to 65 years). Seventy-five per cent of all cases of chlamydia were aged less than 25 years.

Twenty-four cases of chlamydia were reported for the less than one-year age group.

The highest chlamydia numbers were observed in the 15 to 19 years age group (2 930 cases), followed by the 20 to 24 years age group (2 214 cases). The highest male numbers were in the 20 to 24 years age group (699 cases) and the highest female numbers were in the 15 to 19 years age group (2 372 cases).

Figure 27. Case numbers of chlamydia in Other regions by age group and sex, 2006

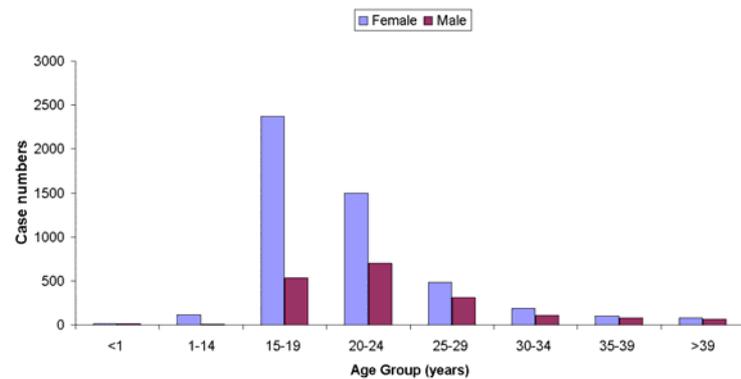


Table 14. Case numbers and rates of chlamydia by region, age group and sex, 2006

Age group (years)	Number of cases				Rate per 100 000 population		
	Female	Male	Unknown	Total	Female	Male	Total
Auckland Region							
<1	29	41	1	71	*	*	*
1-14	99	6	0	105	69*	4*	36*
15-19	2 402	482	4	2 888	4 843	949	2 877
20-24	2 541	712	3	3 256	5 030	1 448	3 266
25-29	1 079	486	2	1 567	2 287	1 122	1 731
30-34	463	271	4	738	879	577	740
35-39	253	167	3	423	451	332	397
40+	234	234	1	469	84	93	89
Unknown	1	1	3	5			
Total	7 101	2 400	21	9 522	1 049	373	722
Waikato region							
<1	15	5	3	23	*	*	*
1-14	36	1	0	37	95*	3*	48*
15-19	753	216	2	971	5 824	1 629	3 707
20-24	547	226	11	784	4 863	1 939	3 423
25-29	179	116	5	300	1 789	1 196	1 522
30-34	94	32	0	126	829	312	584
35-39	31	17	0	48	245	150	200
40+	26	21	1	48	34	30	33
Unknown	0	1	5	6			
Total	1 681	635	27	2 343	972	382	691
BOP region							
<1	12	5	0	17	*	*	*
1-14	88	5	0	93	268*	14*	138*
15-19	1 238	212	1	1 451	12 392	2 013	7 073
20-24	549	209	1	759	7 540	2 873	5 215
25-29	218	87	0	305	2 801	1 212	2 039
30-34	99	43	0	142	1 028	510	786
35-39	35	30	0	65	317	314	316
40+	39	22	0	61	54	34	44
Unknown	8	6	0	14			
Total	2 286	619	2	2 907	1 518	434	991
Other regions							
<1	12	11	1	24			
1-14	119	9	0	128			
15-19	2 372	535	23	2 930			
20-24	1 494	699	21	2 214			
25-29	485	310	9	804			
30-34	187	112	0	299			
35-39	104	76	1	181			
40+	83	64	1	148			
Unknown	162	158	35	355			
Total	5 018	1 974	91	7 083			

* Rates are combined for <1 and 1-14 age groups.

Trend data: Auckland, Waikato and Bay of Plenty regions

In general, from 2002 to 2006, the overall rate of chlamydia diagnosed by participating laboratories in Auckland, Waikato and BOP has risen more or less steadily by 43.3%, from 528 per 100 000 to 757 per 100 000.

This trend can be explained, only in part, by the introduction of more sensitive diagnostic techniques.

Figure 28 and 29 shows the chlamydia rates from 2002 to 2006.

From 2005 to 2006, the chlamydia rates and numbers for males and females increased in Auckland and BOP regions. The Waikato region had a decrease in both male and female numbers (21.8% and 13.4%, respectively).

The BOP region has the highest rate overall at 991 per 100 000 compared with 722 and 691 per 100 000 for Auckland and Waikato, respectively.

Figure 28. Male chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2002 to 2006

Denominator is the population in each region

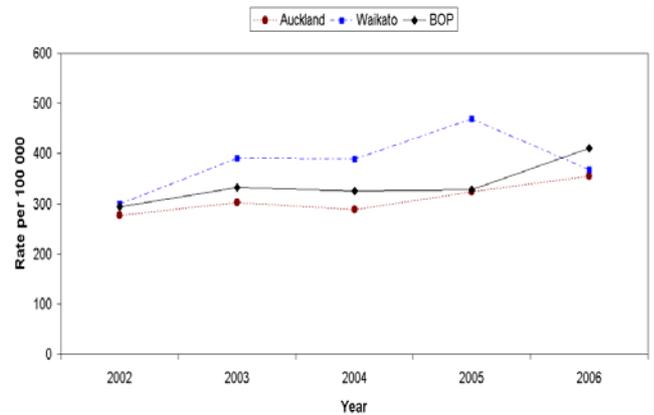
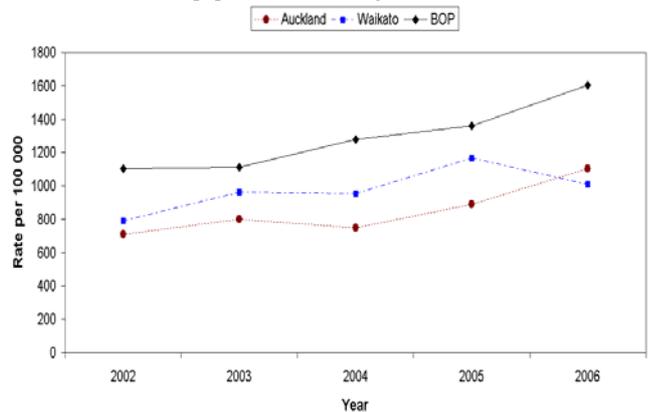


Figure 29. Female chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2002 to 2006

Denominator is the population in each region



Gonorrhoea

Auckland region

In 2006, laboratories in the Auckland region tested over 217 424 specimens for gonorrhoea, of which 2 547 (1.2%) specimens tested positive from 1 205 patients. The large number of specimens tested is largely due to routine cultures for gonorrhoea being performed on any genital swab regardless of the reason for the swab being taken.

The overall rate in the region was 144 per 100 000. The rate in females (108 per 100 000) was lower than that in males (181 per 100 000).

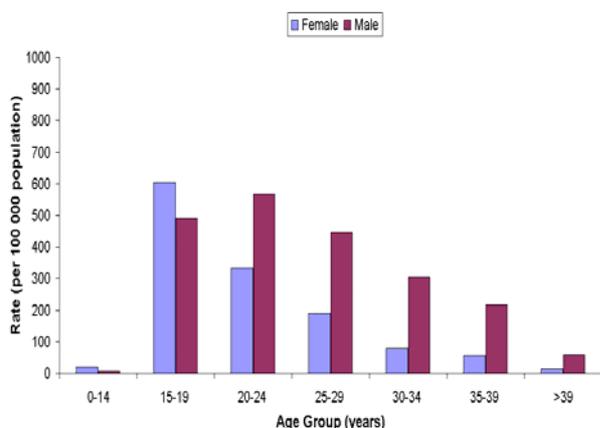
The mean age of cases of gonorrhoea was 26 years (median age 23 years, range 0 to 80 years). Fifty-seven per cent of all cases of gonorrhoea were aged less than 25 years.

Five cases of gonorrhoea were reported for the less than one-year age group. Rates could not be calculated separately for this age group, as population data was not available.

The highest female rate was in the 15 to 19 years age group (605 per 100 000 population) and the highest male rate was in the 20 to 24 years age group (567 per 100 000 population).

Figure 29. Rates of gonorrhoea in the Auckland region by age group and sex, 2006

Denominator is the population in each age-sex group for the region



Waikato region

In 2006, laboratories in the Waikato region tested 41 750 specimens for gonorrhoea, of which 404 (1.0%) specimens tested positive from 374 patients.

The overall rate in the region was 110 per 100 000. The rate in females (112 per 100 000) was similar to that in males (108 per 100 000).

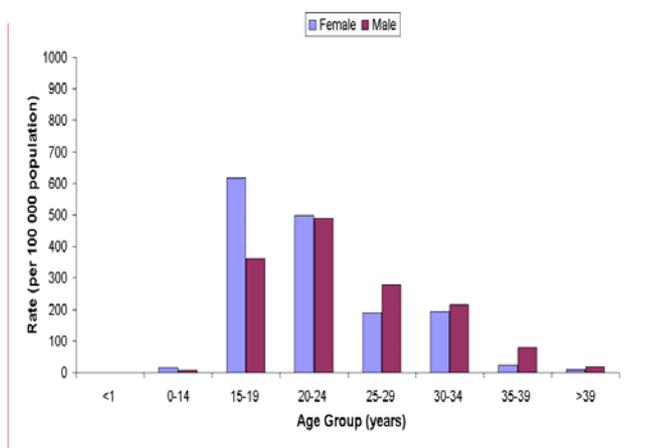
The mean age of cases of gonorrhoea was 24 years (median age 21 years, range 14 to 69 years). Sixty-seven per cent of all cases of gonorrhoea were aged less than 25 years.

No cases were reported for the less than one-year age group.

The gonorrhoea rate in 15 to 19 year old females (619 per 100 000 population) was nearly six times higher than the regional gonorrhoea rate (110 per 100 000 population). The highest male rates were in the 20 to 24 years age group (489 per 100 000 population), followed by the 15 to 19 years age group (362 per 100 000 population).

Figure 30. Rates of gonorrhoea in the Waikato region by age group and sex, 2006

Denominator is the population in each age-sex group for the region



Bay of Plenty region

In 2006, laboratories in the BOP region tested 38 166 specimens for gonorrhoea, of which 305 (0.8%) specimens tested positive from 297 patients.

The overall rate for the region was 101 per 100 000. The rate in females (110 per 100 000) was higher than that in males (92 per 100 000).

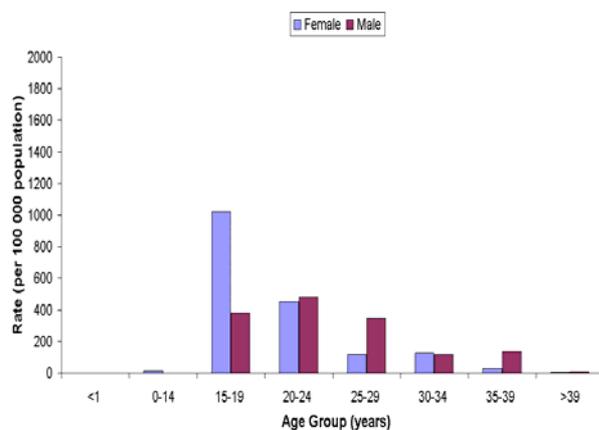
The mean age of cases of gonorrhoea was 22 years (median age 20 years, range 14 to 51 years). Seventy-two per cent of all cases of gonorrhoea were aged less than 25 years.

No cases were reported for the less than one-year age group.

The highest female rate was in the 15 to 19 years age group (1 021 per 100 000 population) and the highest male rate was in the 20 to 24 years age group (481 per 100 000 population).

Figure 31. Rates of gonorrhoea in the BOP region by age group and sex, 2006

Denominator is the population in each age-sex group for the region



Other regions

In 2006, laboratories in other regions reported 1 007 (0.7%) test positive specimens for gonorrhoea from 847 patients.

The majority of cases of gonorrhoea (56%) in these regions were male.

The mean age of cases of gonorrhoea was 23 years (median age 21 years, range 2 to 64 years). Sixty-seven per cent of all cases of gonorrhoea were aged less than 25 years.

No cases were reported for the less than one-year age group.

The highest gonorrhoea numbers were observed in the 15 to 19 years age group (299 cases), followed by the 20 to 24 years age group (254 cases). The highest female numbers were in the 15 to 19 years age group (171 cases) and the highest male numbers were in the 20 to 24 years age group (141 cases).

Figure 32. Case numbers of gonorrhoea in Other regions by age group and sex, 2006

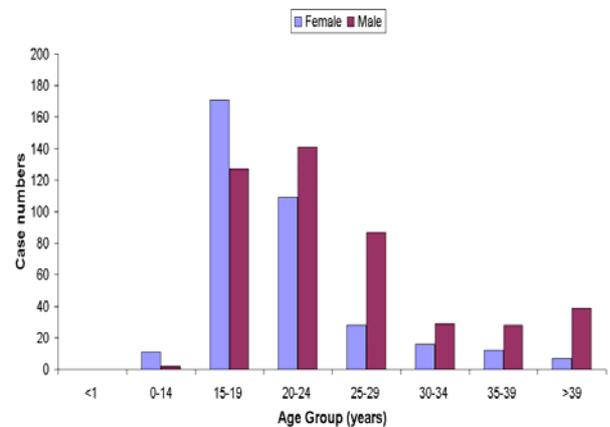


Table 15. Case numbers and rates of gonorrhoea by region, age group and sex, 2006

Age group (years)	Number of cases				Rate per 100 000 population		
	Female	Male	Unknown	Total	Female	Male	Total
Auckland Region							
<1	3	2	0	5	*	*	*
1-14	19	7	0	26	21*	7*	14*
15-19	193	159	0	352	605	491	547
20-24	116	188	1	305	332	567	448
25-29	62	132	0	194	191	447	313
30-34	27	94	0	121	78	305	186
35-39	20	69	0	89	57	218	133
40+	23	89	0	112	14	58	35
Unknown	0	0	1	1			
Total	463	740	2	1 205	108	181	144
Waikato region							
<1	0	0	0	0	0	0	0
1-14	6	3	0	9	16*	8*	12*
15-19	80	48	0	128	619	362	489
20-24	56	57	1	114	498	489	498
25-29	19	27	0	46	190	278	233
30-34	22	22	0	44	194	215	204
35-39	3	9	0	12	24	79	50
40+	7	13	0	20	9	18	14
Unknown	0	0	1	1			
Total	193	179	2	374	112	108	110
BOP region							
<1	0	0	0	0	0	0	0
1-14	5	0	0	5	15*	0	7*
15-19	102	40	0	142	1021	380	692
20-24	33	35	0	68	453	481	467
25-29	9	25	0	34	116	348	227
30-34	12	10	0	22	125	119	122
35-39	3	13	0	16	27	136	78
40+	2	7	0	9	3	11	7
Unknown	0	1	0	1			
Total	166	131	0	297	110	92	101
Other regions							
<1	0	0	0	0			
1-14	11	2	0	13			
15-19	171	127	1	299			
20-24	109	141	4	254			
25-29	28	87	1	116			
30-34	16	29	0	45			
35-39	12	28	0	40			
40+	7	39	1	47			
Unknown	13	18	2	33			
Total	367	471	9	847			

* Rates are combined for <1 and 1-14 age groups.

Trend data: Auckland, Waikato and Bay of Plenty regions

Over the last five years gonorrhoea rates in Auckland, Waikato and BOP have doubled from a rate of 63 per 100 000 in 2002 to 128 per 100 000 in 2006.

Figure 34 and 35 shows the gonorrhoea rates from 2002 to 2006. From 2005 to 2006, BOP region had the highest increase in male numbers (27.2%) and Waikato region had the highest increase in female numbers (82.1%).

The overall rate was highest in Auckland at 144 per 100 000, followed by Waikato then BOP at 110 and 101 per 100 000 respectively.

The number of laboratories reporting in these regions has not changed from 2002 to 2006 and, unlike for chlamydia, there have been no changes in gonorrhoea testing methods over this period. Therefore the overall trends suggest a true increase in the rate of gonorrhoea.

Figure 34. Male rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2002 to 2006

Denominator is the population in each region

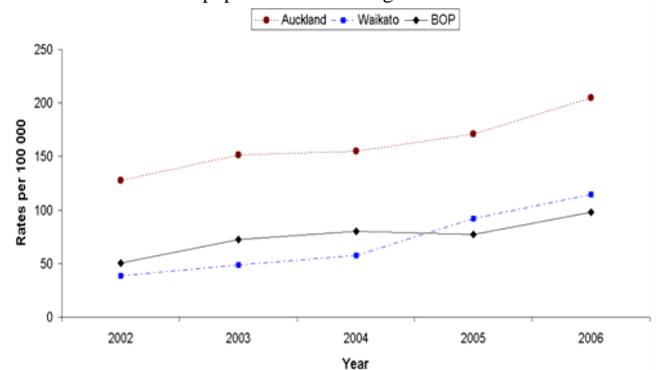
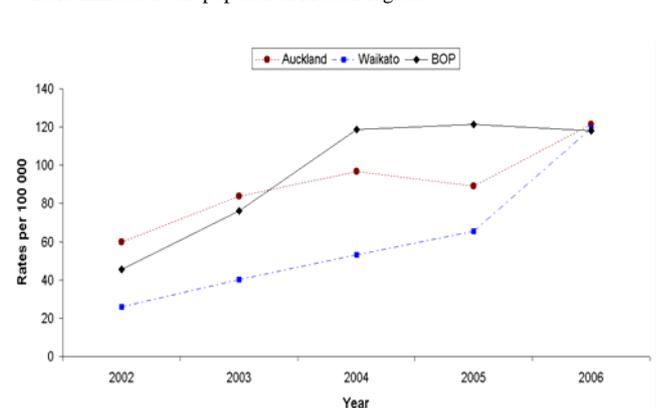


Figure 35. Female rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2002 to 2006

Denominator is the population in each region



HIV / AIDS summary

HIV/AIDS surveillance is carried out in New Zealand by the AIDS Epidemiology Group (AEG). A more detailed account of HIV/AIDS in New Zealand in 2005 is available in the publication; AIDS – New Zealand, Issue 59, February 2007.

HIV

A total of 204 new people were reported to the AEG as having HIV in 2006, comprising 177 cases newly diagnosed through antibody testing and an additional 27 reported through viral load testing (most of whom had previously been diagnosed overseas). The 2006 figures are slightly lower than for 2005 when 218 people were reported overall, with 183 and 35 from the two reporting categories respectively.

The number of cases thought to have acquired HIV infection heterosexually, 88 people (40 males and 48 females), is the highest ever reported in New Zealand in any one year. Similarly, 2006 saw the highest number of females ever reported. New immigrant HIV screening regulations, introduced in November 2005, are likely to have contributed to these increases. Of the 88 people thought to have acquired HIV infection heterosexually, 84% (74 cases) are believed to have been infected overseas.

Homosexual transmission was implicated in 85 cases (41.7% of all cases in 2006), and a further case had both homosexual contact and injecting drug use (IDU) (Table 16). This total of 86 cases is a decrease from the 112 cases for the same exposure categories in 2005, but similar in number to 2004 (91 cases).

Of the 70 cases diagnosed through antibody testing in men who have sex with men (MSM), including one who may have been infected through injecting drug use, almost three-quarters (52) reported that infection occurred within New Zealand. Based on previous HIV testing, at least 9 of these men were infected within the previous 12 months indicating ongoing HIV transmission amongst MSM in New Zealand.

Two children were diagnosed in 2006 with HIV infection acquired through mother to child transmission. Both children were born overseas. Since 1995, no children have been infected through their mothers when HIV infection was diagnosed prior to giving birth in New Zealand. In 2006, five

women tested positive for HIV through antenatal screening. One of these women was diagnosed as a direct result of the antenatal HIV screening programme in Waikato.

For 28 cases diagnosed in 2006, the route of HIV exposure remains unknown.

The majority of cases, 174 (85.3%), were aged between 20 and 49 years at time of diagnosis, with 35 (17.2%) in the 20-29 years, 82 (40.2%) in the 30-39 years, and 57 (27.9%) in the 40-49 years age groups.

Of the 204 cases, 79 (38.7%) were of European ethnicity, 12 (5.9%) Maori and 6 (3.0%) Pacific Peoples. There were 91 (44.6%) in other ethnic group categories, mainly of African and Asian ethnicity. The ethnicity of 16 cases (7.8%) is currently unknown.

AIDS

In 2006, 29 cases of AIDS were notified (Table 16). Of these, 19 were diagnosed during 2006 and 10 were late notifications of people diagnosed in the previous year. The 2006 notification rate (0.7 per 100 000) was significantly lower than the 2005 rate (1.2 per 100 000, 49 cases).

Fifteen of the cases (51.7%) are thought to have acquired the disease heterosexually, 14 (48.3%) through homosexual contact (one case had two risk categories homosexual contact and injecting drug user).

Similar to HIV, 26 cases (89.6%) were aged between 20-49 years at the time of notification. However, the age distribution of cases of AIDS was slightly older with 3 cases (10.3%) aged 20-29 years, 11 cases (37.9%) aged 30-39 years, and 12 cases (41.4%) aged 40-49 years. The distribution according to ethnicity was also similar to the cases of HIV, with around 40% of cases each in the European, and Other ethnic groups.

There were four deaths from AIDS during the year, two males and two females. The number of AIDS deaths peaked at 66 in 1992, and has been declining ever since. The number of AIDS deaths in 2006 may increase due to late notifications.

Table 16. Risk behaviour category for HIV infections and AIDS notifications, 1983¹-2006.

Risk category	Sex	HIV ²		AIDS ³	
		New cases in 2006 (%)	Cases (%) - Total 1985 to 2006	New cases in 2006 (%)	Cases (%) - Total 1983 to 2006
Homosexual contact	Male	85 (41.7)	1 395 (52.1)	13 (44.8)	661 (71.8)
Homosexual & IDU	Male	1 (0.5)	34 (1.3)	1 (3.4)	13 (1.4)
Heterosexual contact	Male	40 (19.6)	325 (12.1)	6 (20.7)	81 (8.8)
	Female	48 (23.5)	357 (13.3)	9 (31.0)	72 (7.8)
Injecting drug user (IDU)	Male	0 (0.0)	54 (2.1)	0 (0.0)	19 (2.1)
	Female	0 (0.0)	11 (0.4)	0 (0.0)	0 (0.0)
Blood product recipient	Male	0 (0.0)	34 (1.4)	0 (0.0)	16 (1.7)
Transfusion related	Male	0 (0.0)	10 (0.4)	0 (0.0)	2 (0.2)
	Female	0 (0.0)	9 (0.4)	0 (0.0)	2 (0.2)
	Unknown	0 (0.0)	5 (0.2)	0 (0.0)	0 (0.0)
Perinatal	Male	1 (0.5)	23 (0.9)	0 (0.0)	8 (0.9)
	Female	1 (0.5)	15 (0.6)	0 (0.0)	6 (0.7)
Awaiting information/	Male	21 (10.3)	340 (12.7)	0 (0.0)	36 (3.9)
Undetermined	Female	7 (3.4)	37 (1.4)	0 (0.0)	2 (0.2)
	Unknown	0 (0.0)	13 (0.5)	0 (0.0)	0 (0.0)
Other	Male	0 (0.0)	6 (0.2)	0 (0.0)	0 (0.0)
	Female	0 (0.0)	9 (0.3)	0 (0.0)	2 (0.2)
Total		204 (100.0)	2 677 (100.0)	29 (100.0)	920 (100.00)

¹ Testing for HIV infection began in 1985.

² Includes people who have developed AIDS. Numbers are recorded by date of diagnosis for those reported through antibody testing and by time of first viral load for those reported through viral load testing. The latter include many who have initially been diagnosed overseas and have not had an antibody test here.

³ Reported by date of notification.

Source: AIDS Epidemiology Group.

Discussion

Chlamydia

In 2006, chlamydia was again the most commonly diagnosed STI in New Zealand. Case numbers increased at FPCs and SYHCs but at SHCs were similar to 2005 levels. Incomplete case data for Auckland SHC may account for the lack of an increase in SHC cases, as the laboratory-based chlamydia rate for Auckland continued its upward trend in 2006. The laboratory-based rate of chlamydia infections for the Auckland, Waikato and BOP regions combined has increased by 1.4 times between 2002 and 2006. Improved awareness and testing levels and more sensitive tests will account for some but not all of these increases.

Gonorrhoea

As gonorrhoea is much less likely to cause asymptomatic infection than chlamydia (especially in males), trends in gonorrhoea rates are considered to better reflect changes in STI incidence and sexual behaviour. The number and rate of gonorrhoea infections increased for all clinic types and the three laboratory-based surveillance regions in 2006. Since 2002, the overall laboratory rate has doubled, with no change in laboratory testing methods or the number of participating laboratories over this period. This significant increase is therefore likely to be real and is concerning as it implies an increase in unsafe sexual behaviour.

At-risk groups - youth, non-Europeans, neonates

As in previous years, those aged less than 30 years and non-Europeans were disproportionately burdened with STIs in 2006. This finding is consistent across most STIs, and is also seen in the SHC data on concurrent infections. More than three-quarters of those with concurrent infections were aged less than 25 years, and Maori and Pacific cases were approximately twice as likely to have concurrent infections compared with European cases. Similarly, young people and individuals from non-European ethnic groups were over-represented in the complicated chlamydia and gonorrhoea infection cases, i.e. those resulting in PID or epididymitis.

Based on laboratory data, a total of 135 chlamydia and five gonorrhoea infections were diagnosed in children under the age of one in 2006. These neonatal infections highlight the need to improve STI screening during pregnancy and reinforce that eye infections in neonates require close observation and investigation. Antenatal screening for HIV diagnosed five women in 2006, one of whom was diagnosed as a direct result of the Waikato screening programme, where all women are now routinely offered an antenatal HIV test.

International comparisons

The way in which STI surveillance data is collected varies widely between countries, and will be influenced by local STI screening practices. Therefore, it is difficult to meaningfully compare incidence rates between New Zealand and other countries. In addition, the New Zealand rates are for specific regions only and, as rates will vary geographically, may not be representative of the overall New Zealand rate. Bearing this in mind, New Zealand's regional STI rates are consistently higher compared with national rates for countries such as Australia, the United Kingdom (UK), and the United States (US). Using Chlamydia as an example, the 2006 Auckland laboratory-based rate (the middle of the three regional laboratory-based rates) was 722 per 100 000. In comparison, the 2006 rate in Australia was 282 per 100 000, with regional rates ranging from 215 per 100 000 in New South Wales to 1 239 per 100 000 in Northern Territory(12). UK and US 2006 data is not yet available, however, the 2005 rates were 183 per 100 000(13) and 333 per 100 000 respectively(14).

Emerging/re-emerging STIs

Lymphogranuloma venereum (LGV) is a systemic STI caused by a type of *Chlamydia trachomatis* (serovars L1, L2, or L3). Over recent years, there has been a re-emergence of LGV in Europe, predominantly in men who have sex with men, and in association with HIV infection. Mild clinical signs (proctitis, constipation, cramping) may be overlooked so the number of reported cases of LGV may represent an underestimate of disease. Diagnosis is difficult; rectal specimens may test positive for Chlamydia but routinely available tests do not distinguish between types or

serovars(15). There have not been any confirmed cases reported in New Zealand to date but, as with other re-emerging STIs such as syphilis, it is likely that cases will occur. Increased awareness and access to tests that are able to distinguish LGV types are important.

Further, during 2006, a chlamydia variant was described in Europe for the first time that, due to a genetic mutation, is undetectable using some PCR-based tests(16). It is not known whether this variant is in New Zealand. To date, sample re-testing has not yet found any such cases(17). It is important, however, that a monitoring and testing strategy is established to ensure cases of chlamydia, including LGV, are not missed.

Case numbers of syphilis remain low in New Zealand compared to other STIs. However, case numbers increased by almost 50% in SHCs between 2005 and 2006, and over the last two years FPCs have diagnosed the occasional case. Concern has been expressed that cases no longer appear to be confined to men who have sex with men, that infection is occurring within New Zealand, and that cases of congenital syphilis have been born to women who missed out on routine antenatal screening(18). As syphilis was not prevalent when most New Zealand doctors were training, and many STIs are diagnosed outside of specialist sexual health services in primary care(19), it may be useful to alert practitioners to consider syphilis, for example, in their differential diagnosis for rash. Some SHCs are undertaking enhanced surveillance for syphilis(18), as occurs in the UK(20) and Australia(21).

Limitations of current surveillance system

Any surveillance system is dependent on the quality of the data it collects, including the representativeness the data. National STI surveillance has only so far been achieved under the clinic-based system. This data is useful as a means of detecting trends in those population groups who attend such clinics. However, there are issues with the generalisability of trends to the wider New Zealand population, and with the ability to generate meaningful rate data. New Zealand data from areas where laboratory and clinic-based STI surveillance co-exist, and supporting evidence from the UK(19), indicate that a substantial proportion of STIs are diagnosed outside of specialist sexual health care services, namely in primary care. As laboratories provide

the testing for both specialist sexual health clinics and primary care, they are the obvious choice for nationally representative STI data. However, laboratory-based STI surveillance data is still incomplete for large areas of New Zealand. In addition, laboratories are usually only provided with limited information with a specimen, and this would be insufficient for analysis at the sub-population group level e.g. by ethnicity or DHB. As an individual's National Health Index (NHI) number is now included with most specimens, it may be timely to consider the possibility of using NHI numbers to obtain the extra data fields required for adequate surveillance.

Regardless, no STIs are currently notifiable under the Health Act, and therefore surveillance remains dependent on voluntary notification. A comprehensive dataset would be easier to achieve if laboratories were legally required to report STIs of public health importance. The Ministry of Health is currently reviewing whether any STIs should be made notifiable by laboratories. The Epidemic Preparedness Act was passed in December 2006. This piece of legislation enables a requirement for laboratory notification to occur in certain circumstances. Setting up a comprehensive laboratory-based STI reporting system would ensure that mechanisms would already be in place to support such laboratory notification when needed.

Summary

Although imperfect, and likely to be an underestimate, the data presented in this report indicate a considerable STI burden in New Zealand which continues both to increase and disproportionately affect some groups within the New Zealand population. The surveillance of STIs in New Zealand needs to be improved so that appropriate public health action can take place to decrease overall STI rates and reduce inequalities in the burden of disease. Comprehensive nationwide laboratory-based surveillance which includes ethnicity data would provide the appropriate surveillance data. The Epidemic Preparedness Act (2006) enables the use of laboratory data for surveillance purposes. However, without making (certain) STIs notifiable, surveillance will continue to rely on the good will, enthusiasm, and resources of those clinics and laboratories who voluntarily report their data to ESR.

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Appendices

Appendix A: Clinic-based Surveillance Data

All Clinic Data

Table 17. Summary – disease rate by clinic type, 2006

<u>Clinic Type, by area</u>	<u>Total Clinic Visits¹</u>	<u>Chlamydia²</u>	<u>Gonorrhoea²</u>	<u>Genital Herpes[^]</u>	<u>Genital Warts[^]</u>	<u>Syphilis[*]</u>
North						
Sexual Health Clinics	No. 27,803	734	187	157	579	30
	Rate ³	2.6%	0.7%	0.6%	2.1%	0.1%
Family Planning Clinics	No. 78,404	1,639	86	45	232	2
	Rate ³	2.1%	0.1%	0.1%	0.3%	0.0%
Student & Youth Health	No. 34,506	65	0	3	20	0
	Rate ³	0.2%	0.0%	0.0%	0.1%	0.0%
Subtotal North	140,713	2,438	273	205	831	32
Midland						
Sexual Health Clinics	No. 24,742	2,101	307	239	995	13
	Rate ³	8.5%	1.2%	1.0%	4.0%	0.1%
Family Planning Clinics	No. 21,549	560	35	6	47	0
	Rate ³	2.6%	0.2%	0.0%	0.2%	0.0%
Student & Youth Health	No. 45,605	118	5	6	15	0
	Rate ³	0.3%	0.0%	0.0%	0.0%	0.0%
Subtotal Midland	91,896	2,779	347	251	1,057	13
Central						
Sexual Health Clinics	No. 19,648	1,236	226	146	842	23
	Rate ³	6.3%	1.2%	0.7%	4.3%	0.1%
Family Planning Clinics	No. 37,123	809	42	43	132	1
	Rate ³	2.2%	0.1%	0.1%	0.4%	0.0%
Student & Youth Health	No. 61,265	355	28	24	85	0
	Rate ³	0.6%	0.0%	0.0%	0.1%	0.0%
Subtotal Central	118,036	2,400	296	213	1,059	24
South						
Sexual Health Clinics	No. 16,488	993	170	178	785	2
	Rate ³	6.0%	1.0%	1.1%	4.8%	0.0%
Family Planning Clinics	No. 46,403	659	78	43	200	0
	Rate ³	1.4%	0.2%	0.1%	0.4%	0.0%
Student & Youth Health	No. 61,138	261	19	35	86	0
	Rate ³	0.4%	0.0%	0.1%	0.1%	0.0%
Subtotal South	124,029	1,913	267	256	1,071	2
All						
Sexual Health Clinics	No. 88,681	5,064	890	720	3,201	68
	Rate.	5.7%	1.0%	0.8%	3.6%	0.1%
Family Planning Clinics	No. 183,479	3,667	241	137	611	3
	Rate.	2.0%	0.1%	0.1%	0.3%	0.0%
Student & Youth Health	No. 202,514	799	52	68	206	0
	Rate.	0.4%	0.0%	0.0%	0.1%	0.0%
Total	No. 474,674	9,530	1,183	925	4,018	71
	Rate.	2.0%	0.2%	0.2%	0.8%	0.0%

¹ Total no. clinic visits = total number of clinics visits for report period for any reason

² No. (for gonorrhoea and chlamydia only) = no. confirmed cases + no. probable cases

³ Rate = (total no. of cases/total no. of clinic visits)x100, expressed as a percentage

[^] First presentation at that clinic.

* Infectious syphilis (primary, secondary and early latent)

Table 18. Summary – chlamydia site of infection, 2006

	<i>Confirmed</i>						<i>Probable</i>		Total³ No. ¹
	Uncomplicated, lower anogenital		PID/epididymitis		Other site		No. ¹	% ²	
	No. ¹	% ²	No. ¹	% ²	No. ¹	% ²			
Sexual Health Clinics	4145	81.8%	104	2.1%	50	1.0%	769	15.2%	5068
Family Planning Clinics	2945	80.3%	91	2.5%	3	0.1%	630	17.2%	3669
Student & Youth Health Clinics	703	88.0%	45	5.6%	3	0.4%	48	6.0%	799
Total	7793	81.7%	240	2.5%	56	0.6%	1447	15.2%	9536

Table 19. Summary – gonorrhoea site of infection, 2006

	<i>Confirmed</i>								<i>Probable</i>		Total³ No. ¹		
	Uncomplicated infection				PID/ epididymitis	E xtra-genital infection				No. ¹		% ²	
	Urogenital		Anorectal			Pharynx		Other site					
	No. ¹	% ²	No. ¹	% ²		No. ¹	% ²	No. ¹	% ²				
Sexual Health Clinics	730	80.8%	31	3.4%	34	3.8%	14	1.5%	8	0.9%	87	9.6%	904
Family Planning Clinics	184	76.0%	4	1.7%	9	3.7%	0	0.0%	0	0.0%	45	18.6%	242
Student & Youth Health Clinics	42	80.8%	0	0.0%	6	11.5%	0	0.0%	0	0.0%	4	7.7%	52
Total	956	79.8%	35	2.9%	49	4.1%	14	1.2%	8	0.7%	136	11.4%	1198

¹ No. = no. cases with diagnosis

² % = no. cases with diagnosis/total no. confirmed or probable cases by disease

³ Total = total no. confirmed or probable cases by disease; note that the cases may have been confirmed by disease at more than one site.

Sexual Health Clinic Data

Table 20. Chlamydia - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2005</u>			<u>2006</u>		
<u>2005</u>	<u>2006</u>	<u>Clinic</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>
1427	1903	Whangarei	84	84	5.9%	88	89	4.7%
525	716	Dargaville	9	9	1.7%	15	15	2.1%
324	372	Kaikohe	23	23	7.1%	33	33	8.9%
24241	24812	Auckland	1028	1082	4.5%	557	597	2.4%
26517	27803	North	1144	1198	4.5%	693	734	2.6%
8726	8480	Hamilton	643	691	7.9%	696	745	8.8%
7589	7880	Tauranga	429	434	5.7%	498	516	6.5%
924	1261	Rotorua	86	97	10.5%	70	83	6.6%
949	1039	Whakatane	91	92	9.7%	110	124	11.9%
840	869	Taupo	32	88	10.5%	66	114	13.1%
2468	2203	New Plymouth	273	360	14.6%	269	334	15.2%
2944	3010	Gisborne	167	167	5.7%	185	185	6.1%
24440	24742	Midland	1721	1929	7.9%	1894	2101	8.5%
1078	1164	Napier	100	100	9.3%	149	149	12.8%
401	635	Hastings	53	53	13.2%	75	75	11.8%
1089	939	Wanganui	59	69	6.3%	41	51	5.4%
3849	3751	Palmerston North/Levin/Dannevirke	249	362	9.4%	288	434	11.6%
9943	9361	Wellington	202	309	3.1%	240	354	3.8%
1021	922	Lower Hutt	19	28	2.7%	22	30	3.3%
678	629	Porirua	29	41	6.0%	24	36	5.7%
1489	1675	Nelson	64	78	5.2%	59	74	4.4%
476	572	Wairau (Blenheim)	27	29	6.1%	30	33	5.8%
20024	19648	Central	802	1069	5.3%	928	1236	6.3%
482	433	Greymouth	16	25	5.2%	13	26	6.0%
145	421	Westport/Buller	13	19	13.1%	26	38	9.0%
8875	8884	Christchurch	253	343	3.9%	306	424	4.8%
124	145	Ashburton	4	4	3.2%	12	13	9.0%
737	685	Timaru	33	34	4.6%	66	67	9.8%
3376	3577	Dunedin	152	165	4.9%	150	153	4.3%
2295	2343	Invercargill/Gore	175	217	9.5%	207	272	11.6%
16034	16488	South	646	807	5.0%	780	993	6.0%
87015	88681	Total	4313	5003	5.7%	4295	5064	5.7%

¹ Total No. Clinic Visits = total no. clinic visits per year for any reason

² Total No. = no. confirmed cases + no. probable cases

³ Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

Note: People seek treatment for STIs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 21. Gonorrhoea - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2005</u>			<u>2006</u>		
<u>2005</u>	<u>2006</u>	<u>Clinic</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>
1427	1903	Whangarei	6	6	0.4%	7	8	0.4%
525	716	Dargaville	0	0	0.0%	0	0	0.0%
324	372	Kaikohe	0	0	0.0%	4	4	1.1%
24241	24812	Auckland	327	340	1.4%	159	175	0.7%
26517	27803	North	333	346	1.3%	170	187	0.7%
8726	8480	Hamilton	104	115	1.3%	142	146	1.7%
7589	7880	Tauranga	30	31	0.4%	59	66	0.8%
924	1261	Rotorua	14	15	1.6%	12	16	1.3%
949	1039	Whakatane	10	11	1.2%	23	23	2.2%
840	869	Taupo	1	4	0.5%	5	6	0.7%
2468	2203	New Plymouth	12	13	0.5%	18	18	0.8%
2944	3010	Gisborne	21	21	0.7%	32	32	1.1%
24440	24742	Midland	192	210	0.9%	291	307	1.2%
1078	1164	Napier	8	8	0.7%	48	48	4.1%
401	635	Hastings	22	22	5.5%	21	21	3.3%
1089	939	Wanganui	0	0	0.0%	12	12	1.3%
3849	3751	Palmerston North/Levin/Dannevirke	17	26	0.7%	47	63	1.7%
9943	9361	Wellington	27	27	0.3%	48	48	0.5%
1021	922	Lower Hutt	7	8	0.8%	9	9	1.0%
678	629	Porirua	11	11	1.6%	11	11	1.7%
1489	1675	Nelson	11	19	1.3%	6	11	0.7%
476	572	Wairau (Blenheim)	1	1	0.2%	2	3	0.5%
20024	19648	Central	104	122	0.6%	204	226	1.2%
482	433	Greymouth	0	0	0.0%	2	4	0.9%
145	421	Westport/Buller	1	1	0.7%	1	1	0.2%
8875	8884	Christchurch	38	41	0.5%	74	97	1.1%
124	145	Ashburton	1	1	0.8%	2	3	2.1%
737	685	Timaru	10	10	1.4%	9	9	1.3%
3376	3577	Dunedin	4	7	0.2%	11	13	0.4%
2295	2343	Invercargill/Gore	9	10	0.4%	39	43	1.8%
16034	16488	South	63	70	0.4%	138	170	1.0%
87015	88681	Total	692	748	0.9%	803	890	1.0%

¹ Total No. Clinic Visits = total no. clinic visits per year for any reason

² Total No. = no. confirmed cases + no. probable cases

³ Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

Note: People seek treatment for STIs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 22. Genital Herpes (first presentation) - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2005</u>		<u>2006</u>	
<u>2005</u>	<u>2006</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
1427	1903	Whangarei	14	1.0%	22	1.2%
525	716	Dargaville	1	0.2%	1	0.1%
324	372	Kaikohe	0	0.0%	1	0.3%
24241	24812	Auckland	162	0.7%	133	0.5%
26517	27803	North	177	0.7%	157	0.6%
8726	8480	Hamilton	112	1.3%	113	1.3%
7589	7880	Tauranga	67	0.9%	72	0.9%
924	1261	Rotorua	11	1.2%	8	0.6%
949	1039	Whakatane	5	0.5%	6	0.6%
840	869	Taupo	5	0.6%	1	0.1%
2468	2203	New Plymouth	37	1.5%	36	1.6%
2944	3010	Gisborne	3	0.1%	3	0.1%
24440	24742	Midland	240	1.0%	239	1.0%
1078	1164	Napier	16	1.5%	11	0.9%
401	635	Hastings	4	1.0%	7	1.1%
1089	939	Wanganui	8	0.7%	16	1.7%
3849	3751	Palmerston North/Levin/Dannevirke	26	0.7%	29	0.8%
9943	9361	Wellington	53	0.5%	55	0.6%
1021	922	Lower Hutt	5	0.5%	5	0.5%
678	629	Porirua	3	0.4%	0	0.0%
1489	1675	Nelson	20	1.3%	19	1.1%
476	572	Wairau (Blenheim)	1	0.2%	4	0.7%
20024	19648	Central	136	0.7%	146	0.7%
482	433	Greymouth	12	2.5%	5	1.2%
145	421	Westport/Buller	2	1.4%	4	1.0%
8875	8884	Christchurch	106	1.2%	89	1.0%
124	145	Ashburton	0	0.0%	2	1.4%
737	685	Timaru	25	3.4%	12	1.8%
3376	3577	Dunedin	24	0.7%	36	1.0%
2295	2343	Invercargill/Gore	25	1.1%	30	1.3%
16034	16488	South	194	1.2%	178	1.1%
87015	88681	Total	747	0.9%	720	0.8%

¹ Total No. Clinic Visits = total no. clinic visits per year for any reason

² Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

Note: People seek treatment for STIs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 23. Genital Warts (first presentation) - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2005</u>		<u>2006</u>	
<u>2005</u>	<u>2006</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
1427	1903	Whangarei	52	3.6%	65	3.4%
525	716	Dargaville	0	0.0%	3	0.4%
324	372	Kaikohe	0	0.0%	2	0.5%
24241	24812	Auckland	1099	4.5%	509	2.1%
26517	27803	North	1151	4.3%	579	2.1%
8726	8480	Hamilton	430	4.9%	412	4.9%
7589	7880	Tauranga	268	3.5%	308	3.9%
924	1261	Rotorua	84	9.1%	84	6.7%
949	1039	Whakatane	39	4.1%	50	4.8%
840	869	Taupo	14	1.7%	2	0.2%
2468	2203	New Plymouth	118	4.8%	139	6.3%
2944	3010	Gisborne	1	0.0%	0	0.0%
24440	24742	Midland	954	3.9%	995	4.0%
1078	1164	Napier	70	6.5%	66	5.7%
401	635	Hastings	23	5.7%	46	7.2%
1089	939	Wanganui	66	6.1%	61	6.5%
3849	3751	Palmerston North/Levin/Dannevirke	171	4.4%	131	3.5%
9943	9361	Wellington	315	3.2%	299	3.2%
1021	922	Lower Hutt	57	5.6%	34	3.7%
678	629	Porirua	40	5.9%	33	5.2%
1489	1675	Nelson	94	6.3%	92	5.5%
476	572	Wairau (Blenheim)	61	12.8%	80	14.0%
20024	19648	Central	897	4.5%	842	4.3%
482	433	Greymouth	20	4.1%	27	6.2%
145	421	Westport/Buller	1	0.7%	9	2.1%
8875	8884	Christchurch	364	4.1%	359	4.0%
124	145	Ashburton	7	5.6%	12	8.3%
737	685	Timaru	23	3.1%	48	7.0%
3376	3577	Dunedin	171	5.1%	171	4.8%
2295	2343	Invercargill/Gore	144	6.3%	159	6.8%
16034	16488	South	730	4.6%	785	4.8%
87015	88681	Total	3732	4.3%	3201	3.6%

¹ Total No. Clinic Visits = total no. clinic visits per year for any reason

² Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

Note: People seek treatment for STIs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 24. Syphilis - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2005</u>		<u>2006</u>	
<u>2005</u>	<u>2006</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
1427	1903	Whangarei	0	0.0%	0	0.0%
525	716	Dargaville	0	0.0%	0	0.0%
324	372	Kaikohe	0	0.0%	0	0.0%
24241	24812	Auckland	20	0.1%	30	0.1%
26517	27803	North	20	0.1%	30	0.1%
8726	8480	Hamilton	10	0.1%	6	0.1%
7589	7880	Tauranga	1	0.0%	7	0.1%
924	1261	Rotorua	0	0.0%	0	0.0%
949	1039	Whakatane	0	0.0%	0	0.0%
840	869	Taupo	1	0.1%	0	0.0%
2468	2203	New Plymouth	1	0.0%	0	0.0%
2944	3010	Gisborne	0	0.0%	0	0.0%
24440	24742	Midland	13	0.1%	13	0.1%
1078	1164	Napier	0	0.0%	0	0.0%
401	635	Hastings	0	0.0%	0	0.0%
1089	939	Wanganui	0	0.0%	1	0.1%
3849	3751	Palmerston North/Levin/Dannevirke	2	0.1%	4	0.1%
9943	9361	Wellington	7	0.1%	15	0.2%
1021	922	Lower Hutt	0	0.0%	0	0.0%
678	629	Porirua	1	0.1%	3	0.5%
1489	1675	Nelson	0	0.0%	0	0.0%
476	572	Wairau (Blenheim)	0	0.0%	0	0.0%
20024	19648	Central	10	0.0%	23	0.1%
482	433	Greymouth	0	0.0%	0	0.0%
145	421	Westport/Buller	0	0.0%	0	0.0%
8875	8884	Christchurch	2	0.0%	1	0.0%
124	145	Ashburton	0	0.0%	0	0.0%
737	685	Timaru	0	0.0%	0	0.0%
3376	3577	Dunedin	1	0.0%	1	0.0%
2295	2343	Invercargill/Gore	1	0.0%	0	0.0%
16034	16488	South	4	0.0%	2	0.0%
87015	88681	Total	47	0.1%	68	0.1%

¹ Total No. Clinic Visits = total no. clinic visits per year for any reason

² Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

Note: People seek treatment for STIs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 25. NSU (males only) - number of cases and disease rates by SHCs

<u>Total Clinic Visits for males¹</u>			<u>2005</u>		<u>2006</u>	
<u>2005</u>	<u>2006</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
415	492	Whangarei	0	0.0%	0	0.0%
24	42	Dargaville	0	0.0%	0	0.0%
8	15	Kaikohe	0	0.0%	0	0.0%
12409	12303	Auckland	425	3.4%	272	2.2%
12856	12852	North	425	3.3%	272	2.1%
3017	3153	Hamilton	57	1.9%	52	1.6%
1511	1660	Tauranga	54	3.6%	64	3.9%
383	554	Rotorua	5	1.3%	5	0.9%
152	203	Whakatane	3	2.0%	14	6.9%
195	214	Taupo	0	0.0%	3	1.4%
1046	941	New Plymouth	50	4.8%	54	5.7%
235	297	Gisborne	0	0.0%	0	0.0%
6539	7022	Midland	169	2.6%	192	2.7%
245	252	Napier	0	0.0%	0	0.0%
94	117	Hastings	0	0.0%	0	0.0%
379	310	Wanganui	7	1.8%	4	1.3%
1631	1552	Palmerston North/Levin/Dannevirke	106	6.5%	87	5.6%
4744	4651	Wellington	21	0.4%	15	0.3%
431	436	Lower Hutt	5	1.2%	0	0.0%
258	253	Porirua	2	0.8%	0	0.0%
787	914	Nelson	15	1.9%	24	2.6%
239	305	Wairau (Blenheim)	0	0.0%	0	0.0%
8808	8790	Central	156	1.8%	130	1.5%
152	147	Greymouth	1	0.7%	0	0.0%
46	138	Westport/Buller	5	10.9%	1	0.7%
4795	4804	Christchurch	63	1.3%	61	1.3%
69	53	Ashburton	0	0.0%	0	0.0%
334	329	Timaru	1	0.3%	0	0.0%
1104	1264	Dunedin	6	0.5%	4	0.3%
1030	1093	Invercargill/Gore	32	3.1%	27	2.5%
7530	7828	South	108	1.4%	93	1.2%
35733	36492	Total	858	2.4%	687	1.9%

¹ Total No. Clinic Visits = total no. male clinic visits per year for any reason

² Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

Note: People seek treatment for STIs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 26. Number of cases¹ and disease rates² by age, sex and ethnicity, SHCs, 2006

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<i>Chlamydia</i>											
Males											
European/Pakeha		1	320	534	315	145	77	44	52	0	1488
		2.9	14.2	8.3	6.5	3.9	2.8	2.2	1.5	0.0	5.8
Maori		3	187	261	119	46	24	11	9	0	660
		7.5	18.8	19.2	11.9	6.6	5.8	5.9	3.8	0.0	13.4
Pacific Peoples		0	23	40	30	9	7	5	0	0	114
		0.0	16.7	10.6	8.3	4.7	5.1	6.7	0.0	-	8.0
Other		0	14	53	46	19	15	6	6	0	159
		0.0	7.0	6.5	5.5	3.1	2.9	1.8	1.3	0.0	4.2
Unknown		0	10	14	8	4	4	5	1	0	46
		0.0	17.9	7.3	6.7	3.2	4.2	5.0	0.7	-	5.5
Total		4	554	902	518	223	127	71	68	0	2467
		4.7	15.2	9.8	7.2	4.2	3.3	2.7	1.5	0.0	6.8
Females											
European/Pakeha		36	642	374	138	53	27	10	13	0	1293
		7.6	6.2	4.4	2.8	1.7	1.4	0.7	0.7	0.0	3.9
Maori		33	579	260	141	44	12	4	8	3	1084
		8.2	12.2	9.0	7.5	4.4	2.1	1.1	2.2	4.4	8.8
Pacific Peoples		2	34	31	10	6	4	0	0	1	88
		6.5	7.1	5.8	2.7	2.8	4.8	0.0	0.0	-	4.7
Other		2	33	38	19	16	6	1	1	0	116
		8.7	4.5	3.3	2.1	2.3	1.2	0.3	0.3	-	2.5
Unknown		0	5	6	1	4	0	0	0	0	16
		0.0	4.5	4.5	1.2	5.4	0.0	0.0	0.0	0.0	3.1
Total		73	1293	709	309	123	49	15	22	4	2597
		7.8	7.8	5.3	3.8	2.4	1.5	0.7	0.8	2.7	5.0
<i>Gonorrhoea</i>											
Males											
European/Pakeha		0	51	73	48	20	26	15	14	0	247
		0.0	2.3	1.1	1.0	0.5	1.0	0.8	0.4	0.0	1.0
Maori		3	60	43	37	20	6	3	4	0	176
		7.5	6.0	3.2	3.7	2.9	1.4	1.6	1.7	0.0	3.6
Pacific Peoples		0	6	12	10	1	3	2	0	0	34
		0.0	5.3	4.2	3.3	0.7	2.6	3.6	0.0	-	3.0
Other		0	5	6	17	7	4	0	1	0	40
		0.0	2.7	0.8	2.2	1.3	0.8	0.0	0.2	0.0	1.1
Unknown		0	3	3	1	3	0	2	2	0	14
		0.0	8.3	2.0	1.1	3.0	0.0	2.7	1.8	-	2.2
Total		3	125	137	113	51	39	22	21	0	511
		3.6	3.5	1.5	1.6	1.0	1.0	0.9	0.5	0.0	1.4
Females											
European/Pakeha		7	59	47	11	7	4	2	4	0	141
		1.5	0.6	0.5	0.2	0.2	0.2	0.1	0.2	0.0	0.4
Maori		6	105	43	27	10	2	1	1	0	195
		1.5	2.2	1.5	1.4	1.0	0.4	0.3	0.3	0.0	1.6
Pacific Peoples		1	10	6	2	1	1	0	0	0	21
		3.4	2.6	1.3	0.6	0.6	1.4	0.0	0.0	-	1.3
Other		0	7	5	2	1	0	0	0	0	15
		0.0	1.4	0.6	0.3	0.2	0.0	0.0	0.0	-	0.5
Unknown		0	3	2	0	2	0	0	0	0	7
		0.0	7.7	3.7	0.0	6.5	0.0	0.0	0.0	0.0	3.1
Total		14	184	103	42	21	7	3	5	0	379
		1.5	1.1	0.8	0.5	0.4	0.2	0.2	0.2	0.0	0.8

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 26. Cont. number of cases¹ and disease rates² by age, sex and ethnicity, SHCs, 2006

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Genital Herpes (first presentation)</i>											
Males	European/Pakeha	0	23	63	61	42	30	12	20	0	251
		0.0	1.0	1.0	1.3	1.1	1.1	0.6	0.6	0.0	1.0
	Maori	0	10	6	5	4	3	1	4	0	33
		0.0	1.0	0.4	0.5	0.6	0.7	0.5	1.7	0.0	0.7
	Pacific Peoples	0	1	0	1	1	2	2	1	0	8
		0.0	1.4	0.0	0.5	1.0	2.6	5.7	1.4	-	1.1
	Other	0	0	5	11	3	4	4	1	0	28
		0.0	0.0	0.7	1.4	0.5	0.8	1.4	0.2	0.0	0.8
	Unknown	0	0	1	0	1	2	2	1	0	7
		0.0	0.0	1.3	0.0	2.5	6.9	4.7	2.5	-	2.5
Total	0	34	75	78	51	41	21	27	0	327	
	0.0	1.0	0.9	1.1	1.0	1.1	0.8	0.6	0.0	0.9	
Females	European/Pakeha	0	79	87	44	31	21	13	19	0	294
		0.0	0.8	1.0	0.9	1.0	1.1	1.0	1.0	0.0	0.9
	Maori	0	26	18	9	4	5	3	1	0	66
		0.0	0.5	0.6	0.5	0.4	0.9	0.8	0.3	0.0	0.5
	Pacific Peoples	0	1	2	1	0	0	0	0	0	4
		0.0	0.6	1.1	0.8	0.0	0.0	0.0	0.0	-	0.6
	Other	0	4	8	5	3	3	1	1	0	25
		0.0	0.7	0.9	0.7	0.5	0.8	0.4	0.4	-	0.7
	Unknown	0	0	0	3	1	0	0	0	0	4
		0.0	0.0	0.0	14.3	2.6	0.0	0.0	0.0	-	2.3
Total	0	110	115	62	39	29	17	21	0	393	
	0.0	0.7	0.9	0.8	0.8	1.0	0.9	0.8	0.0	0.8	
<i>Genital Warts (first presentation)</i>											
Males	European/Pakeha	1	146	416	212	134	72	43	60	0	1084
		2.9	6.5	6.5	4.4	3.6	2.6	2.2	1.7	0.0	4.3
	Maori	1	79	74	36	22	14	4	4	0	234
		2.5	7.9	5.5	3.6	3.2	3.4	2.2	1.7	0.0	4.7
	Pacific Peoples	0	8	13	5	2	3	1	0	0	32
		0.0	6.3	3.8	1.5	1.2	2.3	1.5	0.0	-	2.5
	Other	0	7	19	21	17	10	1	1	0	76
		0.0	3.5	2.3	2.5	2.8	1.9	0.3	0.2	0.0	2.0
	Unknown	0	4	8	4	2	2	2	0	0	22
		0.0	7.5	4.7	3.6	1.8	2.4	2.2	0.0	-	3.0
Total	2	244	530	278	177	101	51	65	0	1448	
	2.4	6.7	5.8	3.9	3.3	2.6	1.9	1.5	0.0	4.0	
Females	European/Pakeha	12	550	379	139	71	39	20	27	0	1237
		2.5	5.3	4.4	2.8	2.2	2.0	1.5	1.5	0.0	3.8
	Maori	10	189	79	23	25	3	6	9	0	344
		2.5	4.0	2.7	1.2	2.5	0.5	1.6	2.5	0.0	2.8
	Pacific Peoples	0	10	20	8	3	1	1	1	0	44
		0.0	2.3	4.1	2.4	1.6	1.4	1.9	1.3	-	2.6
	Other	0	30	33	25	13	5	1	0	0	107
		0.0	4.1	2.9	2.8	1.9	1.0	0.3	0.0	-	2.3
	Unknown	1	10	3	2	2	3	0	0	0	21
		16.7	9.5	2.4	2.3	2.6	6.0	0.0	0.0	0.0	4.0
Total	23	789	514	197	114	51	28	37	0	1753	
	2.5	4.8	3.9	2.4	2.2	1.6	1.3	1.4	0.0	3.4	

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 26. Cont. number of cases¹ and disease rates² by age, sex and ethnicity, SHCs, 2006

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Syphilis</i>											
Males	European/Pakeha	0	1	4	4	3	3	5	4	0	24
		0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.0	0.1
	Maori	0	0	1	1	2	2	0	0	0	6
		0.0	0.0	0.3	0.4	1.0	1.9	0.0	0.0	0.0	0.5
	Pacific Peoples	0	0	0	1	0	0	1	0	0	2
		0.0	0.0	0.0	2.3	0.0	0.0	10.0	0.0	-	1.1
	Other	0	1	3	2	2	1	3	2	0	14
		0.0	0.7	0.5	0.3	0.5	0.3	1.3	0.6	0.0	0.5
	Unknown	0	0	0	0	0	0	1	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	14.3	0.0	-	1.1
Total	0	2	8	8	7	6	10	6	0	47	
	0.0	0.1	0.1	0.2	0.2	0.2	0.5	0.2	0.0	0.2	
Females	European/Pakeha	0	2	2	0	0	0	0	0	0	4
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maori	0	0	0	1	0	0	1	0	0	2
		0.0	0.0	0.0	0.3	0.0	0.0	1.4	0.0	0.0	0.1
	Pacific Peoples	0	2	2	2	1	0	0	0	0	7
		0.0	1.3	1.2	1.7	1.7	0.0	0.0	0.0	-	1.2
	Other	0	1	2	0	0	2	2	1	0	8
		0.0	0.3	0.3	0.0	0.0	0.8	1.4	0.7	-	0.3
	Unknown	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	5	6	3	1	2	3	1	0	21	
	0.0	0.1	0.2	0.1	0.1	0.2	0.5	0.1	0.0	0.2	
<i>NSU (Males Only)</i>											
Males	European/Pakeha	0	57	142	74	64	62	42	72	0	513
		0.0	2.5	2.2	1.5	1.7	2.3	2.1	2.1	0.0	2.0
	Maori	1	11	19	18	21	9	3	7	0	89
		2.5	1.1	1.4	1.8	3.0	2.2	1.6	2.9	0.0	1.8
	Pacific Peoples	0	3	7	9	5	2	0	0	0	26
		0.0	2.3	2.1	2.6	3.0	1.6	0.0	0.0	-	2.0
	Other	0	2	15	13	11	5	2	4	0	52
		0.0	1.0	1.8	1.5	1.8	1.0	0.6	0.8	0.0	1.4
	Unknown	0	0	1	1	0	0	3	2	0	7
		0.0	0.0	0.8	1.3	0.0	0.0	4.5	2.4	-	1.3
Total	1	73	184	115	101	78	50	85	0	687	
	1.2	2.0	2.0	1.6	1.9	2.0	1.9	1.9	0.0	1.9	

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Family Planning Clinic Data

Table 27. Number of cases¹ and disease rates² by age, sex and ethnicity, FPCs, 2006

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Chlamydia</i>											
Males	European/Pakeha	0	141	208	46	16	9	1	5	0	426
		0.0	7.8	10.8	8.0	3.7	1.9	0.3	1.6	0.0	7.1
	Maori	1	55	48	12	3	2	0	0	0	121
		2.5	21.3	26.5	18.5	11.1	6.5	0.0	0.0	0.0	19.1
	Pacific Peoples	0	29	33	12	4	1	1	1	0	81
		0.0	22.7	30.3	27.3	20.0	5.9	6.7	50.0	0.0	22.0
	Other	0	46	42	14	6	2	1	0	0	111
		0.0	14.5	12.6	12.2	8.6	3.3	1.3	0.0	0.0	10.6
	Unknown	0	17	19	6	2	1	0	0	0	45
		0.0	12.8	14.2	10.3	5.6	3.3	0.0	0.0	0.0	10.2
Total	1	288	350	90	31	15	3	6	0	784	
	0.4	10.9	13.1	10.5	5.3	2.5	0.6	1.5	0.0	9.2	
Females	European/Pakeha	19	832	622	103	30	17	14	3	0	1640
		0.9	1.9	1.7	0.7	0.3	0.3	0.3	0.1	0.0	1.3
	Maori	13	308	148	34	16	6	0	1	0	526
		1.6	4.7	3.9	2.4	1.8	1.0	0.0	0.6	0.0	3.6
	Pacific Peoples	1	99	69	24	8	3	2	1	0	207
		0.8	4.2	3.3	2.7	1.5	1.0	1.3	0.8	0.0	3.1
	Other	8	215	133	29	15	12	3	1	0	416
		1.5	2.7	1.9	0.9	0.7	0.7	0.3	0.1	0.0	1.7
	Unknown	0	42	38	9	0	0	2	0	3	94
		0.0	2.0	2.2	1.0	0.0	0.0	0.5	0.0	2.1	1.3
Total	41	1496	1010	199	69	38	21	6	3	2883	
	1.1	2.4	2.0	1.0	0.5	0.4	0.3	0.1	1.1	1.6	
<i>Gonorrhoea</i>											
Males	European/Pakeha	0	12	9	0	0	1	0	0	0	22
		0.0	0.9	0.6	0.0	0.0	0.3	0.0	0.0	0.0	0.5
	Maori	1	5	8	1	0	0	0	0	0	15
		4.0	2.3	5.4	1.8	0.0	0.0	0.0	0.0	0.0	2.9
	Pacific Peoples	0	3	2	0	0	0	0	0	0	5
		0.0	7.9	6.1	0.0	0.0	0.0	0.0	0.0	0.0	4.5
	Other	0	4	1	2	0	0	0	0	0	7
		0.0	2.2	0.6	3.4	0.0	0.0	0.0	0.0	-	1.3
	Unknown	0	0	3	0	0	0	0	0	0	3
		0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Total	1	24	23	3	0	1	0	0	0	52	
	0.6	1.3	1.2	0.5	0.0	0.2	0.0	0.0	0.0	0.9	
Females	European/Pakeha	2	55	27	5	2	2	1	1	0	95
		0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Maori	1	24	10	4	2	0	1	0	0	42
		0.2	0.4	0.3	0.3	0.3	0.0	0.4	0.0	0.0	0.3
	Pacific Peoples	0	12	7	2	0	0	0	0	0	21
		0.0	0.8	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.5
	Other	2	20	3	0	0	0	0	0	0	25
		0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Unknown	0	3	2	0	0	0	0	0	1	6
		0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	1.5	0.2
Total	5	114	49	11	4	2	2	1	1	189	
	0.2	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.5	0.1	

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 27. cont. number of cases¹ and disease rates² by age, sex and ethnicity, FPCs, 2006

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	≥44	Unk	Total
<u>Genital Herpes (first presentation)</u>											
Males	European/Pakeha	0	3	10	3	2	0	0	1	0	19
		0.0	0.2	0.6	0.6	0.5	0.0	0.0	0.4	0.0	0.4
	Maori	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	1.6
	Pacific Peoples	0	0	0	0	0	0	1	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	4.0
	Total	0	3	11	3	2	0	1	1	0	21
	0.0	0.2	0.7	0.6	0.5	0.0	0.3	0.4	0.0	0.2	
Females	European/Pakeha	2	37	25	15	4	4	6	6	0	99
		0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1
	Maori	0	1	2	1	0	0	0	0	0	4
		0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.1
	Pacific Peoples	0	1	0	0	0	0	0	0	0	1
		0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Other	0	2	2	1	0	1	0	0	0	6
		0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
Unknown	0	2	1	0	0	1	0	0	2	6	
	0.0	0.2	0.1	0.0	0.0	0.4	0.0	0.0	2.8	0.2	
Total	2	43	30	17	4	6	6	6	2	116	
	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	1.2	0.1	
<u>Genital Warts (first presentation)</u>											
Males	European/Pakeha	0	24	55	16	2	5	1	1	0	104
		0.0	1.3	2.9	2.8	0.5	1.1	0.3	0.3	0.0	1.7
	Maori	1	7	4	2	1	0	0	0	0	15
		3.3	3.7	3.1	4.9	4.8	0.0	0.0	0.0	0.0	3.3
	Pacific Peoples	0	1	1	0	0	0	0	0	0	2
		0.0	4.0	5.9	0.0	0.0	0.0	0.0	0.0	-	3.1
	Other	0	2	8	2	1	0	0	0	0	13
		0.0	1.0	3.9	3.0	2.6	0.0	0.0	0.0	-	2.1
Unknown	0	1	1	1	1	0	0	0	0	4	
	0.0	2.3	2.4	7.1	8.3	0.0	0.0	0.0	0.0	2.9	
Total	1	35	69	21	5	5	1	1	0	138	
	0.6	1.5	3.0	3.0	1.0	0.9	0.2	0.3	0.0	1.6	
Females	European/Pakeha	2	178	124	22	13	6	3	3	0	351
		0.1	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.0	0.3
	Maori	2	32	10	3	1	0	1	0	0	49
		0.3	0.5	0.3	0.2	0.1	0.0	0.3	0.0	0.0	0.3
	Pacific Peoples	0	6	4	1	0	0	1	0	0	12
		0.0	0.3	0.2	0.1	0.0	0.0	0.8	0.0	0.0	0.2
	Other	0	21	19	2	3	0	0	0	0	45
		0.0	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.2
Unknown	0	8	4	3	1	0	0	0	0	16	
	0.0	0.4	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.2	
Total	4	245	161	31	18	6	5	3	0	473	
	0.1	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.3	
<u>Syphilis</u>											
Females	European/Pakeha	0	1	0	1	0	0	0	0	0	2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pacific Peoples	0	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	-	0.2
Total	0	1	0	2	0	0	0	0	0	3	
	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
<u>NSU (Males Only)</u>											
Males	European/Pakeha	0	3	3	0	1	0	0	0	0	7
		0.0	0.4	0.4	0.0	0.6	0.0	0.0	0.0	0.0	0.3
	Maori	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	0.0	3.8
	Other	0	0	1	0	1	0	0	0	0	2
		0.0	0.0	1.8	0.0	7.7	0.0	0.0	0.0	-	1.1
Unknown	0	0	1	0	0	0	0	0	0	1	
	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	4.0	
Total	0	3	6	0	2	0	0	0	0	11	
	0.0	0.4	0.7	0.0	1.1	0.0	0.0	0.0	0.0	0.4	

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Student & Youth Health Clinic Data

Table 28. Number of cases¹ and disease rates² by age, sex and ethnicity, SYHCs, 2006

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Chlamydia</i>											
Males	European/Pakeha	0	42	52	8	2	0	0	1	4	109
		0.0	1.0	0.6	0.3	0.2	0.0	0.0	0.1	1.2	0.6
	Maori	1	13	19	5	0	0	0	0	2	40
		1.1	3.2	2.1	1.5	0.0	0.0	0.0	0.0	100.0	1.6
	Pacific Peoples	0	2	2	1	1	0	0	0	0	6
		0.0	2.9	1.2	1.0	1.3	0.0	0.0	0.0	-	1.0
	Other	0	3	7	0	1	0	0	0	0	11
		0.0	1.1	0.3	0.0	0.4	0.0	0.0	0.0	-	0.3
	Unknown	0	4	7	1	0	0	0	1	0	13
		0.0	8.5	4.4	1.6	0.0	0.0	0.0	4.8	0.0	0.1
Total	1	64	87	15	4	0	0	2	6	179	
	0.4	1.3	0.7	0.4	0.3	0.0	0.0	0.1	0.0	0.4	
Females	European/Pakeha	1	169	188	20	6	0	3	0	5	392
		0.3	1.0	0.6	0.4	0.3	0.0	0.2	0.0	0.5	0.7
	Maori	1	76	53	8	2	0	0	0	0	140
		1.0	3.2	1.5	0.6	0.4	0.0	0.0	0.0	0.0	1.5
	Pacific Peoples	0	6	18	1	0	0	0	0	1	26
		0.0	1.6	2.1	0.6	0.0	0.0	0.0	0.0	-	1.4
	Other	0	11	28	4	1	0	1	0	0	45
		0.0	0.7	0.3	0.1	0.1	0.0	0.3	0.0	0.0	0.3
	Unknown	0	8	8	1	0	0	0	0	0	17
		0.0	7.1	3.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	2	270	295	34	9	0	4	0	6	620	
	0.4	1.3	0.7	0.4	0.2	0.0	0.2	0.0	0.0	0.5	
<i>Gonorrhoea</i>											
Males	European/Pakeha	0	0	7	4	0	0	0	0	0	11
		0.0	0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1
	Maori	0	3	1	1	0	0	0	0	0	5
		0.0	1.3	0.3	0.7	0.0	0.0	0.0	0.0	0.0	0.4
	Pacific Peoples	0	1	2	0	0	0	0	0	0	3
		0.0	5.0	4.1	0.0	0.0	0.0	0.0	0.0	-	1.6
	Other	0	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	-	0.1
	Unknown	0	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	4	10	6	0	0	0	0	0	20	
	0.0	0.2	0.2	0.4	0.0	0.0	0.0	0.0	0.0	0.2	
Females	European/Pakeha	0	5	7	0	0	0	0	0	0	12
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maori	0	5	8	0	0	0	0	0	0	13
		0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Pacific Peoples	0	1	0	0	0	0	0	0	0	1
		0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	-	0.4
	Other	0	1	0	1	1	0	0	0	0	3
		0.0	0.2	0.0	0.1	0.3	0.0	0.0	0.0	0.0	0.1
	Unknown	0	2	1	0	0	0	0	0	0	3
		0.0	2.9	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	14	16	1	1	0	0	0	0	32	
	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 28. cont. number of cases¹ and disease rates² by age, sex and ethnicity, SYHCs, 2006

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Genital Herpes (first presentation)</i>											
Males	European/Pakeha	0	4	10	0	0	0	0	0	2	16
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.8	0.1
	Other	0	0	1	0	1	0	0	0	2	4
		0.0	0.0	0.1	0.0	0.9	0.0	0.0	0.0	-	0.2
	Unknown	0	0	3	0	0	0	0	0	0	3
	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	4	14	0	1	0	0	0	4	23
		0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
Females	European/Pakeha	0	4	22	5	1	0	1	0	3	36
		0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.3	0.1
	Maori	0	1	2	0	0	0	0	0	0	3
		0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	-	0.1
	Other	0	0	2	0	1	0	0	0	0	3
		0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0	0.1
	Unknown	0	0	0	2	0	0	0	1	0	3
	0.0	0.0	0.0	10.0	0.0	0.0	0.0	4.8	0.0	0.0	
Total		0	5	26	7	2	0	1	1	3	45
		0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0
<i>Genital Warts (first presentation)</i>											
Males	European/Pakeha	0	5	25	4	1	1	0	0	10	46
		0.0	0.1	0.3	0.2	0.1	0.2	0.0	0.0	3.1	0.2
	Maori	0	2	6	0	0	0	0	0	1	9
		0.0	0.9	1.3	0.0	0.0	0.0	0.0	0.0	50.0	0.7
	Pacific Peoples	0	0	0	1	0	0	0	0	1	2
		0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0	-	0.9
	Other	0	0	3	1	0	0	0	0	0	4
		0.0	0.0	0.2	0.2	0.0	0.0	0.0	0.0	-	0.1
Unknown	0	1	4	0	0	0	0	0	1	6	
	0.0	3.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	8	38	6	1	1	0	0	13	67
		0.0	0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.1	0.1
Females	European/Pakeha	1	33	58	5	1	0	0	0	12	110
		0.3	0.2	0.2	0.1	0.0	0.0	0.0	0.0	1.3	0.2
	Maori	0	6	6	0	0	0	0	0	0	12
		0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Pacific Peoples	0	1	0	0	0	0	0	0	0	1
		0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	-	0.4
	Other	0	2	6	1	0	0	0	0	2	11
		0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	15.4	0.1
Unknown	0	2	3	0	0	0	0	0	0	5	
	0.0	3.6	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		1	44	73	6	1	0	0	0	14	139
		0.2	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.1	0.1
<i>NSU (Males Only)</i>											
Males	European/Pakeha	0	2	2	0	0	0	0	0	0	4
		0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Other	0	0	0	0	0	0	0	0	1	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.1
	Unknown	0	1	0	0	0	0	0	0	0	1
	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	3	2	0	0	0	0	0	1	6
		0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

¹ For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases

² Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Appendix B: STI Surveillance Case definitions

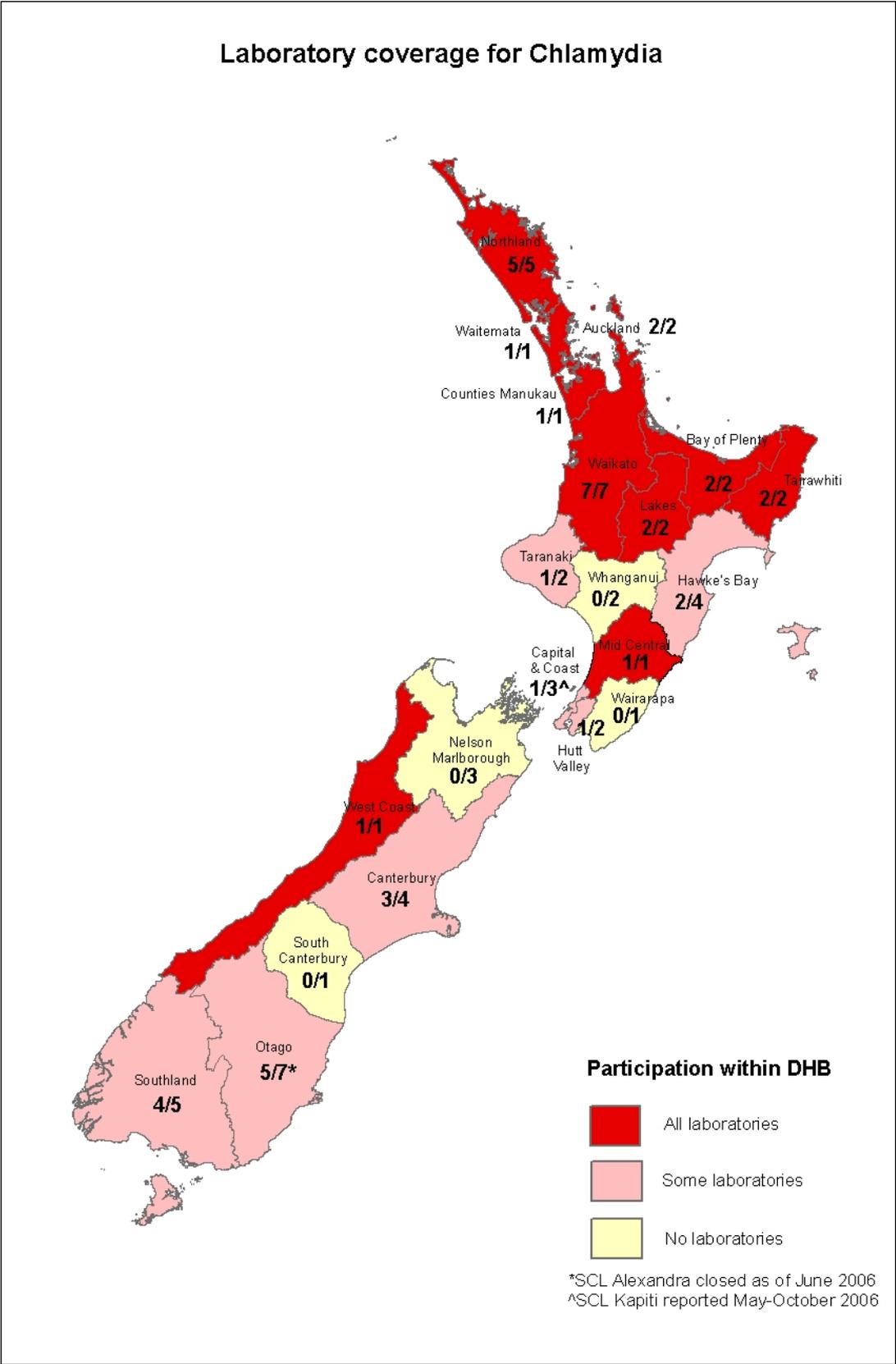
Chlamydia	<p><i>Confirmed</i> Laboratory detection of <i>Chlamydia trachomatis</i> in a clinical specimen. Cases should be classified as:</p> <ol style="list-style-type: none"> 1. uncomplicated infection of the lower anogenital* tract * Includes urogenital and anorectal infection. 2. PID (pelvic inflammatory disease) or epididymitis 3. infection of another site (eg, eye or pharynx) <p><i>Probable</i> Cases must be <u>all</u> of the following:</p> <ul style="list-style-type: none"> • symptomatic, and • a contact of a confirmed case, and • non-laboratory confirmed (test negative or test not done).
Gonorrhoea	<p><i>Confirmed</i> Laboratory isolation of <i>Neisseria gonorrhoeae</i> from a clinical specimen. Cases should be classified as:</p> <ol style="list-style-type: none"> 1. uncomplicated infection of one or both of the following: <ol style="list-style-type: none"> a) urogenital tract b) anorectal area (proctitis) 2. PID (pelvic inflammatory disease) or epididymitis 3. extra-genital infection of one or both of the following: <ol style="list-style-type: none"> a) pharynx b) other site not listed <p><i>Probable</i> Cases must be <u>all</u> of the following:</p> <ul style="list-style-type: none"> • symptomatic, and • a contact of a confirmed case, and • non-laboratory confirmed (test negative or test not done).
Anogenital Herpes	<p>First diagnosis for the person at your clinic, with either</p> <ol style="list-style-type: none"> 1. laboratory detection of herpes simplex virus (HSV) from a clinical specimen, <p style="text-align: center;">or</p> <ol style="list-style-type: none"> 2. a clinically compatible illness in the lower anogenital and buttock area (syphilis should be considered as a cause of genital ulceration)
Anogenital Warts	<p>First diagnosis for the person at your clinic, with <u>visible</u>* typical lesion(s) on internal or external genitalia, perineum, or perianal region.</p> <p>* Do not include persons for whom there is <u>only</u> demonstration of human papillomavirus (HPV) on cervical cytology or other laboratory method.</p>
Syphilis	<p>Infectious syphilis (primary, secondary, and early latent) as diagnosed or confirmed by a venereologist, and early congenital syphilis as diagnosed or confirmed by a paediatrician or venereologist.</p>
Non-Specific Urethritis (NSU) (males only)	<p>Urethral discharge in a sexually active male with laboratory exclusion of gonorrhoea and chlamydia, who does not meet the definition of a probable case of gonorrhoea or chlamydia.</p>
Chancroid	<p><i>Confirmed</i> Isolation of <i>Haemophilus ducreyi</i> from a clinical specimen.</p> <p><i>Probable</i> Typical 'shoal of fish' pattern on gram stain of a clinical specimen, where syphilis, granuloma inguinale (GI) and anogenital herpes have been excluded,</p> <p style="text-align: center;">or</p> <p>A clinically compatible illness in a patient who is a contact of a confirmed case.</p>
Granuloma inguinale (GI)	<p><i>Confirmed</i> Demonstration of intracytoplasmic Donovan bodies on Wright or Giemsa stained smears or biopsies of clinical specimens.</p> <p><i>Probable</i> A clinically compatible illness in a patient who is a contact of a confirmed case.</p>
Lymphogranulom a venereum (LGV)	<p><i>Confirmed</i> Laboratory detection of <i>Chlamydia trachomatis</i> serotype L₁, L₂ or L₃ from a clinical specimen.</p> <p><i>Probable</i> A clinically compatible illness with complement fixation titre of > 64 and other causes of ulcerations excluded,</p> <p style="text-align: center;">or</p> <p>A clinically compatible illness in a person who is a contact of a confirmed case.</p>

Appendix C: List of Participating Laboratories

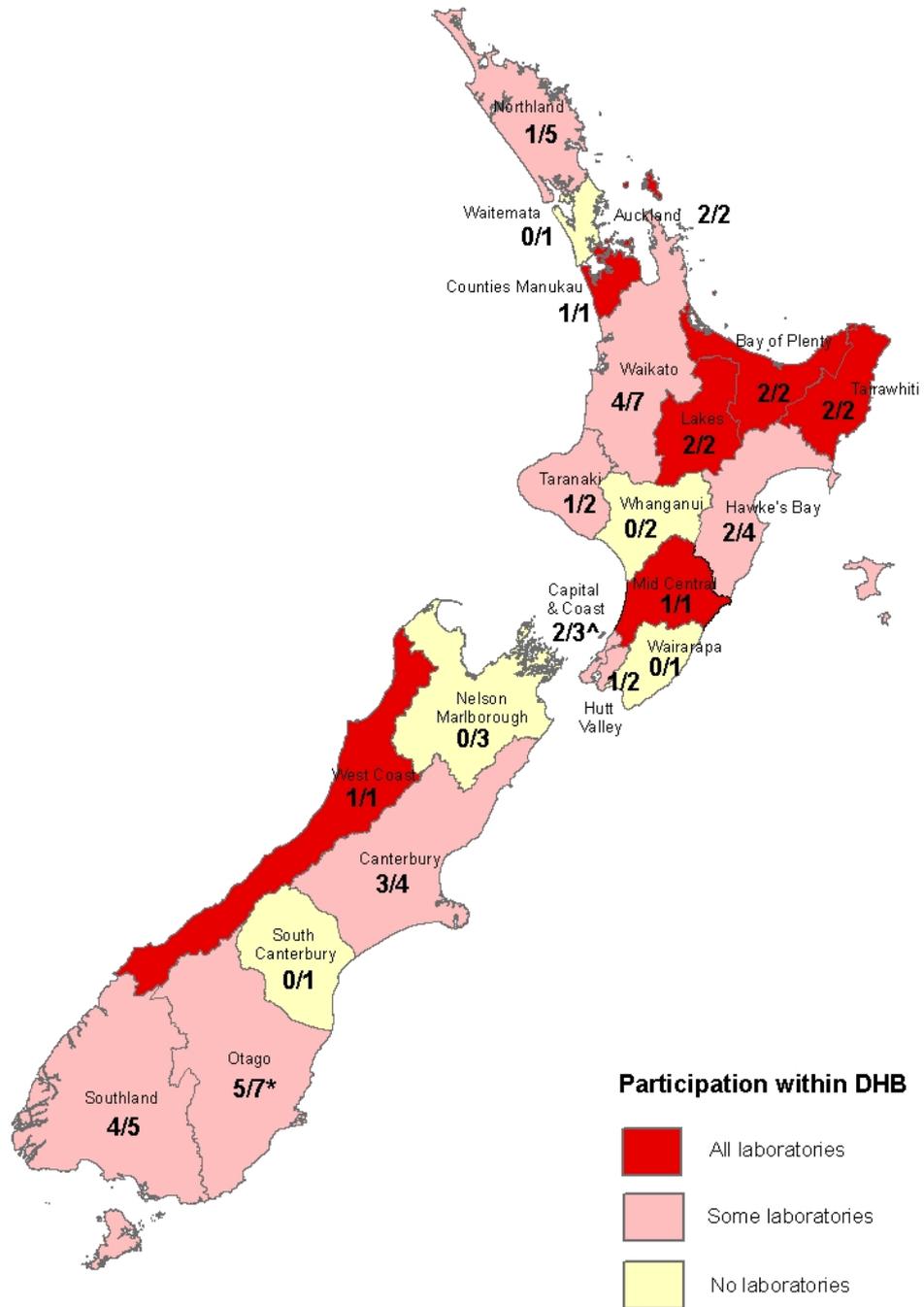
STI surveillance data is received from the following laboratories:

- Northland Pathology Laboratory, Northland
- Dargaville Hospital Laboratory, Northland
- Kaitia Hospital Laboratory, Northland
- Bay of Islands Hospital Laboratory, Northland
- Whangarei Hospital Laboratory, Northland
- North Shore Hospital Laboratory, Waitemata
- Diagnostic MedLab Auckland, Auckland
- LabPlus, Auckland
- Middlemore Hospital Laboratory, Counties-Manukau
- Waikato Hospital Laboratory, Waikato
- MedLab Hamilton, Waikato
- Pathlab Waikato, Waikato
- Te Kuiti Hospital, Waikato
- Thames Hospital, Waikato
- Taumaranui Hospital, Waikato
- Tokoroa Hospital, Waikato
- MedLab Bay of Plenty, Bay of Plenty
- Whakatane Hospital Laboratory, Bay of Plenty
- Rotorua Diagnostic Laboratory, Lakes
- Rotorua Hospital Laboratory, Lakes
- Gisborne Hospital Laboratory, Tairāwhiti
- MedLab Gisborne, Tairāwhiti
- Hastings Southern Community Laboratory, Hawke's Bay
- MedLab Hawke's Bay, Hawke's Bay (started reporting January 2006)
- Taranaki MedLab, Taranaki
- MedLab Central, Mid Central (started reporting January 2006)
- Hutt Hospital Laboratory, Hutt Valley
- Medical Laboratory Wellington, Capital and Coast
- Kapiti Southern Community Laboratory, Capital and Coast (reported May to October, closed as of October 2006)
- Grey Hospital Laboratory, West Coast
- Canterbury Health Laboratories, Canterbury
- Christchurch Southern Community Laboratory, Canterbury
- Ashburton Southern Community Laboratory, Canterbury
- Oamaru Southern Community Laboratory, Otago
- Dunedin Southern Community Laboratory, Otago
- Clyde Southern Community Laboratory, Otago
- Alexandra Southern Community Laboratory, Otago (closed as of June 2006)
- Balclutha Southern Community Laboratory, Otago
- Queenstown Southern Community Laboratory, Southland
- Kew Southern Community Laboratory (Southland Hospital), Southland
- Invercargill Southern Community Laboratory, Southland
- Gore Southern Community Laboratory, Southland

Appendix D: Maps of STI Laboratory Surveillance Coverage for Chlamydia and Gonorrhoea



Laboratory coverage for Gonorrhoea



^{*}Alexandra SCL closed as of June 2006

[^]Kapiti SCL reported May-October 2006