

**Sexually Transmitted Infections
in New Zealand**

**Annual Surveillance Report
2007**

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By

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**This report is also available at www.surv.esr.cri.nz
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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 2003 to 2007 the number of cases of chlamydia and gonorrhoea diagnosed at SHCs has increased by 19.4% and 55.5% respectively. Over the same time period clinic visits increased by 11.3%.
- Genital warts remain the most common viral infection diagnosed and in SHCs the rate was highest in the 20 to 24 years age group for males and the 15 to 19 years age group for females.
- From 2003 to 2007 the number of genital herpes (first presentation) infections diagnosed at SHCs has remained relatively constant, fluctuating between 720 and 746 cases.
- SHCs reported 71 cases of infectious syphilis in 2007, an increase of 4.4% from 2006.
- The total number of cases of non-specific urethritis (NSU) reported in 2007 by SHCs was 769. From 2003 and 2006, the number of cases of NSU diagnosed at SHCs steadily decreased; however, in 2007, an increase of 12.1% (769 compared to 686) was noted.
- Young people remain at high risk of STIs. In SHCs, 72.0% of chlamydia, 61.6% of gonorrhoea, 43.2% of genital herpes and 62.3% of genital warts cases were aged less than 25 years.
- In 2007, 583 SHC attendees were diagnosed with concurrent infections. Young people, Māori and Pacific Peoples who attended SHCs were at greater risk of concurrent infections.
- Of the 10 809 SHC patients diagnosed with a STI in 2007, 968 patients (9.0%) were diagnosed with subsequent infections.

Laboratory Surveillance: Key points

- Over the last five years chlamydia rates have increased by 20.6% and gonorrhoea rates have increased by 48.8% in the Auckland, Waikato and BOP regions.
- In these regions, over 50% of chlamydia and gonorrhoea cases were aged less than 25 years, which indicates that the young people are at the greatest risk.
- STI rates in infants remain high, reinforcing the need for effective STI screening during pregnancy.
- Efforts are being made to extend laboratory surveillance in terms of both population coverage and range of 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 2007, and examines trends since 2003. It covers the STIs of public health importance, including chlamydia, gonorrhoea, genital herpes, genital warts, syphilis, non-specific urethritis (NSU), chancroid, granuloma inguinale (GI) and lymphogranuloma venereum (LGV).

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 healthcare 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 2007 is included together with some discussion of trends in all STIs from 2003. Possible factors underlying the observed distribution and trends are discussed.

Methods

All results and analyses are based on data submitted prior to the 10th March 2008. 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, GI, and LGV. Case numbers and clinic visit rate presented in this report relate to confirmed cases of these diseases only (unless otherwise stated).

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 this report.

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

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 2003 to 2007 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

27 SHCs, 36 FPCs and 16 SYHCs provided STI surveillance data to ESR for the period, January to December 2007. FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods. Two SHCs, two FPCs and one SYHC provided less than 10 of the 12 months data requested for 2007. Three new FPCs opened during 2007 therefore also provided less than 10 of the 12 months data.

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 healthcare 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 89 208 clinic visits during 2007, 58.1% of which were by females. Compared to 2006, the number of clinic visits increased by 0.5% in 2007. Age and ethnicity were not recorded for 0.2% and 2.0% of clinic attendees, respectively. Where age and ethnicity information were provided, 57.0% were aged less than 25 years, 65.4% were of European ethnicity, 20.0% were Māori, 4.4% were Pacific Peoples and 10.1% were Other ethnic groups.

STI diagnosis at SHCs

In 2007, a total of 10 809 STI cases were diagnosed, representing a clinic visit rate of 12.1% in SHC attendees with chlamydia being the most commonly reported STI (see Table 2).

There were 4 501 cases of chlamydia and 925 cases of gonorrhoea diagnosed at SHCs. No cases of chancroid, GI or LGV were reported during 2007.

Figures 1 and 2 show the infection clinic visit rates for the main STIs reported by SHCs from 2003 to 2007 by sex. Male and female combined clinic visit rates increased in all STIs from 2006 to 2007. The highest increase was seen in genital warts (18.0%).

Figure 1. Male STI clinic visit rates diagnosed at SHCs: 2003 to 2007

Denominator is the number of male clinic visits

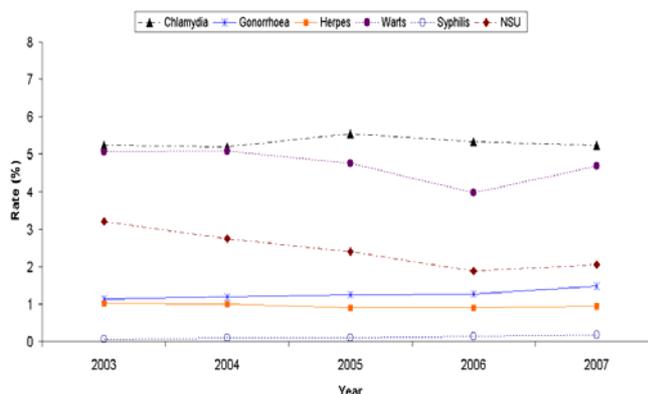


Figure 2. Female STI clinic visit rates diagnosed at SHCs: 2003 to 2007

Denominator is the number of female clinic visits

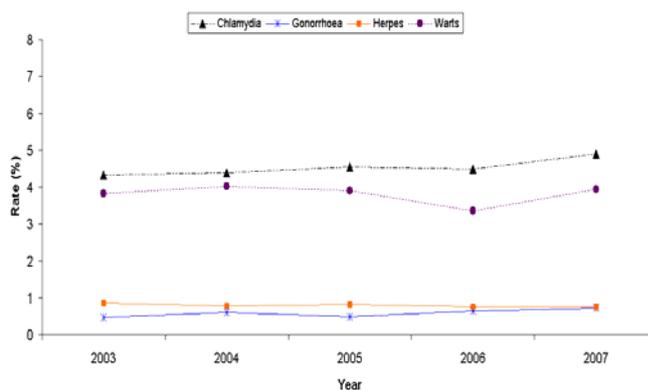


Table 2. Number of STI diagnoses, clinic visit rates and age comparisons at SHCs, 2007

| Infection | Cases | Rate [†] | Mean age (years) | Age range (years) |
|-------------------------------------|---------------|-------------------|------------------|-------------------|
| Chlamydia | 4 501 | 5.0% | 23 | 13-70 |
| Gonorrhoea | 925 | 1.0% | 25 | 14-77 |
| Genital herpes (first presentation) | 746 | 0.8% | 29 | 14-65 |
| Genital warts (first presentation) | 3 797 | 4.3% | 25 | 10-72 |
| Syphilis | 71 | 0.1% | 37 | 18-69 |
| NSU (males only) | 769 | 2.1% | 32 | 13-77 |
| STI cases | 10 809 | 12.1% | - | - |
| Total clinic visits | 89 208 | - | - | - |

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

Family Planning Clinics (FPCs)

FPC attendees

FPCs reported 189 955 clinic visits during 2007, 95.1% of which were by females. Compared to 2006, the number of clinic visits increased by 3.8% in 2007.

Age and ethnicity were not recorded for 0.1% and 3.7% of clinic attendees, respectively. Where age and ethnicity information were provided, 70.9% were aged less than 25 years, 71.0% were of European ethnicity, 9.1% were Māori, 4.5% were Pacific Peoples and 15.4% were Other ethnic groups.

STI diagnosis at FPCs

In 2007 a total of 4 411 cases were diagnosed, representing a clinic visit rate of 2.3% in FPC attendees with chlamydia being the most commonly reported STI (see Table 3).

There were 3 433 cases of chlamydia and 190 cases of gonorrhoea diagnosed at FPCs. No cases of chancroid, GI or LGV were reported during 2007.

Figures 3 and 4 show the infection clinic visit rates for the main STIs reported by FPCs from 2003 to 2007 by sex. Over this time period, clinic visit rates of chlamydia doubled for combined males and females. However, there was little change in the other STI clinic visit rates for either sex.

Figure 3. Male STI clinic visit rates diagnosed at FPCs: 2003 to 2007

Denominator is the number of male clinic visits

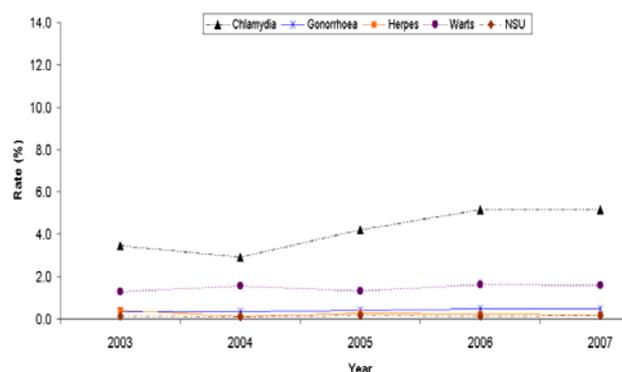


Figure 4. Female STI clinic visit rates diagnosed at FPCs: 2003 to 2007

Denominator is the number of female clinic visits

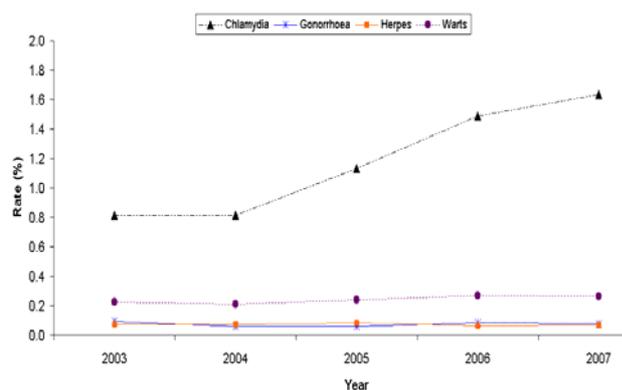


Table 3. Number of STI diagnoses, clinic visit rates and age comparisons at FPCs, 2007

| Infection | Cases | Rate [†] | Mean age (years) | Age range (years) |
|-------------------------------------|--------------|-------------------|------------------|-------------------|
| Chlamydia | 3 433 | 1.8% | 20 | 12-56 |
| Gonorrhoea | 190 | 0.1% | 20 | 14-33 |
| Genital herpes (first presentation) | 149 | 0.1% | 24 | 14-56 |
| Genital warts (first presentation) | 621 | 0.3% | 21 | 14-61 |
| Syphilis | 3 | 0.002% | 25 | 23-30 |
| NSU (males only) | 15 | 0.2% | 22 | 17-31 |
| STI cases | 4 411 | 2.3% | - | - |
| Total clinic visits | 189 955 | - | - | - |

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

Student and Youth Health Clinics (SYHCs)

SYHC attendees

SYHCs reported 217 615 clinic visits during 2007, 69.9% of which were by females. Compared to 2006, the number of clinic attendances increased by 6.8% in 2007.

Age and ethnicity were not reported for 36.6% and 37.1% of clinic attendees, respectively. Demographics of SYHC attendees are not collected routinely with factors such as lack of computerisation and time constraints further limiting data collection and collation.

Where age and ethnicity information were provided, 78.6% were aged less than 25 years, 69.2% were of European ethnicity, 9.4% were Māori, 2.5% were Pacific Peoples and 18.9% were Other ethnic groups.

STI diagnosis at SYHCs

In 2007, a total 1 313 STI cases were diagnosed, representing a clinic visit rate of 0.6% in SYHC attendees, with chlamydia being the most commonly reported STI (see Table 4).

There were 942 cases of chlamydia and 66 cases of gonorrhoea diagnosed at SYHCs. No cases of syphilis, chancroid, GI or LGV were reported during 2007.

Figures 5 and 6 show the infection clinic visit rates for the main STIs reported by SYHCs from 2003 to 2007. From 2006 to 2007 combined male and female clinic visit rates increased in chlamydia, gonorrhoea, genital herpes and male NSU. There was a decreased in genital warts.

Figure 5. Male STI clinic visit rates diagnosed at SYHCs: 2003 to 2007

Denominator is the number of male clinic visits

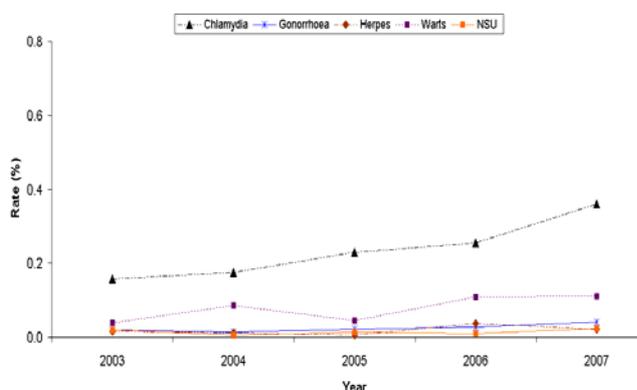


Figure 6. Female STI clinic visit rates diagnosed at SYHCs: 2003 to 2007

Denominator is the number of female clinic visits

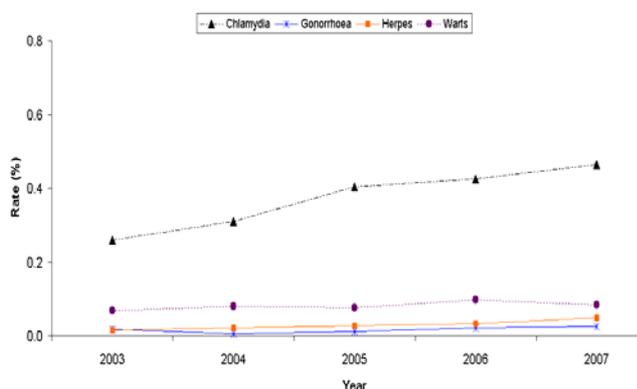


Table 4. Number of STI diagnoses, clinic visit rates and age comparisons at SYHCs, 2007

| Infection | Cases | Rate [†] | Mean age (years) | Age range (years) |
|-------------------------------------|--------------|-------------------|------------------|-------------------|
| Chlamydia | 942 | 0.4% | 20 | 13-53 |
| Gonorrhoea | 66 | 0.03% | 20 | 13-36 |
| Genital herpes (first presentation) | 89 | 0.04% | 21 | 15-40 |
| Genital warts (first presentation) | 201 | 0.1% | 21 | 15-49 |
| Syphilis | 0 | - | - | - |
| NSU (males only) | 15 | 0.02% | 23 | 18-41 |
| STI cases | 1 313 | 0.6% | - | - |
| Total clinic visits | 217 615 | - | - | - |

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

Chlamydia

In 2007, 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 2007

Between 2006 and 2007 the number of cases of chlamydia increased by 4.8% in SHCs (4 501 compared to 4 294), 13.2% in FPCs (3 433 compared to 3 033) and 23.3% in SYHCs (942 compared to 764).

Higher clinic visit rates were reported in males attending both SHCs and FPCs compared to females, with rates 1.1 times and 3.2 times higher respectively (see Table 5). Males are more likely to be symptomatic and are also more likely to seek treatment at SHCs. It is important to note that the high rate ratio observed in FPCs is related to the low numbers of males who attend these clinics, and that six times more females are diagnosed with chlamydia than males in FPCs. It may be that case positive males attending FPCs are partners of chlamydia positive patients contacted through partner notification.

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.

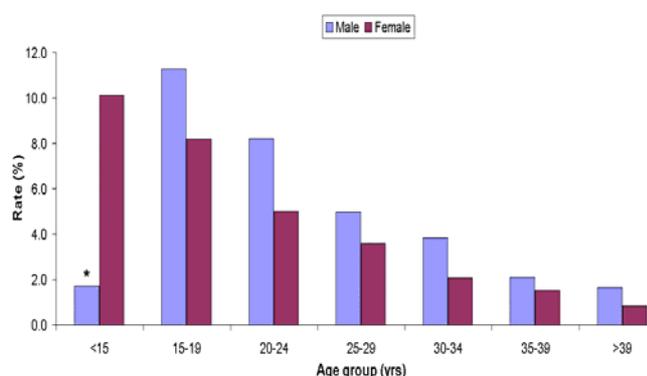
In 2007, 72.0% at SHCs, 86.3% at FPCs and 91.1% at SYHCs of the cases of chlamydia diagnosed were in those aged less than 25 years.

The mean age of cases of chlamydia was 23 years in SHCs and 20 years in both FPCs and SYHCs.

In SHCs, FPCs and SYHCs, the number of males with chlamydia was highest in the 20 to 24 years age group with 713, 206 and 133 cases respectively. For females, the highest numbers were in the 15 to 19 years age group for all clinic types, SHCs (1 315 cases), FPCs (1 615 cases) and SYHCs (330 cases). Figures 7 to 9 present the rates by age group for clinic settings.

Figure 7. Clinic visit rates of chlamydia diagnosed at SHCs by age group and sex, 2007

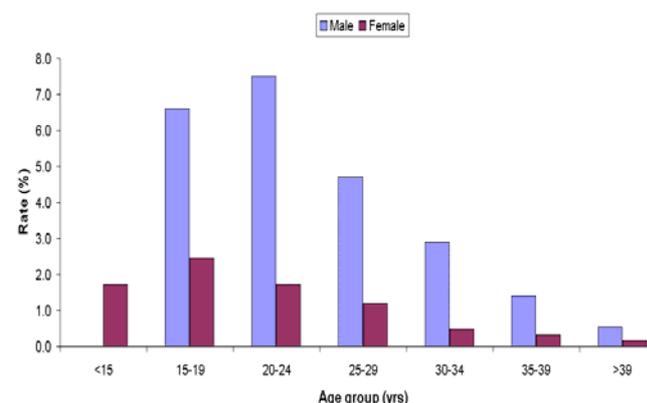
Denominator is the number of clinic visits



* 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, 2007

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 1:19.

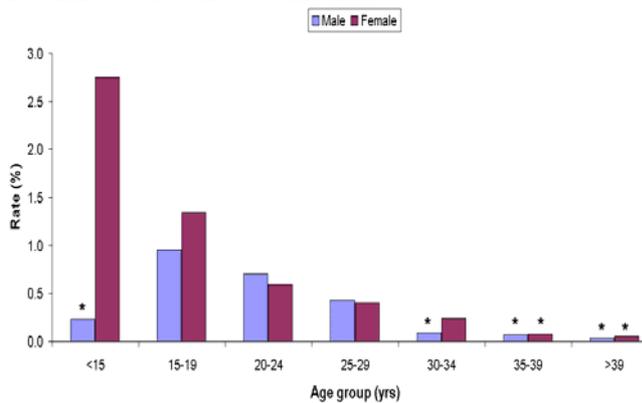
Table 5. Number and clinic visit rates of cases of chlamydia by sex and health care setting, 2007

| Clinic type | No. of cases | | | Clinic visit rate [†] (%) | | |
|-------------|--------------|-------|-------|------------------------------------|------|-------|
| | Female | Male | Total | Female | Male | Total |
| SHCs | 2 543 | 1 958 | 4 501 | 4.9% | 5.3% | 5.0% |
| FPCs | 2 947 | 486 | 3 433 | 1.6% | 5.2% | 1.8% |
| SYHCs | 706 | 236 | 942 | 0.5% | 0.4% | 0.4% |

[†] cases/number of clinic visits

Figure 9. Clinic visit rates of chlamydia diagnosed at SYHCs by age group and sex, 2007

Denominator is the number of clinic visits



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

Of the 4 501 cases of chlamydia in SHCs, 52.5% were European, 34.4% were Māori, 6.7% were Pacific Peoples, 5.4% were of Other ethnicity, and 1.1% were of unknown ethnicity. Of the 3 433 cases of chlamydia in FPCs, 56.1% were European, 18.0% were Māori, 14.9% were of Other ethnicity, 8.3% were Pacific Peoples and 2.8% were of unknown ethnicity. Of the 942 cases of chlamydia in SYHCs, 56.8% were European, 26.5% were Māori, 7.4% were of Other ethnicity, 5.5% were Pacific Peoples and 3.7% were of unknown ethnicity.

In all health care settings, the clinic visit rates of chlamydia varied by ethnic group. Māori chlamydia clinic visit rates were more than double European rates in all clinic settings (SHCs – 8.8% vs. 4.1%, FPCs – 3.7% vs. 1.5% and SYHCs – 1.9% vs. 0.6%). Similarly, Pacific Peoples chlamydia clinic visit rates were 1.9 to 2.7 times higher than European rates across the clinic types. Reasons for this are unclear as these differences are not noted with viral STIs, but factors such as accessibility of sexual health care provision for different ethnic groups may be important.

See Table 18 (Appendix A) for chlamydia site of infection data.

Complicated infections

In 2007, 1.9% of cases of chlamydia in SHCs, 2.1% in FPCs and 1.1% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 131 females (64 in SHCs, 61 in FPCs and 6 in SYHCs) were diagnosed with PID, 76.3% of whom were aged less than 25 years. Of the females with complicated chlamydia, 48.1% were European, 29.8% Māori and 8.4% Pacific Peoples.

A total of 23 males (18 in SHCs, 3 in FPCs and 2 in SYHCs) were diagnosed with epididymitis, 47.8% of whom were aged less than 25 years. Of the males with complicated chlamydia, 43.5% were European, 39.1% Māori and 8.7% Pacific Peoples.

Recent trends

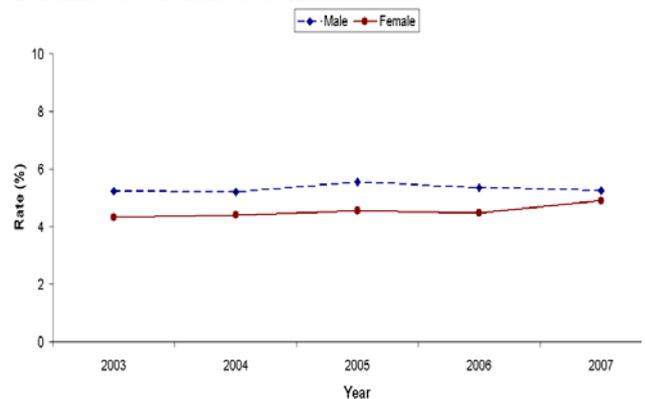
From 2003 to 2007, the number of cases of chlamydia has increased by 19.4% in SHCs, doubled in FPCs and tripled in SYHCs. The clinic visit rate of chlamydia diagnosed at SHCs has increased by 7.3% (Figure 10).

These trends are supported by the rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions which was 714 per 100 000 population in 2007, an increase of 20.6% since 2003.

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: 2003 to 2007

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. Until recently, there were no national chlamydia screening guidelines in New Zealand (3). The Sexual Health Advisory Group, established by the Ministry of Health in 2007, has developed the Chlamydia Management Guidelines, to be published later in 2008, in order to increase opportunistic testing of chlamydia in 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 (4). 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 2007

Between 2006 and 2007, the number of cases of gonorrhoea increased by 15.3% in SHCs (925 compared to 802), 1.6% in FPCs (190 compared to 187) and 37.5% in SYHCs (66 compared to 48).

Higher clinic visit rates were reported in males attending SHCs and FPCs compared to females, with rates 2.1 times and 7.0 times higher respectively (see Table 6). Males are more likely to be symptomatic and to seek treatment than females particularly in SHCs, but less likely to seek care at FPCs.

In 2007, 61.6% at SHCs, 90.5% at FPCs and 86.4% at SYHCs of the cases of gonorrhoea diagnosed were in those aged less than 25 years. The mean age of cases of gonorrhoea was 25 years in SHCs and 20 years in both FPCs and SYHCs.

In SHCs and FPCs, the number of males with gonorrhoea was highest in the 20 to 24 years age group (150 and 21 cases, respectively). However, in SYHCs the number was highest in the 15 to 19 years age group (12 cases). For females, the highest numbers were in the 15 to 19 years age group for all clinic types, SHCs (171 cases), FPCs (84 cases) and SYHCs (21 cases). Figures 11 and 12 present the clinic visit rates by age group. The clinic visit rates are distorted for the less than 15 years age group due to the small number of cases and visits.

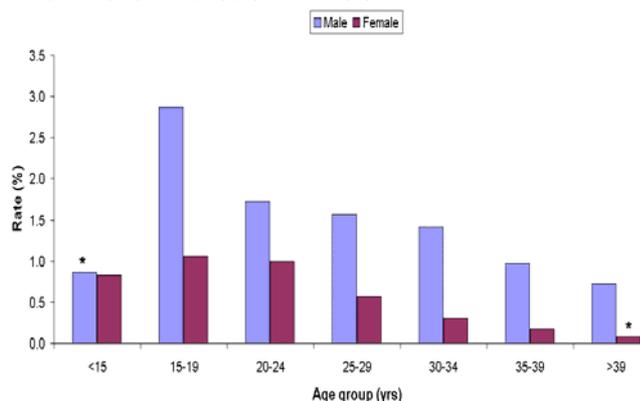
Of the 925 cases of gonorrhoea in SHCs, 44.0% were Māori, 37.9% were European, 11.1% were Pacific Peoples, 5.9% were of Other ethnicity and 1.0% were of unknown ethnicity. Of the 190 cases

of gonorrhoea in FPCs 49.5% were European, 25.8% were Māori, 12.6% were of Other ethnicity, 6.8% were Pacific Peoples and 5.3% were of unknown ethnicity. In all health care settings higher clinic visit rates were found in Māori and Pacific Peoples 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, 2007

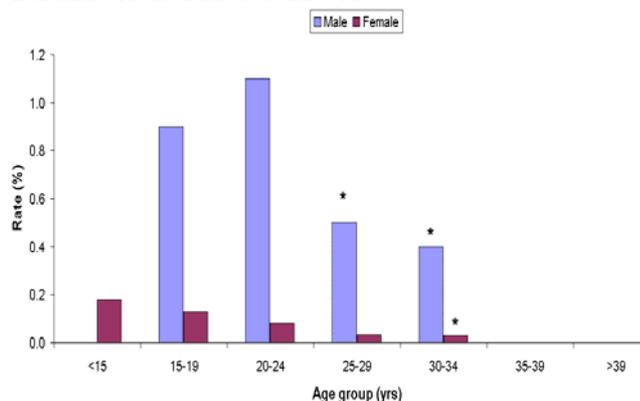
Denominator is the number of clinic visits



* 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, 2007

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 1:19.

Table 6. Number and clinic visit rates of cases of gonorrhoea by sex and health care setting, 2007

| Clinic type | No. of cases | | | Clinic visit rate [†] (%) | | |
|-------------|--------------|------|-------|------------------------------------|------|-------|
| | Female | Male | Total | Female | Male | Total |
| SHCs | 371 | 554 | 925 | 0.7% | 1.5% | 1.0% |
| FPCs | 145 | 45 | 190 | 0.1% | 0.7% | 0.1% |
| SYHCs | 39 | 27 | 66 | 0.1% | 0.1% | 0.03% |

[†] cases/number of clinic visits

Complicated infections

In 2007, 1.7% of cases of gonorrhoea in SHCs, 4.6% in FPCs and 2.1% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 20 females (10 in SHCs, 9 in FPCs and 1 in SYHCs) were diagnosed with PID, 90.0% of whom were aged less than 25 years. Of the females with complicated gonorrhoea, 55.0% were European, 35.0% Māori and 5.0% Pacific Peoples.

A total of 4 males (4 in SHCs) were diagnosed with epididymitis, 75.0% of whom were aged less than 25 years. Of the males with complicated gonorrhoea, 25.0% were European and 50.0% Māori.

Recent trends

From 2003 to 2007, the number of cases of gonorrhoea reported increased by 55.5% in SHCs (925 compared to 595), 1.1% in FPCs (190 compared to 188) and more than doubled in SYHCs (66 compared to 24). The clinic visit rate of gonorrhoea diagnosed in males and females combined at SHCs has increased by 39.7% (see Figure 13).

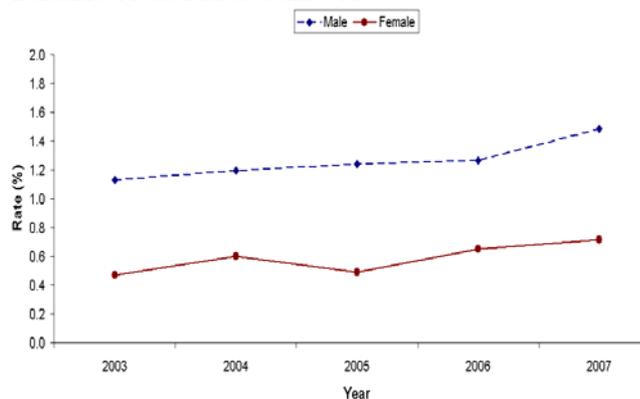
These trends are supported by the rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions which was 123 per 100 000 population in 2007, one and half times the rate in 2003.

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.

Based on data collected by ESR from the laboratories that undertake the majority of the local sexual health clinic and general practice gonococcal diagnostic work, ciprofloxacin resistance reached 21.0% in 2007. This level of resistance is well above the 5% threshold acceptable for first-line therapy (5). Ciprofloxacin resistance was about three times higher than penicillin resistance (7.3%). Ciprofloxacin resistance is now more prevalent than penicillin resistance in most areas of New Zealand. All isolates tested were susceptible to ceftriaxone.

Figure 13. Clinic visit rates of gonorrhoea diagnosed at SHCs: 2003 to 2007

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 2007

Between 2006 and 2007, the number of cases of genital herpes increased by 3.6% in SHCs (746 compared to 720), 10.4% in FPCs (149 compared to 135) and 29.0% in SYHCs (89 compared to 69).

The case numbers of genital herpes were higher in females; 1.1 times higher in SHCs, 4.0 times higher in FPCs, 5.4 times higher in SYHCs (see Table 7).

In 2007, 43.2% at SHCs, 65.1% at FPCs and 82.0% 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 29 years in SHCs and 24 years in FPCs and 21 years in SYHCs.

In SHCs, FPCs and SYHCs, the number of males with genital herpes was highest in the 20 to 24 years age group (83, 11 and 7 cases, respectively). For females, the highest numbers were in the 15 to 19 years age group for SHCs (105 cases) and FPCs (47 cases). In SYHCs highest numbers were in the 20 to 24 years age group (34 cases). Figures 14 and 15 present 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 – 73.5%, FPCs – 75.2% and SYHCs – 71.9%).

Figure 14. Clinic visit rates of genital herpes (first presentation) diagnosed at SHCs by age group and sex, 2007

Denominator is the number of clinic visits

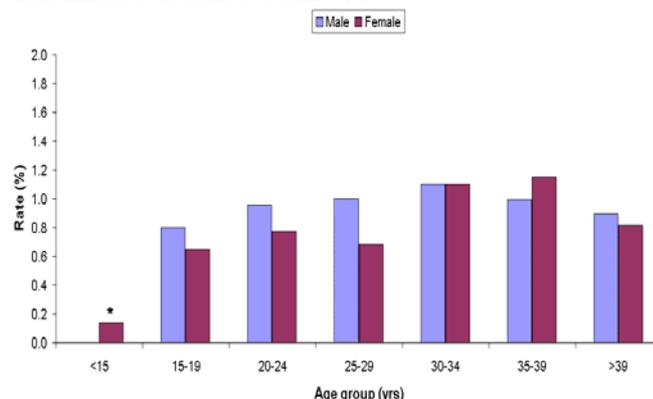
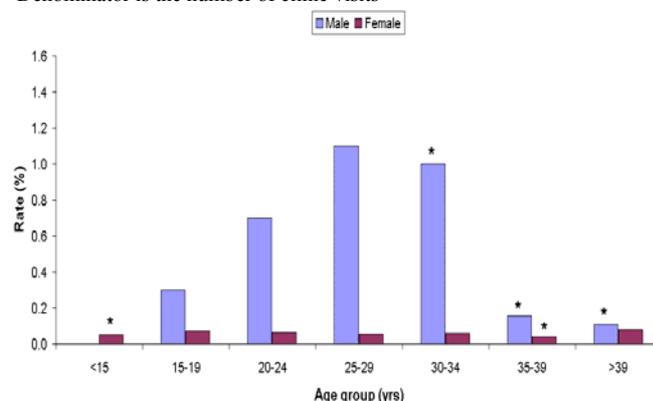


Figure 15. Clinic visit rates of genital herpes (first presentation) diagnosed at FPCs by age group and sex, 2007

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 1:19.

Table 7. Number and clinic visit rates of cases of genital herpes (first presentation) by sex and health care setting, 2007

| Clinic type | No. of cases | | | Clinic visit rate [†] (%) | | |
|-------------|--------------|------|-------|------------------------------------|------|-------|
| | Female | Male | Total | Female | Male | Total |
| SHCs | 397 | 349 | 746 | 0.8% | 1.0% | 0.8% |
| FPCs | 119 | 30 | 149 | 0.1% | 0.6% | 0.1% |
| SYHCs | 75 | 14 | 89 | 0.1% | 0.1% | 0.04% |

[†] cases/number of clinic visits

Recent trends

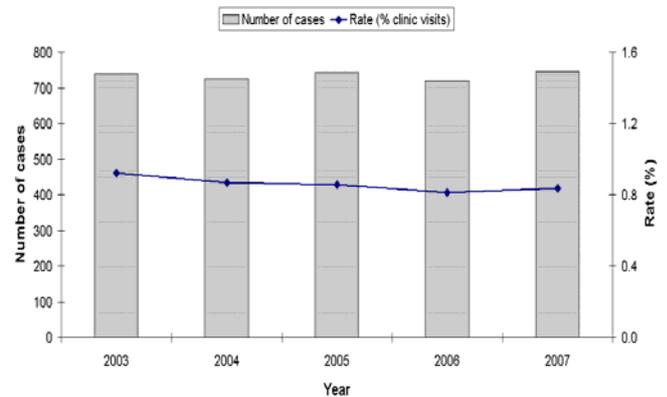
From 2003 to 2007, the number of cases of genital herpes reported by SHCs has fluctuated. However the clinic visit rate has remained between 0.8% and 0.9% in SHCs (see Figure 16).

Clinic surveillance methods in New Zealand do not facilitate the collection of data on the type of HSV infection, so it is not possible to determine if the trends in genital herpes differ by type of viral infection. While genital herpes is traditionally associated with *Herpes simplex* type 2 (HSV-2) infection, a study based in the Waikato region demonstrated that at least a third of confirmed cases of genital herpes may be due to *Herpes simplex* type 1 (HSV-1), with even higher rates of HSV-1 (>50%) amongst younger women (6).

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 (7).

Figure 16. Case numbers and clinic visit rates of genital herpes (first presentation) diagnosed at SHCs: 2003 to 2007

Denominator is the number of clinic visits



Genital Warts (first presentation)

In 2007, 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 (8).

Cases of genital warts in 2007

Between 2006 and 2007, the number of cases of genital warts increased by 18.6% in SHCs (3 797 compared to 3 201) and 1.8% in FPCs (621 compared to 610). In contrast there was a decrease of 2.9% in SYHCs (201 compared to 207).

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

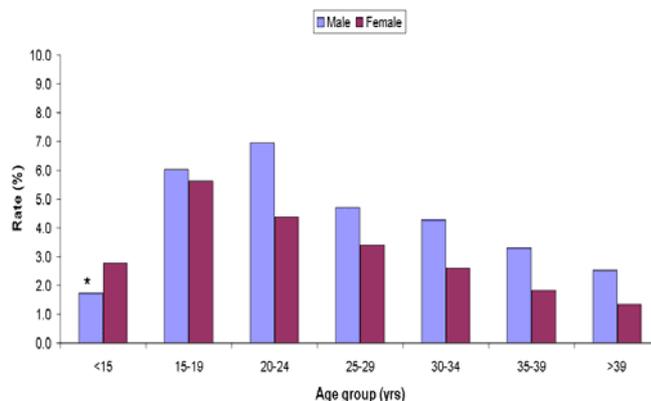
In 2007, 62.3% at SHCs, 85.3% at FPCs and 92.5% at SYHCs of the cases of genital warts diagnosed were in those aged less than 25 years. The mean age of cases of genital warts was 25 years in SHCs, and 21 years in both FPCs and SYHCs.

In SHCs, genital warts were most common in males aged 20 to 24 years (604 cases) and in females aged 15 to 19 years (907 cases). Similarly in FPCs case numbers of genital warts were highest in males aged 20 to 24 years (82 cases) and in females aged 15 to 19 years (249 cases). Figures 17 and 18 present the clinic visit rates by age group.

In all health care settings the majority of cases of genital warts were in those of European ethnicity (SHCs – 70.7%, FPCs – 69.4% and SYHCs – 70.6%).

Figure 17. Clinic visit rates of genital warts (first presentation) diagnosed at SHCs by age group and sex, 2007

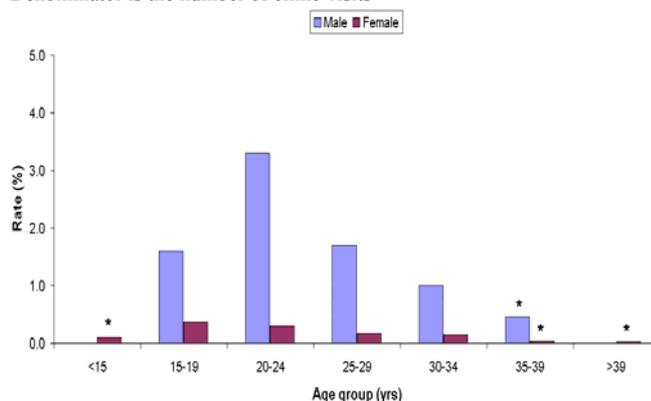
Denominator is the number of clinic visits



* 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, 2007

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 1:19.

Table 8. Number and clinic visit rates of cases of genital warts (first presentation) by sex and health care setting, 2007

| Clinic type | No. of cases | | | Clinic visit rate [†] (%) | | |
|-------------|--------------|-------|-------|------------------------------------|------|-------|
| | Female | Male | Total | Female | Male | Total |
| SHCs | 2 046 | 1 751 | 3 797 | 3.9% | 4.7% | 4.3% |
| FPCs | 472 | 149 | 621 | 0.3% | 1.8% | 0.3% |
| SYHCs | 128 | 73 | 201 | 0.1% | 0.2% | 0.1% |

[†] cases/number of clinic visits

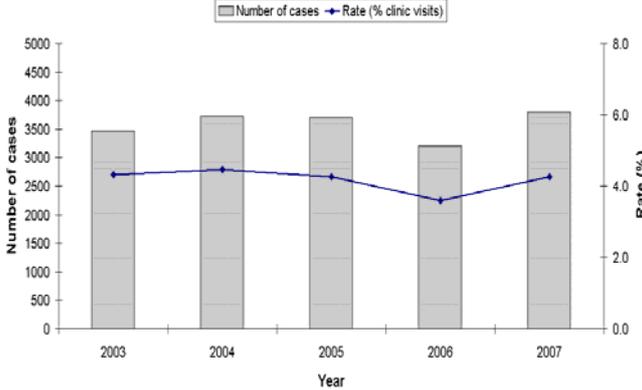
Recent trends

From 2003 to 2007 the number of cases of genital warts reported by SHCs increased by 9.5% (see Figure 19).

Between 2003 and 2007 the clinic visit rate reported by SHCs has varied between 3.6% and 4.5%.

Figure 19. Case numbers and clinic visit rates of genital warts (first presentation) diagnosed at SHCs: 2003 to 2007

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 (9). Only cases of infectious syphilis (primary, secondary and early latent) are reported by clinics for surveillance purposes.

Cases of syphilis in 2007

In SHCs, 71 cases of syphilis were reported in 2007 compared with 68 cases in 2006. In FPCs, 3 cases were reported in 2007 compared with 2 cases in 2006. No cases of syphilis were reported in SYHCs for either year. In 2007, the clinic visit rate of syphilis at SHCs was 0.1%.

The mean age of cases of syphilis was 37 years (range 18 to 69 years). Of the 74 cases of syphilis reported in 2007 (across all clinic types), 68 (91.9%) were male and 6 (8.1%) were female.

In SHCs, the highest number of syphilis cases for males was in the 40+ years age group (30 cases with a clinic visit rate of 0.4%). For females, the highest number of cases was in the 20 to 24 years age group (2 cases, with a clinic visit rate of 0.7%).

Of the 67 males with syphilis in SHCs, 55.2% were European, 29.9% were of Other ethnicity, 6.0% were Māori, 6.0% were Pacific Peoples and 3.0% were of unknown ethnicity. Of the 4 females with syphilis in SHCs, 75.0% were Pacific Peoples and 25.0% were of Other ethnicity (see Table 24).

Recent trends

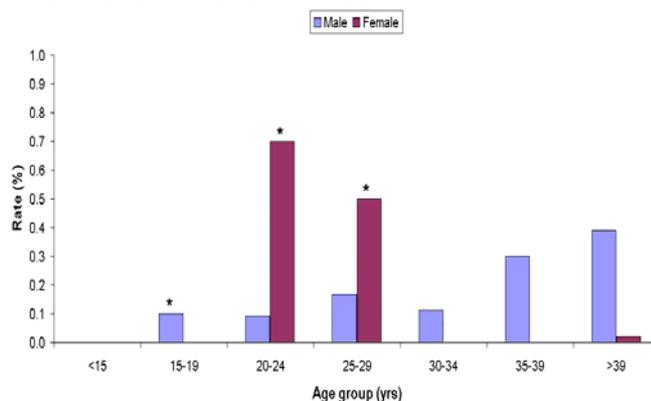
In 2007, the majority of cases of syphilis (69%) occurred in the Auckland region, where the number

of cases reported increased from 31 in 2006 to 51 in 2007.

Although the overall number of cases of syphilis remains low compared to other STIs, case numbers more than doubled (74 compared to 30) between 2003 and 2007 (see Figure 21).

Figure 20. Clinic visit rates of syphilis diagnosed at SHCs by age group and sex, 2007

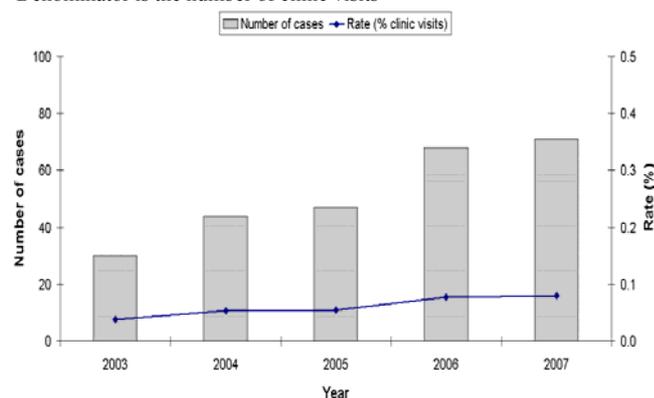
Denominator is the number of clinic visits



* 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: 2003 to 2007

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 2007, there were 769 reported cases of NSU in SHCs, 15 cases in FPCs and 15 cases in SYHCs.

Cases of NSU in 2007

The mean age for cases of NSU was 32 years in SHCs (range 13 to 77 years), 22 years in FPCs (range 17 to 31 years), and 23 years (range 18 to 41 years) in SYHCs.

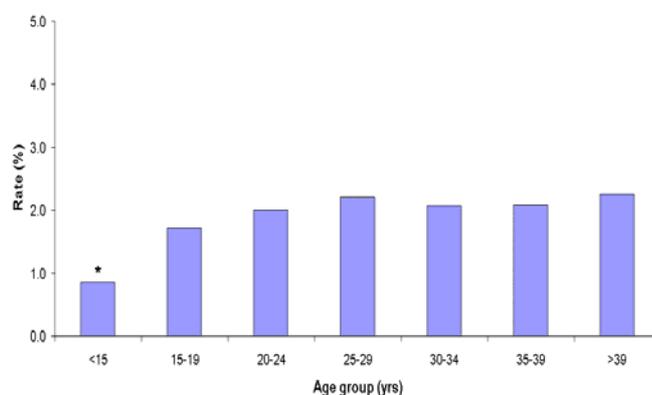
The highest NSU numbers in SHCs were observed in the 20 to 24 years age group with 168 cases. However, the highest NSU clinic visit rates in SHCs were observed in 40+ years age groups with a clinic visit rate of 2.3%.

Recent trends

From 2003 and 2006, the number of cases of NSU diagnosed at SHCs steadily decreased, however, in 2007, an increase of 12.1% (769 compared to 686) was observed (see Figure 23).

Figure 22. Clinic visit rates of NSU diagnosed at SHCs by age group, 2007

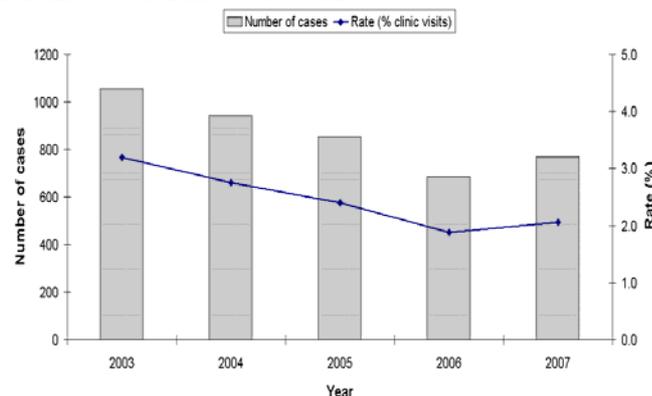
Denominator is the number of male clinic visits



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

Figure 23. Case numbers and clinic visit rates of NSU diagnosed at SHCs: 2003 to 2007

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 2007, 583 SHC visits were for concurrent infections. Of these 571 (97.9%) were diagnosed with two infections and 12 (2.1 %) were diagnosed with three 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 was an even gender distribution with respect to a diagnosis of two or more STIs (see Table 9).

Table 9. Comparison of the sex of attendees with one or concurrent STIs diagnosed at SHCs, 2007

| Sex | One STI (%) | Two or more STIs (%) |
|--------------|--------------|----------------------|
| Male | 4 747 (49.8) | 287 (49.2) |
| Female | 4 795 (50.2) | 296 (50.8) |
| Total | 9 542 | 583 |

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, 2007

| Age group (years) | One STI (%) | Two or more STIs (%) |
|-------------------|--------------|----------------------|
| <15 | 98 (1.0) | 4 (0.7) |
| 15-19 | 2 904 (30.4) | 251 (43.1) |
| 20-24 | 2 789 (29.2) | 197 (33.8) |
| 25-29 | 1 576 (16.5) | 58 (10.0) |
| 30-34 | 907 (9.5) | 33 (5.7) |
| 35-39 | 521 (5.5) | 17 (2.9) |
| >39 | 747 (7.8) | 23 (4.0) |
| Unknown | - | - |
| Total | 9 542 | 583 |

Compared to SHC attendees with one STI infection, a greater proportion of attendees of Māori 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, 2007

| Ethnicity | Number of patients | % with one STI | % with two or more STIs |
|-----------------|--------------------|----------------|-------------------------|
| European | 6 190 | 95.8 | 4.2 |
| Māori | 2 557 | 90.6 | 9.4 |
| Pacific Peoples | 545 | 90.5 | 9.5 |
| Other | 669 | 96.7 | 3.3 |
| Unknown | 164 | 96.3 | 3.7 |
| Total | 10 125 | | |

The different combinations of STIs diagnosed in attendees with two and three infections are shown in Tables 12 and 13, respectively.

In SHC attendees with two STIs the combination of chlamydia and gonorrhoea accounted for 45.7% of concurrent infections. Chlamydia and genital warts accounted for a further 34.9% of concurrent infections.

In those with three STIs diagnosed the combination of chlamydia, gonorrhoea and genital warts accounted for 75.0% of concurrent infections.

Table 12. Number of patients with two concurrent STI diagnoses at SHC, 2007

| STIs | Chlamydia | Gonorrhoea | Genital herpes | Genital warts | Syphilis |
|-------------------------------|-----------|------------|----------------|---------------|----------|
| Chlamydia | | | | | |
| Gonorrhoea | 261 | | | | |
| Genital herpes | 32 | 6 | | | |
| Genital warts | 199 | 11 | 25 | | |
| Syphilis | 6 | 2 | 0 | 0 | |
| Non-specific urethritis (NSU) | NA | NA | 8 | 21 | 0 |

Note: NA=not applicable

Table 13. Number of patients with three concurrent STI diagnoses at SHC, 2007

| First STI | Second STI | Third STI | Number of patients |
|-----------|----------------|----------------|--------------------|
| Chlamydia | Gonorrhoea | Genital warts | 9 |
| Chlamydia | Genital herpes | Genital warts | 2 |
| Chlamydia | Gonorrhoea | Genital herpes | 1 |

Subsequent infections

Of the 10 809 SHC patients diagnosed with a STI in 2007, 968 patients (9.0%) were diagnosed with subsequent infections. Of these, 875 SHC patients were diagnosed with a STI twice in 2007, and a further 93 patients were diagnosed with an STI on three separate occasions in 2007.

Subsequent infections were more common among males (50.7%), young people aged less than 25 years (72.5%) and people of European ethnicity (51.1%). Māori were over-represented with 36.0% of subsequent infections in cases from this ethnic group.

Subsequent infections were diagnosed in 9.0% of male patients (491 out of 5 448), compared to 8.9% of female patients (477 out of 5 361). The majority of males and females who suffered subsequent infections had an initial diagnosis of genital warts.

Subsequent infections were diagnosed in 11.4% of SHC patients aged 15 to 19 years and 9.3% of patients aged 20 to 24 years, compared with 6.1% of patients aged 30 years and older. Subsequent infections were diagnosed in 7.6% of SHC patients of European ethnicity, 12.3% of Māori ethnicity, 11.8% of Pacific Peoples ethnicity and 6.3% of Other ethnicity.

Those with prior STIs are known to be at greater risk of re-infection or subsequent infections. Because of this, guidelines published by the CDC in 2006 recommend opportunistic testing of those with a recent history of an STI (10). It is important health providers are aware of this issue so as to best target populations at risk.

Laboratory Surveillance

Chlamydia

Auckland region

In 2007, laboratories in the Auckland region tested 140 526 specimens for chlamydia, of which 9 528 (6.8%) specimens tested positive from 9 107 patients.

The overall rate for the region was 690 per 100 000 population. The rate in females (1 002 per 100 000) was nearly three times the rate in males (358 per 100 000).

The mean age of cases of chlamydia was 24 years (median age 22 years, range 0 to 81 years). Sixty-six per cent of all cases of chlamydia were aged less than 25 years.

The chlamydia rate for children aged less than one-year was 467 per 100 000 population (93 cases).

The highest female rate was observed in the 15 to 19 years age group, with a rate of 4 852 per 100 000 population, seven times the regional total population rate. Comparatively, in males the rate was highest in the 20 to 24 years age group, with a rate of 1 382 per 100 000 population, twice the regional total population rate.

Waikato region

In 2007, laboratories in the Waikato region tested 31 802 specimens for chlamydia, of which 1 940 (6.1%) specimens tested positive from 1 933 patients.

The overall rate for the region was 570 per 100 000 population. The rate in females (794 per 100 000) was two and half times the rate in males (325 per 100 000).

The mean age of cases of chlamydia was 22 years (median age 20 years, range 0 to 68 years). Seventy-seven per cent of all cases of chlamydia were aged less than 25 years.

The chlamydia rate for children aged less than one-year was 301 per 100 000 population (15 cases).

The highest female rate was observed in the 15 to 19 years age group, with a rate of 4 688 per 100 000 population, over eight times the regional total population rate. Comparatively, in males the rate was highest in the 20 to 24 years age group, with a rate of 1 612 per 100 000 population, nearly three times the regional total population rate.

Figure 24. Rates of chlamydia in the Auckland region by age group and sex, 2007

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

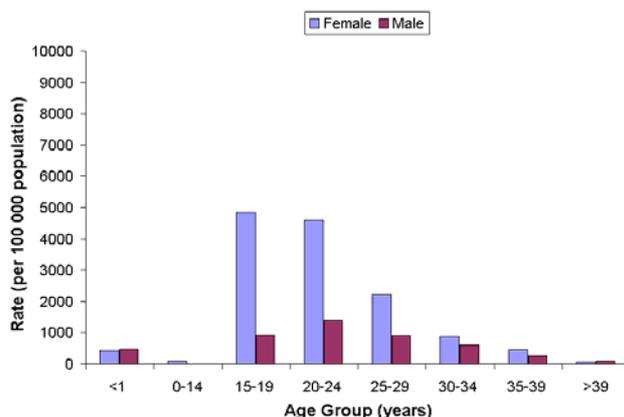
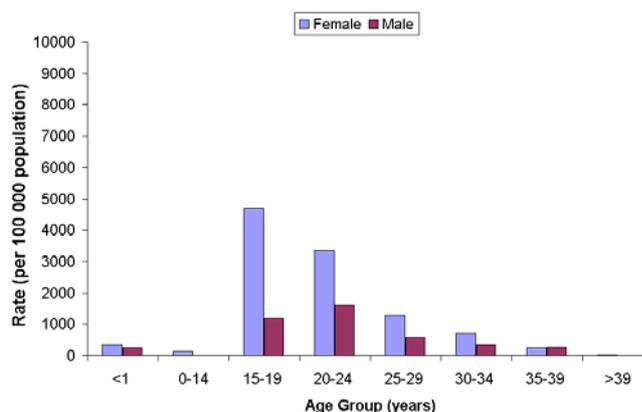


Figure 25. Rates of chlamydia in the Waikato region by age group and sex, 2007

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



Bay of Plenty region

In 2007, laboratories in the BOP region tested 24 865 specimens for chlamydia, of which 2 932 (11.8%) specimens tested positive from 2 902 patients.

The overall rate for the region was 990 per 100 000 population. The rate in females (1 552 per 100 000) was nearly four times the rate in males (391 per 100 000).

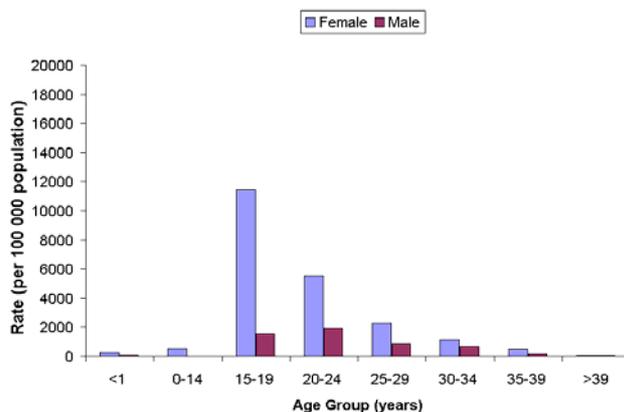
The mean age of cases of chlamydia was 21 years (median age 19 years, range 0 to 64 years). Eighty-three per cent of all cases of chlamydia were aged less than 25 years.

The chlamydia rate for children aged less than one-year was 189 per 100 000 population (8 cases).

The highest female rate was observed in the 15 to 19 years age group, with a rate of 11 439 per 100 000 population, 12 times the regional total population rate. Comparatively, in males the rate was highest in the 20 to 24 years age group, with a rate of 1 909 per 100 000 population, twice the regional total population rate.

Figure 26. Rates of chlamydia in the BOP region by age group and sex, 2007

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



Other regions

In 2007, laboratories in other regions reported 8 249 (10.7%) test positive specimens for chlamydia from 7 832 patients.

The majority of cases of chlamydia (71.3%) in these regions were in female.

The mean age of cases of chlamydia was 21 years (median age 20 years, range 0 to 73 years). Seventy-six per cent of all cases of chlamydia were aged less than 25 years.

Thirty-five cases of chlamydia were reported for children aged less than one-year of age.

The highest chlamydia numbers were observed in the 15 to 19 years age group (3 485 cases). The highest female numbers were in the 15 to 19 years age group (2 765 cases) and the highest male numbers were in the 20 to 24 years age group (714 cases).

Figure 27. Case numbers of chlamydia in Other regions by age group and sex, 2007

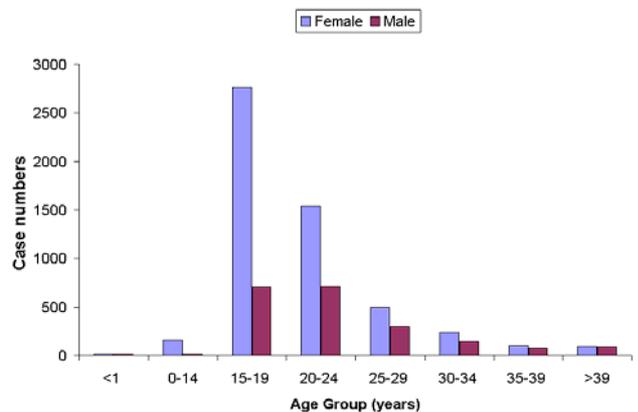


Table 14. Case numbers and rates of chlamydia by region, age group and sex, 2007

| Age group (years) | Number of cases | | | | Rate per 100 000 population | | |
|------------------------|-----------------|--------------|-----------|--------------|-----------------------------|------------|------------|
| | Female | Male | Unknown | Total | Female | Male | Total |
| Auckland Region | | | | | | | |
| <1 | 42 | 49 | 2 | 93 | 433 | 481 | 467 |
| 1-14 | 78 | 9 | 1 | 88 | 93 | 10 | 51 |
| 15-19 | 2 385 | 482 | 5 | 2 872 | 4 852 | 930 | 2 844 |
| 20-24 | 2 279 | 702 | 7 | 2 988 | 4 595 | 1 382 | 2 977 |
| 25-29 | 1 122 | 437 | 4 | 1 563 | 2 221 | 889 | 1 568 |
| 30-34 | 417 | 258 | 2 | 677 | 884 | 596 | 748 |
| 35-39 | 240 | 122 | 0 | 362 | 455 | 260 | 363 |
| 40+ | 218 | 239 | 0 | 457 | 65 | 79 | 72 |
| Unknown | 1 | 1 | 5 | 7 | - | - | - |
| Total | 6 782 | 2 299 | 26 | 9 107 | 1 002 | 358 | 690 |
| Waikato region | | | | | | | |
| <1 | 9 | 6 | 0 | 15 | 365 | 238 | 301 |
| 1-14 | 28 | 1 | 0 | 29 | 127 | 4 | 65 |
| 15-19 | 620 | 169 | 3 | 792 | 4 688 | 1 189 | 2 887 |
| 20-24 | 433 | 212 | 5 | 650 | 3 355 | 1 612 | 2 494 |
| 25-29 | 146 | 67 | 2 | 215 | 1 298 | 577 | 940 |
| 30-34 | 71 | 35 | 1 | 107 | 710 | 362 | 544 |
| 35-39 | 28 | 27 | 0 | 55 | 248 | 265 | 256 |
| 40+ | 30 | 15 | 0 | 45 | 33 | 18 | 26 |
| Unknown | 9 | 8 | 8 | 25 | - | - | - |
| Total | 1 374 | 540 | 19 | 1 933 | 794 | 325 | 570 |
| BOP region | | | | | | | |
| <1 | 6 | 2 | 0 | 8 | 293 | 92 | 189 |
| 1-14 | 96 | 4 | 0 | 100 | 505 | 20 | 255 |
| 15-19 | 1 349 | 187 | 0 | 1 536 | 11 439 | 1 523 | 6 382 |
| 20-24 | 554 | 201 | 0 | 755 | 5 546 | 1 909 | 3 679 |
| 25-29 | 168 | 64 | 2 | 234 | 2 307 | 880 | 1 608 |
| 30-34 | 88 | 48 | 0 | 136 | 1 131 | 669 | 909 |
| 35-39 | 44 | 17 | 0 | 61 | 457 | 202 | 338 |
| 40+ | 32 | 32 | 0 | 64 | 39 | 43 | 41 |
| Unknown | 0 | 3 | 5 | 8 | - | - | - |
| Total | 2 337 | 558 | 7 | 2 902 | 1 552 | 391 | 990 |
| Other regions | | | | | | | |
| <1 | 17 | 16 | 2 | 35 | | | |
| 1-14 | 160 | 14 | 0 | 174 | | | |
| 15-19 | 2 765 | 709 | 11 | 3 485 | | | |
| 20-24 | 1 545 | 714 | 10 | 2 269 | | | |
| 25-29 | 499 | 295 | 2 | 796 | | | |
| 30-34 | 241 | 142 | 1 | 384 | | | |
| 35-39 | 101 | 70 | 2 | 173 | | | |
| 40+ | 93 | 90 | 3 | 186 | | | |
| Unknown | 160 | 154 | 16 | 330 | | | |
| Total | 5 581 | 2 204 | 47 | 7 832 | | | |

Trend data: Auckland, Waikato and Bay of Plenty regions

Figures 28 and 29 show the chlamydia rates from 2003 to 2007.

The BOP region has the highest rate overall at 990 per 100 000 population, compared with 690 and 570 per 100 000 population for the Auckland and Waikato regions, respectively.

From 2006 to 2007, the Waikato region had the highest decrease in male and female rates (15.0% and 18.3%, respectively). The only increase from 2006 to 2007 was seen in the female rate in the BOP region (2.2%).

Compared to 2006, the number of chlamydia laboratory tests increased by 3.0% in the Auckland, 30.0% in Waikato and 0.7% in BOP regions. From 2003 to 2007 the number of chlamydia laboratory tests has increased in all three regions (Auckland - 22.5%, Waikato - 30.0% and BOP - 23.5%).

In general, from 2003 to 2007, the overall rate of chlamydia diagnosed by participating laboratories in the Auckland, Waikato and BOP regions has risen more or less steadily by 20.6%, from 592 per 100 000 in 2003 to 714 per 100 000 in 2007. This trend can be explained, only in part, by the introduction of more sensitive diagnostic techniques.

Figure 28. Male chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2003 to 2007
Denominator is the population in each region

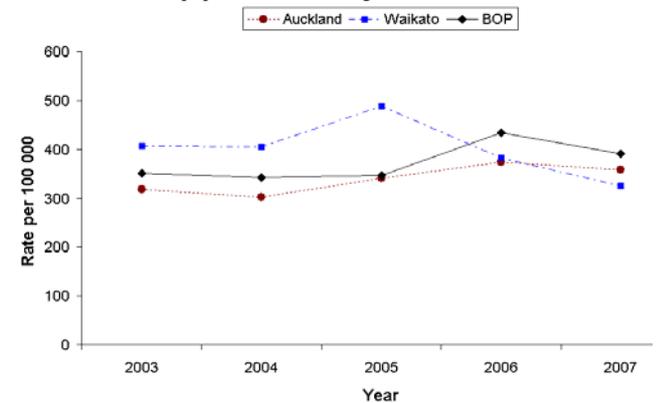
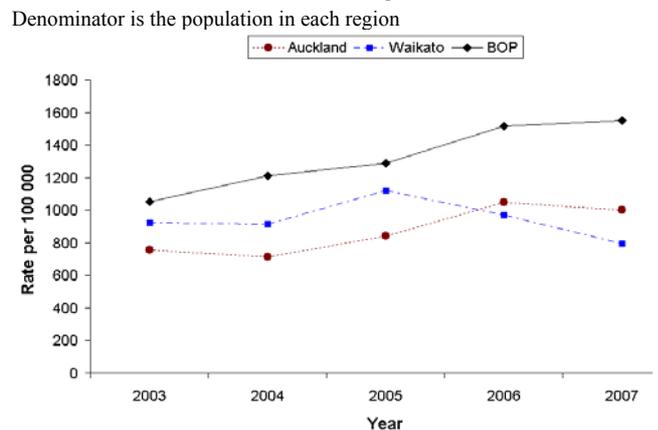


Figure 29. Female chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2003 to 2007
Denominator is the population in each region



Gonorrhoea

Auckland region

In 2007, laboratories in the Auckland region tested over 226 213 specimens for gonorrhoea, of which 2 546 (1.1%) 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 population. The rate in females (109 per 100 000) was lower than that in males (180 per 100 000).

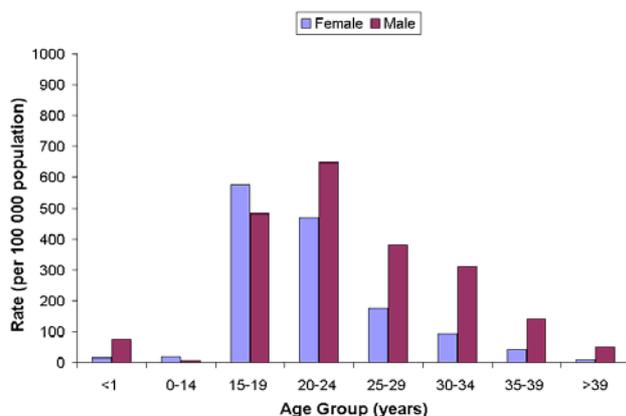
The mean age of cases of gonorrhoea was 25 years (median age 22 years, range 0 to 65 years). Sixty per cent of all cases of gonorrhoea were aged less than 25 years.

The gonorrhoea rate for children aged less than one-year was 46 per 100 000 population (6 cases).

The highest female rate was observed in the 15 to 19 years age group, with a rate of 577 per 100 000 population, four times the regional total population rate. Comparatively, in males the rate was highest in the 20 to 24 years age group, with a rate of 649 per 100 000 population, over four times the regional total population rate.

Figure 29. Rates of gonorrhoea in the Auckland region by age group and sex, 2007

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



Waikato region

In 2007, laboratories in the Waikato region tested 42 953 specimens for gonorrhoea, of which 364 (0.8%) specimens tested positive from 313 patients.

The overall rate in the region was 92 per 100 000 population. The rate in females (79 per 100 000) was lower than that in males (105 per 100 000).

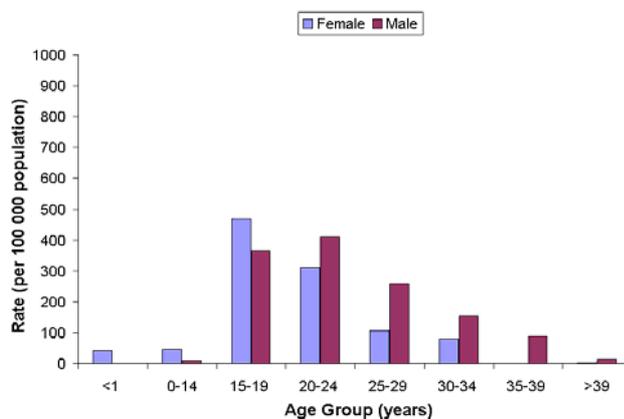
The mean age of cases of gonorrhoea was 23 years (median age 21 years, range 0 to 57 years). Seventy-one per cent of all cases of gonorrhoea were aged less than 25 years.

One case was reported for the less than one-year age group.

The highest female rate was observed in the 15 to 19 years age group, with a rate of 469 per 100 000 population, five times the regional total population rate. Comparatively, in males the rate was highest in the 20 to 24 years age group, with a rate of 411 per 100 000 population, over four times the regional total population rate.

Figure 30. Rates of gonorrhoea in the Waikato region by age group and sex, 2007

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



Bay of Plenty region

In 2007, laboratories in the BOP region tested 34 611 specimens for gonorrhoea, of which 328 (0.9%) specimens tested positive from 286 patients.

The overall rate for the region was 98 per 100 000 population. The rate in females (89 per 100 000) was lower than that in males (107 per 100 000).

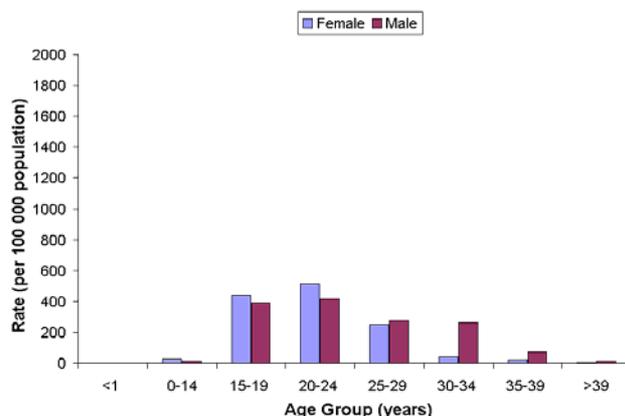
The mean age of cases of gonorrhoea was 23 years (median age 21 years, range 13 to 68 years). Seventy-one per cent of all cases of gonorrhoea were aged less than 25 years.

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

The highest female rate was observed in the 20 to 24 years age group, with a rate of 511 per 100 000 population, over five times the regional total population rate. The highest male rate was observed in the 20 to 24 years age group, with a rate of 418 per 100 000 population, over four times the regional total population rate.

Figure 31. Rates of gonorrhoea in the BOP region by age group and sex, 2007

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



Other regions

In 2007, laboratories in other regions reported 1 231 (0.8%) test positive specimens for gonorrhoea from 1 049 patients.

Over half the cases of gonorrhoea (56.6%) in these regions were male.

The mean age of cases of gonorrhoea was 23 years (median age 21 years, range 0 to 66 years). Sixty-nine per cent of all cases of gonorrhoea were aged less than 25 years.

Five cases were reported for children aged less than one-year.

The highest gonorrhoea numbers were observed in the 15 to 19 years age group (390 cases). The highest female numbers were in the 15 to 19 years age group (216 cases) and the highest male numbers were in the 20 to 24 years age group (175 cases).

Figure 32. Case numbers of gonorrhoea in Other regions by age group and sex, 2007

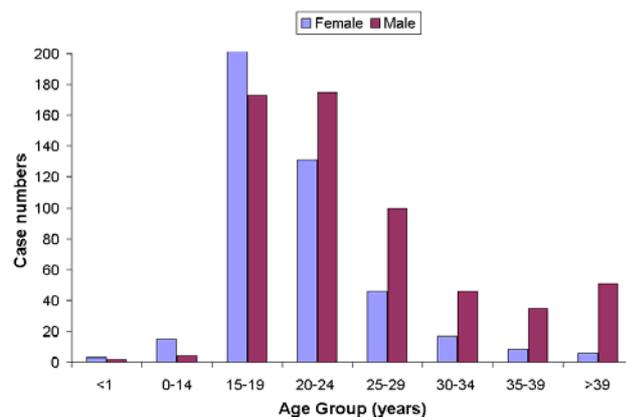


Table 15. Case numbers and rates of gonorrhoea by region, age group and sex, 2007

| Age group (years) | Number of cases | | | | Rate per 100 000 population | | |
|------------------------|-----------------|------------|----------|--------------|-----------------------------|------------|------------|
| | Female | Male | Unknown | Total | Female | Male | Total |
| Auckland Region | | | | | | | |
| <1 | 1 | 5 | 0 | 6 | 16 | 75 | 46 |
| 1-14 | 10 | 4 | 0 | 14 | 18 | 7 | 13 |
| 15-19 | 180 | 159 | 0 | 339 | 577 | 483 | 529 |
| 20-24 | 150 | 210 | 2 | 362 | 470 | 649 | 563 |
| 25-29 | 62 | 126 | 1 | 189 | 178 | 380 | 278 |
| 30-34 | 30 | 92 | 0 | 122 | 92 | 311 | 197 |
| 35-39 | 14 | 43 | 0 | 57 | 41 | 140 | 87 |
| 40+ | 20 | 94 | 1 | 115 | 10 | 51 | 29 |
| Unknown | 1 | 0 | 0 | 1 | - | - | - |
| Total | 468 | 733 | 4 | 1 205 | 109 | 180 | 144 |
| Waikato region | | | | | | | |
| <1 | 1 | 0 | 0 | 1 | 41 | 0 | 20 |
| 1-14 | 10 | 2 | 0 | 12 | 45 | 9 | 27 |
| 15-19 | 62 | 52 | 0 | 114 | 469 | 366 | 416 |
| 20-24 | 40 | 54 | 0 | 94 | 310 | 411 | 361 |
| 25-29 | 12 | 30 | 0 | 42 | 107 | 258 | 184 |
| 30-34 | 8 | 15 | 1 | 24 | 80 | 155 | 122 |
| 35-39 | 0 | 9 | 0 | 9 | 0 | 88 | 42 |
| 40+ | 3 | 12 | 0 | 15 | 3 | 15 | 9 |
| Unknown | 0 | 1 | 1 | 2 | - | - | - |
| Total | 136 | 175 | 2 | 313 | 79 | 105 | 92 |
| BOP region | | | | | | | |
| <1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1-14 | 5 | 3 | 0 | 8 | 26 | 15 | 20 |
| 15-19 | 52 | 48 | 0 | 100 | 441 | 391 | 416 |
| 20-24 | 51 | 44 | 0 | 95 | 511 | 418 | 463 |
| 25-29 | 18 | 20 | 0 | 38 | 247 | 275 | 261 |
| 30-34 | 3 | 19 | 0 | 22 | 39 | 265 | 147 |
| 35-39 | 2 | 6 | 0 | 8 | 21 | 71 | 44 |
| 40+ | 3 | 10 | 0 | 13 | 4 | 13 | 8 |
| Unknown | 0 | 2 | 0 | 2 | - | - | - |
| Total | 134 | 152 | 0 | 286 | 89 | 107 | 98 |
| Other regions | | | | | | | |
| <1 | 3 | 2 | 0 | 5 | | | |
| 1-14 | 15 | 4 | 0 | 19 | | | |
| 15-19 | 216 | 173 | 1 | 390 | | | |
| 20-24 | 131 | 175 | 1 | 307 | | | |
| 25-29 | 46 | 100 | 2 | 148 | | | |
| 30-34 | 17 | 46 | 0 | 63 | | | |
| 35-39 | 8 | 35 | 0 | 43 | | | |
| 40+ | 6 | 51 | 0 | 57 | | | |
| Unknown | 7 | 8 | 2 | 17 | | | |
| Total | 449 | 594 | 6 | 1 049 | | | |

Trend data: Auckland, Waikato and Bay of Plenty regions

Figures 34 and 35 show the gonorrhoea rates from 2003 to 2007.

The Auckland region had the highest rate overall at 144 per 100 000 population, compared with 98 and 92 per 100 000 population for the BOP and Waikato regions, respectively.

From 2006 to 2007, the BOP region had an increase in the male rate (16.0%) while the Auckland and Waikato regions had a decrease in male rates (0.9% and 2.2%, respectively). Female rates from 2006 to 2007 increased in the Auckland region by 1.1% but decreased in the Waikato and BOP regions by 29.5% and 19.3%, respectively.

Compared to 2006, the number of gonorrhoea laboratory tests increased by 4.0% in the Auckland, 2.9% in Waikato and decreased by 9.3% in BOP regions. From 2003 to 2007 the number of gonorrhoea laboratory tests in the Auckland region increased by 36.3%, Waikato and BOP regions also had a lower but more or less steady increase (22.9% and 12.8%, respectively).

Over the last five years gonorrhoea rates in the Auckland, Waikato and BOP regions have increased by 48.8% from a rate of 82 per 100 000 in 2003 to 123 per 100 000 in 2007. The number of laboratories reporting in these regions has not changed from 2003 to 2007 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: 2003 to 2007

Denominator is the population in each region

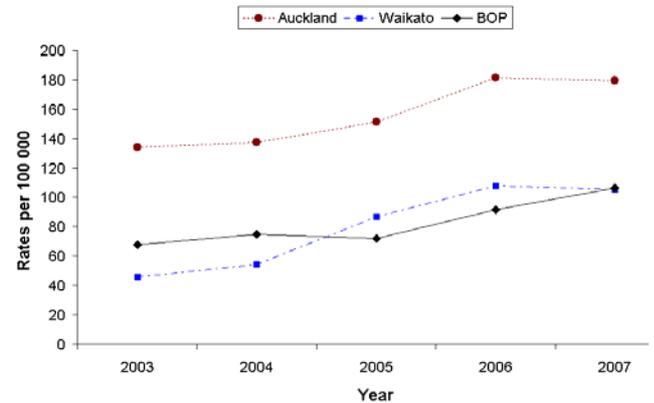
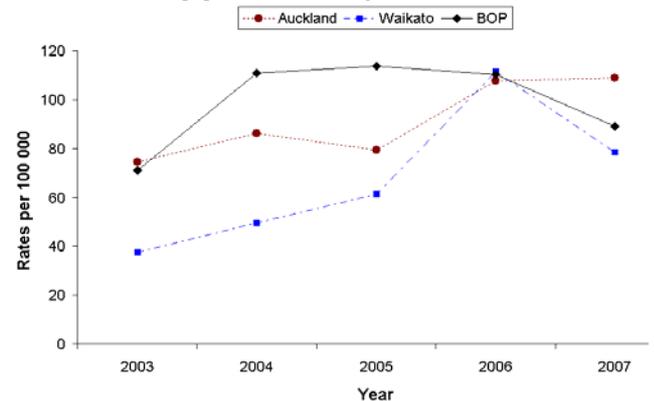


Figure 35. Female rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2003 to 2007

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 2007 is available in the publication; AIDS – New Zealand, Issue 61, February 2008 (available at <http://www.moh.govt.nz/moh.nsf/indexmh/aids-nz-issue61>).

HIV

A total of 195 new people were reported to the AEG as having HIV in 2007, comprising 156 cases newly diagnosed through antibody testing and an additional 39 reported through viral load testing (most of whom had previously been diagnosed overseas). HIV notifications peaked in 2005 at 218 (comprising 183 newly diagnosed through antibody testing, and 35 through viral load testing). This is the second year in a row that the number of reported cases has dropped. In 2006, a total of 204 HIV cases were reported (comprising 177 newly diagnosed through antibody testing, and 27 diagnosed through viral load testing).

Of the 156 cases newly diagnosed through antibody testing in 2007, 71 (45.5%) were men infected through sex with men (MSM), including three men who were infected either through sex with men or injecting drug use (IDU). The number of cases in these exposure categories has been relatively stable since 2003, except for 2005 when there were 90 such cases. Of the 71 MSM diagnosed in 2007, for three-quarters (53) infection was reported to have occurred in New Zealand. Previous negative HIV testing indicated that for at least seven of these MSM infection occurred within the last 12 months.

Sixty (38.5%) of the 156 cases newly diagnosed through antibody testing in 2007 are thought to have acquired HIV infection heterosexually (31 males and 29 females). This is a decrease from the 86 reported in 2006 which was the highest ever reported in New Zealand in any one year. The decrease is due to a drop in the number infected overseas. However, there has been a small but steady increase in the number infected in New Zealand, rising from eight in 2005, to 11 in 2006, to 16 in 2007. Of the 16 in 2007 (five males, 11 females), almost half were infected by a partner who had been heterosexually infected overseas.

Out of the 195 overall cases, eight were children with HIV infection acquired through mother to child transmission. However, all but one were born prior to 2007, and five were born overseas. For the three children born in New Zealand, none of their mothers had been diagnosed with HIV prior to giving birth.

For 25 of the total cases diagnosed in 2007, the route of HIV exposure remains unknown.

The majority of cases, 153 (78.5%), were aged between 20 and 49 years at time of diagnosis, with 35 (17.9%) in the 20-29 years, 65 (33.3%) in the 30-39 years, and 53 (27.2%) in the 40-49 years age groups. Eighty-three (42.5%) were of European ethnicity, 22 (11.3%) Māori and 7 (3.6%) Pacific Peoples. There were 70 (35.9%) in other ethnic group categories, including 42 (21.5%) of African and 20 (10.3%) of Asian ethnicity. The ethnicity of 13 cases (6.6%) is currently unknown.

AIDS

In 2007, 31 cases of AIDS were notified. The 2007 notification rate (0.7 per 100 000) is the same as the 2006 rate (0.7 per 100 000, 29 cases).

Seventeen of the cases (54.8%) acquired the disease heterosexually, 12 (38.7%) through sex with other men, one was infected through injecting drug use, and the mode of infection is unknown for one person.

The distribution of the 2007 cases according to ethnicity was: 15 (48.4%) European, six (19.4%) African, five (16.1%) Māori, four (12.9%) Asian, and one (3.2%) Pacific Peoples, and the mean age was 41 years.

Five deaths in 2007 were notified to the AEG as being due to AIDS; however this number is likely to increase due to late notifications. The number of AIDS deaths peaked at 66 in 1992. Since then the number of deaths has decreased considerably and for 2004-2006 was relatively stable at 13 to 15 deaths per year.

Table 16. Risk behaviour category for HIV infections, 1985-2007¹.

| Exposure | Sex | New cases in 2007 (%) | Cases (%) - Total 1985 to 2007 |
|------------------------------------|---------|-----------------------|--------------------------------|
| Homosexual contact | Male | 83 (42.6) | 1 535 (53.4) |
| Homosexual & IDU | Male | 3 (1.5) | 39 (1.5) |
| Heterosexual contact | Male | 37 (19.0) | 368 (12.8) |
| | Female | 36 (18.5) | 395 (13.7) |
| Injecting drug user (IDU) | Male | 1 (0.5) | 57 (2.0) |
| | Female | 0 (0.0) | 11 (0.4) |
| Blood product recipient | Male | 0 (0.0) | 34 (1.2) |
| | Male | 1 (0.5) | 11 (0.4) |
| Transfusion recipient ² | Female | 0 (0.0) | 9 (0.3) |
| | Unknown | 0 (0.0) | 5 (0.2) |
| | Male | 5 (2.6) | 28 (1.0) |
| Perinatal | Female | 3 (1.5) | 18 (0.6) |
| | Male | 1 (0.5) | 7 (0.2) |
| Other | Female | 0 (0.0) | 9 (0.3) |
| | Male | 20 (10.2) | 293 (10.2) |
| Awaiting information/ Undetermined | Female | 5 (2.6) | 40 (1.4) |
| | Unknown | 0 (0.0) | 13 (0.4) |
| Total | | 195 (100.0) | 2 872 (100.0) |

¹ 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.

² All people in this category, diagnosed since 1996, acquired their HIV overseas.

NS = not stated.

Source: AIDS Epidemiology Group.

Discussion

Chlamydia

Chlamydia was the most commonly diagnosed STI in New Zealand in 2007. Compared to 2006, the case numbers and clinic visit rates for chlamydia increased at SHCs, FPCs and SYHCs. However, this increase was not reflected in the laboratory STI surveillance data. The number and rates of patients testing positive for chlamydia decreased in the Auckland, Waikato and BOP regions from 2006 to 2007. This is the reverse of the increasing trend observed in these regions from 2003 to 2006. Possible explanations for the discrepancy between clinic and laboratory data include: a higher prevalence of chlamydia in the clinic attendees; a lower prevalence in primary healthcare patients; or a shift of STI cases attending clinics rather than general practice.

During 2007, the number of chlamydia specimens tested in the three laboratory regions was 26% to 38% lower than the number of gonorrhoea specimens tested. Similar observations have also been noted annually from 2004 to 2006. This lower level of testing is likely to contribute to the underestimation of chlamydia rates in the population. The advent of the Chlamydia Management Guidelines will help to address this issue. These guidelines, scheduled to be published later in 2008, were developed by the Ministry of Health and the Sexual Health Advisory Group and focus on opportunistic testing of at-risk groups. Increased awareness after the implementation of these guidelines is likely to cause an upswing in chlamydia testing, particularly in primary healthcare. Any such increase in testing should be observed in the laboratory STI surveillance data, however, whether this translates into a higher chlamydia rate will depend on the successful targeting of high risk groups.

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. In 2007, the number and rate of gonorrhoea infections increased for all clinic types when compared to 2006 figures. However, as seen with chlamydia, this increase was not observed in the laboratory-

based surveillance regions. The number and rates of patients testing positive for gonorrhoea decreased in the Waikato and the BOP regions, and were unchanged in the Auckland region. It remains to be seen whether this decrease continues and becomes a downward trend.

At-risk groups

As in previous years, those aged less than 25 years and non-Europeans were disproportionately burdened with STIs in 2007. The highest numbers and rates for each STI were almost routinely seen in the 15-19 and 20-24 year age groups, both in the clinic and laboratory surveillance data. The STI clinic visit rates were higher in non-European ethnic groups, even though the highest percentage of clinic attendees diagnosed with an STI were European.

SHC data on concurrent infections also indicated that those aged less than 25 years and non-Europeans are predominantly affected. As seen in 2006, more than three-quarters of those with concurrent infections in 2007 were aged less than 25 years, and Māori 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 from the Auckland, Waikato and BOP regions, a total of 116 chlamydia and seven gonorrhoea infections were diagnosed in children under the age of one in 2007. These neonatal infections highlight the need to improve STI screening during pregnancy.

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 incidence rates are based on laboratory data from specific regions only and, as rates will vary geographically, may not be representative of the overall New Zealand rate. As a consequence, there

is limited ability to make comparisons with overseas rates.

On face value, the regional chlamydia rates in New Zealand were two to three times higher than the national chlamydia rates most recently published for Australia (244.9 per 100 000 in 2007), the UK (219.7 per 100 000 in 2006), and the US (347.8 per 100 000 in 2006) (11, 12, 13). A similar observation can be seen with gonorrhoea, where the regional rates in New Zealand were three to four times higher than the national rates observed in Australia (36.3 per 100 000 in 2007) and the UK (33.3 per 100 000 in 2006) (11, 12), though considerably less than the national gonorrhoea rate in the US (120.9 per 100 000 in 2006) (13).

While the regional chlamydia rates in New Zealand are markedly higher when compared to overseas figures, it should be noted that the chlamydia test percent positivity rate for the Auckland, Waikato and BOP regions combined (7.3% in 2007) is not so dissimilar to the UK (10% in 2006) and Australia (8.5% in 2001) (14, 15).

The New Zealand clinic and laboratory rates for chlamydia and gonorrhoea indicate that the 15-19 and 20-24 year age groups are particularly at risk of STIs. This finding is consistent with international figures from Australia, the UK and the US (11, 12, 13). So while STI surveillance in New Zealand is limited in nature, the data obtained is still an important indicator of at-risk groups.

Emerging/re-emerging STIs

There has been an international re-emergence of LGV, a systemic STI caused by a type of *Chlamydia trachomatis* (serovars L1, L2, or L3) with symptoms including proctitis, anal strictures, constipation and cramping. Recent outbreaks have been documented in Europe and in the US (16). Most of these cases of LGV have occurred in MSM and the latest cases appear to be occurring in individuals with HIV (16). In New Zealand, the diagnosis of LGV requires astute clinicians, since there is currently no routine testing of rectal swabs positive for chlamydia to further determine a diagnosis of LGV, though this is likely to change in the Auckland region this year (17). In 2007, there were two cases of confirmed LGV in New Zealand (18). Both cases were linked and were diagnosed at separate SHCs (18). Of major concern is the fact that these cases were not detected by the STI surveillance system, hence the

omission of these cases in the main body of this report. This indicates that the current STI surveillance system is not sufficiently sensitive to detect rare, emerging and re-emerging STIs. Without routine testing and a sensitive surveillance system, it is impossible to assess the true burden of LGV in New Zealand, which is important to improve awareness and clinical diagnostic vigilance.

While case numbers of syphilis remain low in New Zealand compared to other STIs, the number of syphilis cases has been steadily increasing from 2003 to 2007. It is likely these figures are an underestimate based on research using laboratory data on positive serological syphilis tests in Wellington and the Hutt Valley (19). Earlier evidence demonstrated that the main groups affected by the re-emergence of syphilis in New Zealand were MSM and heterosexuals who had recent sex overseas (20). More recent research indicates that MSM are still predominantly affected, but there is also local crossover into the heterosexual community (19). Quantifying the upward trend of syphilis in New Zealand is difficult, as the current surveillance of syphilis is clinic-based only and not laboratory-based. In the event that syphilis becomes a notifiable disease, this matter will be resolved with the implementation of direct laboratory notification, though enhanced surveillance of syphilis will still be important to collect risk factor information necessary to develop control measures to reverse the increasing trend.

Limitations of current surveillance system

The national STI surveillance system utilises data from selected clinics and laboratories, which impedes the ability to generalise rates to the wider New Zealand population. Comparing trends in STI rates derived from laboratory surveillance versus clinic surveillance is also problematic, since laboratory STI rates are based on three regions only and clinic STI rates use total clinic visits as the denominator and also excludes cases diagnosed in primary healthcare.

A substantial proportion of STI cases will be diagnosed outside a clinic setting in primary healthcare, and therefore will not be captured by the clinic based STI surveillance system. The growing number of Primary Healthcare Organisation (PHO) based targeted sexual health programmes, which generally aim to reduce barriers to sexual health services for high risk groups, will further impact on the generalisability of clinic based STI surveillance data. This is

supported by observations in Dunedin, where the number of positive chlamydia cases diagnosed by Dunedin Sexual Health Clinic in 2007 has decreased by 14% compared to 2006, whereas the total number of chlamydia tests performed in Dunedin increased by 26% and the total number of positive chlamydia cases (diagnosed by all clinics, primary healthcare and hospital services) increased by 24% (21).

The Epidemic Preparedness Act (2006) provides a means of improving STI surveillance data via the legal requirement of direct laboratory notification of all notifiable conditions, which came into effect in December 2007. While AIDS is a notifiable STI and information is collected on HIV, no other STIs are notifiable in New Zealand. However, there are moves for chlamydia, gonorrhoea and syphilis to be added to the notifiable diseases schedule. The effective implementation of direct laboratory notification would provide a comprehensive laboratory reporting system, which could ultimately offer a future platform for all STI surveillance data, even for those STIs that are unlikely to be made notifiable. However, direct laboratory reporting of STIs will present unique challenges different from other notifiable

conditions. Apart from the sheer volumes of STI positive laboratory results, providing the denominator data necessary to calculate test-positive rates (i.e. the number of all tests conducted) is not covered by the legislative requirements for direct laboratory notification.

Summary

The STI burden in New Zealand is considerable with some demographic groups over-represented as shown by the data presented in this report. The national STI surveillance system is reliant on the generous voluntary involvement of SHCs, FPCs and SHYCs, as well as regional laboratories. While there are issues with the generalisability of the data, trends and at-risk groups can still be identified. The utilisation of direct laboratory notification in STI surveillance would improve the representativeness of the data obtained, which would help determine national and regional priorities. However, laboratory reporting of STIs would not address the current need for risk factor and exposure information important to direct public health action to reduce the burden and inequalities associated with STIs in New Zealand.

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Appendices

Appendix A: Clinic-based Surveillance Data

All Clinic Data

Table 17. Summary – disease rate by clinic type, 2007

| <u>Clinic Type, by area</u> | | <u>Total Clinic Visits¹</u> | <u>Chlamydia</u> | <u>Gonorrhoea</u> | <u>Genital Herpes²</u> | <u>Genital Warts²</u> | <u>Syphilis*</u> |
|-----------------------------|-------------------|--|------------------|-------------------|-----------------------------------|----------------------------------|------------------|
| North | | | | | | | |
| Sexual Health Clinics | No. | 29 715 | 1 003 | 304 | 187 | 1 240 | 48 |
| | Rate ³ | | 3.4% | 1.0% | 0.6% | 4.2% | 0.2% |
| Family Planning Clinics | No. | 81 349 | 1 403 | 64 | 47 | 228 | 3 |
| | Rate ³ | | 1.7% | 0.1% | 0.1% | 0.3% | 0.0% |
| Student & Youth Health | No. | 34 137 | 59 | 5 | 7 | 15 | 0 |
| | Rate ³ | | 0.2% | 0.0% | 0.0% | 0.0% | 0.0% |
| Subtotal North | | 145 201 | 2 465 | 373 | 241 | 1 483 | 51 |
| Midland | | | | | | | |
| Sexual Health Clinics | No. | 24 047 | 1 904 | 274 | 203 | 972 | 6 |
| | Rate ³ | | 7.9% | 1.1% | 0.8% | 4.0% | 0.0% |
| Family Planning Clinics | No. | 22 924 | 598 | 25 | 7 | 53 | 0 |
| | Rate ³ | | 2.6% | 0.1% | 0.0% | 0.2% | 0.0% |
| Student & Youth Health | No. | 42 711 | 130 | 9 | 15 | 15 | 0 |
| | Rate ³ | | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% |
| Subtotal Midland | | 89 682 | 2 632 | 308 | 225 | 1 040 | 6 |
| Central | | | | | | | |
| Sexual Health Clinics | No. | 19 408 | 900 | 197 | 163 | 796 | 14 |
| | Rate ³ | | 4.6% | 1.0% | 0.8% | 4.1% | 0.1% |
| Family Planning Clinics | No. | 37 898 | 712 | 42 | 60 | 141 | 0 |
| | Rate ³ | | 1.9% | 0.1% | 0.2% | 0.4% | 0.0% |
| Student & Youth Health | No. | 60 768 | 436 | 36 | 33 | 58 | 0 |
| | Rate ³ | | 0.7% | 0.1% | 0.1% | 0.1% | 0.0% |
| Subtotal Central | | 118 074 | 2 048 | 275 | 256 | 995 | 14 |
| South | | | | | | | |
| Sexual Health Clinics | No. | 16 038 | 694 | 150 | 193 | 789 | 3 |
| | Rate ³ | | 4.3% | 0.9% | 1.2% | 4.9% | 0.0% |
| Family Planning Clinics | No. | 47 784 | 720 | 59 | 35 | 199 | 0 |
| | Rate ³ | | 1.5% | 0.1% | 0.1% | 0.4% | 0.0% |
| Student & Youth Health | No. | 79 999 | 317 | 16 | 34 | 113 | 0 |
| | Rate ³ | | 0.4% | 0.0% | 0.0% | 0.1% | 0.0% |
| Subtotal South | | 143 821 | 1 731 | 225 | 262 | 1 101 | 3 |
| All regions | | | | | | | |
| Sexual Health Clinics | No. | 89 208 | 4 501 | 925 | 746 | 3 797 | 71 |
| | Rate. | | 5.0% | 1.0% | 0.8% | 4.3% | 0.1% |
| Family Planning Clinics | No. | 189 955 | 3 433 | 190 | 149 | 621 | 3 |
| | Rate. | | 1.8% | 0.1% | 0.1% | 0.3% | 0.0% |
| Student & Youth Health | No. | 217 615 | 942 | 66 | 89 | 201 | 0 |
| | Rate. | | 0.4% | 0.0% | 0.0% | 0.1% | 0.0% |
| Total | No. | 496 778 | 8 876 | 1 181 | 984 | 4 619 | 74 |
| | Rate. | | 1.8% | 0.2% | 0.2% | 0.9% | 0.0% |

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

² First presentation at that clinic.

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

* Infectious syphilis (primary, secondary and early latent)

Table 18. Summary – chlamydia site of infection, 2007

| | <i>Confirmed</i> | | | | | | Total ³ No. ¹ |
|--------------------------------|------------------------------------|----------------|------------------|----------------|------------------|----------------|--|
| | Uncomplicated, lower anogenital | | PID/epididymitis | | Other site | | |
| | No. ¹ | % ² | No. ¹ | % ² | No. ¹ | % ² | |
| Sexual Health Clinics | 4395 | 97.6% | 82 | 1.8% | 25 | 0.6% | 4502 |
| Family Planning Clinics | 3362 | 97.8% | 64 | 1.9% | 13 | 0.4% | 3439 |
| Student & Youth Health Clinics | 934 | 99.0% | 8 | 0.8% | 1 | 0.1% | 943 |
| Total | 8691 | 97.8% | 154 | 1.7% | 39 | 0.4% | 8884 |

Table 19. Summary – gonorrhoea site of infection, 2007

| | <i>Confirmed</i> | | | | | | | | Total ³ No. ¹ | | |
|--------------------------------|-------------------------|----------------|------------------|----------------|----------------------|-------------------------|------------------|----------------|--|------------------|----------------|
| | Uncomplicated infection | | | | PID/ epididymitis | Extra-genital infection | | | | | |
| | Urogenital | | Anorectal | | | Pharynx | | Other site | | | |
| | No. ¹ | % ² | No. ¹ | % ² | No. ¹ | % ² | No. ¹ | % ² | | No. ¹ | % ² |
| Sexual Health Clinics | 867 | 93.4% | 22 | 2.4% | 14 | 1.5% | 16 | 1.7% | 9 | 1.0% | 928 |
| Family Planning Clinics | 179 | 93.7% | 2 | 1.0% | 9 | 4.7% | 0 | 0.0% | 1 | 0.5% | 191 |
| Student & Youth Health Clinics | 63 | 94.0% | 1 | 1.5% | 1 | 1.5% | 1 | 1.5% | 1 | 1.5% | 67 |
| Total | 1109 | 93.5% | 25 | 2.1% | 24 | 2.0% | 17 | 1.4% | 11 | 0.9% | 1186 |

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>2006</u> | | <u>2007</u> | |
|--|---------------|-----------------------------------|----------------------------|-------------------------|----------------------------|-------------------------|
| <u>2006</u> | <u>2007</u> | <u>Clinic</u> | <u>Total</u> <u>No.</u> | <u>Rate²</u> | <u>Total</u> <u>No.</u> | <u>Rate²</u> |
| 1 904 | 2 253 | Whangarei | 88 | 4.6% | 129 | 5.7% |
| 716 | 576 | Dargaville | 15 | 2.1% | 17 | 3.0% |
| 372 | 376 | Kaikohe | 32 | 8.6% | 32 | 8.5% |
| 24 812 | 26 510 | Auckland | 557 | 2.2% | 825 | 3.1% |
| 27804 | 29715 | North | 692 | 2.5% | 1 003 | 3.4% |
| 8 480 | 8 970 | Hamilton | 696 | 8.2% | 607 | 6.8% |
| 7 880 | 6 858 | Tauranga | 498 | 6.3% | 520 | 7.6% |
| 1 349 | 1 263 | Rotorua | 70 | 5.2% | 75 | 5.9% |
| 1 039 | 970 | Whakatane | 110 | 10.6% | 103 | 10.6% |
| 869 | 869 | Taupo | 66 | 7.6% | 74 | 8.5% |
| 2 203 | 2 233 | New Plymouth | 269 | 12.2% | 328 | 14.7% |
| 3 010 | 2 884 | Gisborne | 185 | 6.1% | 197 | 6.8% |
| 24 830 | 24 047 | Midland | 1 894 | 7.6% | 1 904 | 7.9% |
| 1 164 | 1 429 | Napier | 149 | 12.8% | 141 | 9.9% |
| 635 | 787 | Hastings | 75 | 11.8% | 117 | 14.9% |
| 939 | 1 080 | Wanganui | 41 | 4.4% | 49 | 4.5% |
| 3 751 | 3 780 | Palmerston North/Levin/Dannevirke | 288 | 7.7% | 261 | 6.9% |
| 9 361 | 8 524 | Wellington | 240 | 2.6% | 202 | 2.4% |
| 922 | 886 | Lower Hutt | 22 | 2.4% | 22 | 2.5% |
| 629 | 553 | Porirua | 24 | 3.8% | 34 | 6.1% |
| 1 675 | 1 920 | Nelson | 59 | 3.5% | 52 | 2.7% |
| 572 | 449 | Wairau (Blenheim) | 30 | 5.2% | 22 | 4.9% |
| 19 648 | 19 408 | Central | 928 | 4.7% | 900 | 4.6% |
| 433 | 516 | Greymouth | 13 | 3.0% | 13 | 2.5% |
| 421 | 470 | Westport/Buller | 26 | 6.2% | 25 | 5.3% |
| 8 884 | 8 779 | Christchurch | 306 | 3.4% | 252 | 2.9% |
| 145 | 77 | Ashburton | 12 | 8.3% | 6 | 7.8% |
| 685 | 732 | Timaru | 66 | 9.6% | 78 | 10.7% |
| 3 577 | 3 326 | Dunedin | 150 | 4.2% | 129 | 3.9% |
| 2 343 | 2 138 | Invercargill/Gore/Wyndham | 207 | 8.8% | 191 | 8.9% |
| 16 488 | 16 038 | South | 780 | 4.7% | 694 | 4.3% |
| 88 770 | 89 208 | Total | 4 294 | 4.8% | 4 501 | 5.0% |

¹ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

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

Note: People seek treatment for STDs 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>2006</u> | | <u>2007</u> | |
|--|---------------|-----------------------------------|------------------|-------------------------|------------------|-------------------------|
| <u>2006</u> | <u>2007</u> | <u>Clinic</u> | <u>Total No.</u> | <u>Rate²</u> | <u>Total No.</u> | <u>Rate²</u> |
| 1 904 | 2 253 | Whangarei | 7 | 0.4% | 10 | 0.4% |
| 716 | 576 | Dargaville | 0 | 0.0% | 0 | 0.0% |
| 372 | 376 | Kaikohe | 4 | 1.1% | 0 | 0.0% |
| 24 812 | 26 510 | Auckland | 159 | 0.6% | 294 | 1.1% |
| 27 804 | 29 715 | North | 170 | 0.6% | 304 | 1.0% |
| 8 480 | 8 970 | Hamilton | 142 | 1.7% | 105 | 1.2% |
| 7 880 | 6 858 | Tauranga | 59 | 0.7% | 73 | 1.1% |
| 1 349 | 1 263 | Rotorua | 12 | 0.9% | 15 | 1.2% |
| 1 039 | 970 | Whakatane | 23 | 2.2% | 12 | 1.2% |
| 869 | 869 | Taupo | 5 | 0.6% | 1 | 0.1% |
| 2 203 | 2 233 | New Plymouth | 18 | 0.8% | 39 | 1.7% |
| 3 010 | 2 884 | Gisborne | 32 | 1.1% | 29 | 1.0% |
| 24 830 | 24 047 | Midland | 291 | 1.2% | 274 | 1.1% |
| 1 164 | 1 429 | Napier | 48 | 4.1% | 29 | 2.0% |
| 635 | 787 | Hastings | 21 | 3.3% | 26 | 3.3% |
| 939 | 1 080 | Wanganui | 12 | 1.3% | 12 | 1.1% |
| 3 751 | 3 780 | Palmerston North/Levin/Dannevirke | 46 | 1.2% | 29 | 0.8% |
| 9 361 | 8 524 | Wellington | 48 | 0.5% | 66 | 0.8% |
| 922 | 886 | Lower Hutt | 9 | 1.0% | 9 | 1.0% |
| 629 | 553 | Porirua | 11 | 1.7% | 9 | 1.6% |
| 1 675 | 1 920 | Nelson | 6 | 0.4% | 15 | 0.8% |
| 572 | 449 | Wairau (Blenheim) | 2 | 0.3% | 2 | 0.4% |
| 19 648 | 19 408 | Central | 203 | 1.0% | 197 | 1.0% |
| 433 | 516 | Greymouth | 2 | 0.5% | 12 | 2.3% |
| 421 | 470 | Westport/Buller | 1 | 0.2% | 4 | 0.9% |
| 8 884 | 8 779 | Christchurch | 74 | 0.8% | 60 | 0.7% |
| 145 | 77 | Ashburton | 2 | 1.4% | 4 | 5.2% |
| 685 | 732 | Timaru | 9 | 1.3% | 14 | 1.9% |
| 3 577 | 3 326 | Dunedin | 11 | 0.3% | 12 | 0.4% |
| 2 343 | 2 138 | Invercargill/Gore/Wyndham | 39 | 1.7% | 44 | 2.1% |
| 16 488 | 16 038 | South | 138 | 0.8% | 150 | 0.9% |
| 88 770 | 89 208 | Total | 802 | 0.9% | 925 | 1.0% |

¹ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

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

Note: People seek treatment for STDs 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>2006</u> | | <u>2007</u> | |
|--|---------------|-----------------------------------|------------------|-------------------------|------------------|-------------------------|
| <u>2006</u> | <u>2007</u> | <u>Clinic</u> | <u>Total No.</u> | <u>Rate²</u> | <u>Total No.</u> | <u>Rate²</u> |
| 1 904 | 2 253 | Whangarei | 22 | 1.2% | 18 | 0.8% |
| 716 | 576 | Dargaville | 1 | 0.1% | 0 | 0.0% |
| 372 | 376 | Kaikohe | 1 | 0.3% | 1 | 0.3% |
| 24 812 | 26 510 | Auckland | 133 | 0.5% | 168 | 0.6% |
| 2 7804 | 29 715 | North | 157 | 0.6% | 187 | 0.6% |
| 8 480 | 8 970 | Hamilton | 113 | 1.3% | 91 | 1.0% |
| 7 880 | 6 858 | Tauranga | 72 | 0.9% | 64 | 0.9% |
| 1 349 | 1 263 | Rotorua | 8 | 0.6% | 12 | 1.0% |
| 1 039 | 970 | Whakatane | 6 | 0.6% | 4 | 0.4% |
| 869 | 869 | Taupo | 1 | 0.1% | 8 | 0.9% |
| 2 203 | 2 233 | New Plymouth | 36 | 1.6% | 19 | 0.9% |
| 3 010 | 2 884 | Gisborne | 3 | 0.1% | 5 | 0.2% |
| 24 830 | 24 047 | Midland | 239 | 1.0% | 203 | 0.8% |
| 1 164 | 1 429 | Napier | 11 | 0.9% | 17 | 1.2% |
| 635 | 787 | Hastings | 7 | 1.1% | 16 | 2.0% |
| 939 | 1 080 | Wanganui | 16 | 1.7% | 10 | 0.9% |
| 3 751 | 3 780 | Palmerston North/Levin/Dannevirke | 29 | 0.8% | 36 | 1.0% |
| 9 361 | 8 524 | Wellington | 55 | 0.6% | 49 | 0.6% |
| 922 | 886 | Lower Hutt | 5 | 0.5% | 11 | 1.2% |
| 629 | 553 | Porirua | 0 | 0.0% | 0 | 0.0% |
| 1 675 | 1 920 | Nelson | 19 | 1.1% | 19 | 1.0% |
| 572 | 449 | Wairau (Blenheim) | 4 | 0.7% | 5 | 1.1% |
| 19 648 | 19 408 | Central | 146 | 0.7% | 163 | 0.8% |
| 433 | 516 | Greymouth | 5 | 1.2% | 5 | 1.0% |
| 421 | 470 | Westport/Buller | 4 | 1.0% | 2 | 0.4% |
| 8 884 | 8 779 | Christchurch | 89 | 1.0% | 107 | 1.2% |
| 145 | 77 | Ashburton | 2 | 1.4% | 0 | 0.0% |
| 685 | 732 | Timaru | 12 | 1.8% | 17 | 2.3% |
| 3 577 | 3 326 | Dunedin | 36 | 1.0% | 30 | 0.9% |
| 2 343 | 2 138 | Invercargill/Gore/Wyndham | 30 | 1.3% | 32 | 1.5% |
| 16 488 | 16 038 | South | 178 | 1.1% | 193 | 1.2% |
| 88 770 | 89 208 | Total | 720 | 0.8% | 746 | 0.8% |

¹ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

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

Note: People seek treatment for STDs 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>2006</u> | | <u>2007</u> | |
|--|---------------|-----------------------------------|--------------|-------------------------|--------------|-------------------------|
| <u>2006</u> | <u>2007</u> | <u>Clinic</u> | <u>Total</u> | <u>Rate²</u> | <u>Total</u> | <u>Rate²</u> |
| | | | <u>No.</u> | | <u>No.</u> | |
| 1 904 | 2 253 | Whangarei | 65 | 3.4% | 119 | 5.3% |
| 716 | 576 | Dargaville | 3 | 0.4% | 4 | 0.7% |
| 372 | 376 | Kaikohe | 2 | 0.5% | 0 | 0.0% |
| 24 812 | 26 510 | Auckland | 509 | 2.1% | 1 117 | 4.2% |
| 27 804 | 29 715 | North | 579 | 2.1% | 1 240 | 4.2% |
| 8 480 | 8 970 | Hamilton | 412 | 4.9% | 429 | 4.8% |
| 7 880 | 6 858 | Tauranga | 308 | 3.9% | 271 | 4.0% |
| 1 349 | 1 263 | Rotorua | 84 | 6.2% | 76 | 6.0% |
| 1 039 | 970 | Whakatane | 50 | 4.8% | 67 | 6.9% |
| 869 | 869 | Taupo | 2 | 0.2% | 20 | 2.3% |
| 2 203 | 2 233 | New Plymouth | 139 | 6.3% | 109 | 4.9% |
| 3 010 | 2 884 | Gisborne | 0 | 0.0% | 0 | 0.0% |
| 24 830 | 24 047 | Midland | 995 | 4.0% | 972 | 4.0% |
| 1 164 | 1 429 | Napier | 66 | 5.7% | 60 | 4.2% |
| 635 | 787 | Hastings | 46 | 7.2% | 54 | 6.9% |
| 939 | 1 080 | Wanganui | 61 | 6.5% | 34 | 3.1% |
| 3 751 | 3 780 | Palmerston North/Levin/Dannevirke | 131 | 3.5% | 123 | 3.3% |
| 9 361 | 8 524 | Wellington | 299 | 3.2% | 280 | 3.3% |
| 922 | 886 | Lower Hutt | 34 | 3.7% | 45 | 5.1% |
| 629 | 553 | Porirua | 33 | 5.2% | 33 | 6.0% |
| 1 675 | 1 920 | Nelson | 92 | 5.5% | 95 | 4.9% |
| 572 | 449 | Wairau (Blenheim) | 80 | 14.0% | 72 | 16.0% |
| 19 648 | 19 408 | Central | 842 | 4.3% | 796 | 4.1% |
| 433 | 516 | Greymouth | 27 | 6.2% | 16 | 3.1% |
| 421 | 470 | Westport/Buller | 9 | 2.1% | 15 | 3.2% |
| 8 884 | 8 779 | Christchurch | 359 | 4.0% | 366 | 4.2% |
| 145 | 77 | Ashburton | 12 | 8.3% | 8 | 10.4% |
| 685 | 732 | Timaru | 48 | 7.0% | 45 | 6.1% |
| 3 577 | 3 326 | Dunedin | 171 | 4.8% | 155 | 4.7% |
| 2 343 | 2 138 | Invercargill/Gore/Wyndham | 159 | 6.8% | 184 | 8.6% |
| 16 488 | 16 038 | South | 785 | 4.8% | 789 | 4.9% |
| 88 770 | 89 208 | Total | 3 201 | 3.6% | 3 797 | 4.3% |

¹ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

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

Note: People seek treatment for STDs 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>2006</u> | | <u>2007</u> | |
|--|---------------|-----------------------------------|--------------|-------------------------|--------------|-------------------------|
| <u>2006</u> | <u>2007</u> | <u>Clinic</u> | <u>Total</u> | <u>Rate²</u> | <u>Total</u> | <u>Rate²</u> |
| | | | <u>No.</u> | | <u>No.</u> | |
| 1 904 | 2 253 | Whangarei | 0 | 0.0% | 0 | 0.0% |
| 716 | 576 | Dargaville | 0 | 0.0% | 0 | 0.0% |
| 372 | 376 | Kaikohe | 0 | 0.0% | 0 | 0.0% |
| 24 812 | 26 510 | Auckland | 30 | 0.1% | 48 | 0.2% |
| 27 804 | 29 715 | North | 30 | 0.1% | 48 | 0.2% |
| 8 480 | 8 970 | Hamilton | 6 | 0.1% | 4 | 0.0% |
| 7 880 | 6 858 | Tauranga | 7 | 0.1% | 2 | 0.0% |
| 1 349 | 1 263 | Rotorua | 0 | 0.0% | 0 | 0.0% |
| 1 039 | 970 | Whakatane | 0 | 0.0% | 0 | 0.0% |
| 869 | 869 | Taupo | 0 | 0.0% | 0 | 0.0% |
| 2 203 | 2 233 | New Plymouth | 0 | 0.0% | 0 | 0.0% |
| 3 010 | 2 884 | Gisborne | 0 | 0.0% | 0 | 0.0% |
| 24 830 | 24 047 | Midland | 13 | 0.1% | 6 | 0.0% |
| 1 164 | 1 429 | Napier | 0 | 0.0% | 0 | 0.0% |
| 635 | 787 | Hastings | 0 | 0.0% | 0 | 0.0% |
| 939 | 1 080 | Wanganui | 1 | 0.1% | 0 | 0.0% |
| 3 751 | 3 780 | Palmerston North/Levin/Dannevirke | 4 | 0.1% | 1 | 0.0% |
| 9 361 | 8 524 | Wellington | 15 | 0.2% | 12 | 0.1% |
| 922 | 886 | Lower Hutt | 0 | 0.0% | 0 | 0.0% |
| 629 | 553 | Porirua | 3 | 0.5% | 0 | 0.0% |
| 1 675 | 1 920 | Nelson | 0 | 0.0% | 1 | 0.1% |
| 572 | 449 | Wairau (Blenheim) | 0 | 0.0% | 0 | 0.0% |
| 19 648 | 19 408 | Central | 23 | 0.1% | 14 | 0.1% |
| 433 | 516 | Greymouth | 0 | 0.0% | 0 | 0.0% |
| 421 | 470 | Westport/Buller | 0 | 0.0% | 0 | 0.0% |
| 8 884 | 8 779 | Christchurch | 1 | 0.0% | 2 | 0.0% |
| 145 | 77 | Ashburton | 0 | 0.0% | 0 | 0.0% |
| 685 | 732 | Timaru | 0 | 0.0% | 0 | 0.0% |
| 3 577 | 3 326 | Dunedin | 1 | 0.0% | 1 | 0.0% |
| 2 343 | 2 138 | Invercargill/Gore/Wyndham | 0 | 0.0% | 0 | 0.0% |
| 16 488 | 16 038 | South | 2 | 0.0% | 3 | 0.0% |
| 88 770 | 89 208 | Total | 68 | 0.1% | 71 | 0.1% |

¹ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

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

Note: People seek treatment for STDs 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>2006</u> | | <u>2007</u> | |
|--|---------------|-----------------------------------|--------------|-------------------------|--------------|-------------------------|
| <u>2006</u> | <u>2007</u> | <u>Clinic</u> | <u>Total</u> | <u>Rate²</u> | <u>Total</u> | <u>Rate²</u> |
| | | | <u>No.</u> | | <u>No.</u> | |
| 492 | 601 | Whangarei | 0 | 0.0% | 0 | 0.0% |
| 42 | 34 | Dargaville | 0 | 0.0% | 0 | 0.0% |
| 15 | 53 | Kaikohe | 0 | 0.0% | 0 | 0.0% |
| 12 303 | 12 938 | Auckland | 272 | 2.2% | 407 | 3.1% |
| 12 852 | 13 626 | North | 272 | 2.1% | 407 | 3.0% |
| 3 153 | 3 406 | Hamilton | 52 | 1.6% | 59 | 1.7% |
| 1 660 | 1 630 | Tauranga | 64 | 3.9% | 53 | 3.3% |
| 554 | 483 | Rotorua | 5 | 0.9% | 2 | 0.4% |
| 203 | 250 | Whakatane | 14 | 6.9% | 3 | 1.2% |
| 214 | 265 | Taupo | 3 | 1.4% | 2 | 0.8% |
| 941 | 952 | New Plymouth | 54 | 5.7% | 57 | 6.0% |
| 297 | 353 | Gisborne | 0 | 0.0% | 0 | 0.0% |
| 7 022 | 7 339 | Midland | 192 | 2.7% | 176 | 2.4% |
| 252 | 325 | Napier | 0 | 0.0% | 0 | 0.0% |
| 117 | 138 | Hastings | 0 | 0.0% | 0 | 0.0% |
| 310 | 370 | Wanganui | 4 | 1.3% | 1 | 0.3% |
| 1 552 | 1 664 | Palmerston North/Levin/Dannevirke | 86 | 5.5% | 45 | 2.7% |
| 4 651 | 4 557 | Wellington | 15 | 0.3% | 7 | 0.2% |
| 436 | 400 | Lower Hutt | 0 | 0.0% | 1 | 0.3% |
| 253 | 263 | Porirua | 0 | 0.0% | 1 | 0.4% |
| 914 | 925 | Nelson | 24 | 2.6% | 32 | 3.5% |
| 305 | 318 | Wairau (Blenheim) | 0 | 0.0% | 0 | 0.0% |
| 8 790 | 8 960 | Central | 129 | 1.5% | 87 | 1.0% |
| 147 | 169 | Greymouth | 0 | 0.0% | 0 | 0.0% |
| 138 | 113 | Westport/Buller | 1 | 0.7% | 3 | 2.7% |
| 4804 | 4 608 | Christchurch | 61 | 1.3% | 70 | 1.5% |
| 53 | 32 | Ashburton | 0 | 0.0% | 0 | 0.0% |
| 329 | 356 | Timaru | 0 | 0.0% | 0 | 0.0% |
| 1 264 | 1 135 | Dunedin | 4 | 0.3% | 6 | 0.5% |
| 1 093 | 1 019 | Invercargill/Gore/Wyndham | 27 | 2.5% | 20 | 2.0% |
| 7 828 | 7 432 | South | 93 | 1.2% | 99 | 1.3% |
| 36 492 | 37 357 | Total | 686 | 1.9% | 769 | 2.1% |

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 cases and disease rates¹ by age, sex and ethnicity, SHCs, 2007

| | | 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 | 1 | 244 | 418 | 201 | 101 | 47 | 39 | 58 | 0 | 1109 |
| | | 2.1 | 9.5 | 6.9 | 4.3 | 2.9 | 1.6 | 2.1 | 1.6 | 0.0 | 4.4 |
| | Māori | 1 | 180 | 178 | 82 | 52 | 18 | 11 | 3 | 0 | 525 |
| | | 1.8 | 16.2 | 13.7 | 8.6 | 8.0 | 4.2 | 3.9 | 1.1 | 0.0 | 10.4 |
| | Pacific Peoples | 0 | 25 | 78 | 34 | 21 | 7 | 2 | 3 | 0 | 170 |
| | | 0.0 | 13.7 | 17.0 | 9.3 | 8.5 | 4.0 | 2.3 | 1.6 | - | 10.0 |
| | Other | 0 | 13 | 35 | 38 | 26 | 11 | 4 | 3 | 0 | 130 |
| | | 0.0 | 6.5 | 4.9 | 3.7 | 3.4 | 2.2 | 1.0 | 0.5 | 0.0 | 3.1 |
| | Unknown | 0 | 5 | 4 | 4 | 3 | 3 | 3 | 2 | 0 | 24 |
| | | 0.0 | 8.8 | 3.7 | 2.6 | 3.1 | 2.3 | 2.4 | 1.2 | 0.0 | 2.9 |
| Total | 2 | 467 | 713 | 359 | 203 | 86 | 59 | 69 | 0 | 1 958 | |
| | 1.7 | 11.3 | 8.2 | 5.0 | 3.8 | 2.1 | 2.1 | 1.4 | 0.0 | 5.3 | |
| Females | European/Pakeha | 18 | 677 | 323 | 143 | 35 | 28 | 18 | 12 | 0 | 1254 |
| | | 5.7 | 6.6 | 3.9 | 3.1 | 1.1 | 1.4 | 1.2 | 0.7 | 0.0 | 3.9 |
| | Māori | 51 | 563 | 244 | 92 | 50 | 15 | 3 | 4 | 0 | 1022 |
| | | 14.0 | 11.7 | 7.8 | 5.3 | 4.9 | 2.4 | 0.7 | 1.3 | 0.0 | 8.2 |
| | Pacific Peoples | 1 | 38 | 55 | 26 | 7 | 3 | 0 | 0 | 0 | 130 |
| | | 5.9 | 8.3 | 8.0 | 6.3 | 3.3 | 1.9 | 0.0 | 0.0 | - | 6.0 |
| | Other | 3 | 26 | 40 | 22 | 11 | 5 | 4 | 2 | 0 | 113 |
| | | 17.6 | 4.5 | 3.8 | 2.1 | 1.4 | 1.1 | 1.1 | 0.5 | - | 2.4 |
| | Unknown | 0 | 11 | 7 | 1 | 4 | 1 | 0 | 0 | 0 | 24 |
| | | 0.0 | 12.2 | 5.0 | 1.4 | 6.6 | 1.4 | 0.0 | 0.0 | 0.0 | 4.5 |
| Total | 73 | 1 315 | 669 | 284 | 107 | 52 | 25 | 18 | 0 | 2 543 | |
| | 10.1 | 8.2 | 5.0 | 3.6 | 2.1 | 1.5 | 1.1 | 0.7 | 0.0 | 4.9 | |
| | | Age group (years) | | | | | | | | | |
| | | <15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | >44 | Unk | Total |
| <i>Gonorrhoea</i> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 36 | 59 | 43 | 26 | 22 | 5 | 27 | 0 | 218 |
| | | 0.0 | 1.4 | 1.0 | 0.9 | 0.7 | 0.8 | 0.3 | 0.7 | 0.0 | 0.9 |
| | Māori | 1 | 68 | 55 | 40 | 28 | 16 | 10 | 8 | 0 | 226 |
| | | 1.8 | 6.1 | 4.2 | 4.2 | 4.3 | 3.8 | 3.5 | 2.8 | 0.0 | 4.5 |
| | Pacific Peoples | 0 | 10 | 29 | 19 | 7 | 0 | 0 | 1 | 0 | 66 |
| | | 0.0 | 5.5 | 6.3 | 5.2 | 2.8 | 0.0 | 0.0 | 0.5 | - | 3.9 |
| | Other | 0 | 4 | 6 | 11 | 13 | 2 | 3 | 2 | 0 | 41 |
| | | 0.0 | 2.0 | 0.8 | 1.1 | 1.7 | 0.4 | 0.8 | 0.3 | 0.0 | 1.0 |
| | Unknown | 0 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 3 |
| | | 0.0 | 5.3 | 2.4 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 |
| Total | 1 | 119 | 150 | 113 | 75 | 40 | 18 | 38 | 0 | 554 | |
| | 0.9 | 2.9 | 1.7 | 1.6 | 1.4 | 1.0 | 0.7 | 0.8 | 0.0 | 1.5 | |
| Females | European/Pakeha | 4 | 66 | 38 | 11 | 10 | 3 | 1 | 0 | 0 | 133 |
| | | 1.3 | 0.6 | 0.5 | 0.2 | 0.3 | 0.1 | 0.1 | 0.0 | 0.0 | 0.4 |
| | Māori | 2 | 88 | 58 | 24 | 4 | 3 | 2 | 0 | 0 | 181 |
| | | 0.5 | 1.8 | 1.8 | 1.4 | 0.4 | 0.5 | 0.5 | 0.0 | 0.0 | 1.5 |
| | Pacific Peoples | 0 | 10 | 17 | 8 | 1 | 0 | 1 | 0 | 0 | 37 |
| | | 0.0 | 2.2 | 2.5 | 1.9 | 0.5 | 0.0 | 1.4 | 0.0 | - | 1.7 |
| | Other | 0 | 4 | 8 | 1 | 1 | 0 | 0 | 0 | 0 | 14 |
| | | 0.0 | 1.1 | 1.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | - | 0.5 |
| | Unknown | 0 | 3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 6 |
| | | 0.0 | 6.3 | 2.1 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| Total | 6 | 171 | 123 | 45 | 16 | 6 | 4 | 0 | 0 | 371 | |
| | 0.8 | 1.1 | 1.0 | 0.6 | 0.3 | 0.2 | 0.2 | 0.0 | 0.0 | 0.7 | |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 26. Cont. number of cases and disease rates¹ by age, sex and ethnicity, SHCs, 2007

| | | 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 | 49 | 39 | 29 | 22 | 26 | 0 | 251 |
| | | 0.0 | 0.9 | 1.0 | 1.0 | 1.1 | 1.0 | 1.2 | 0.7 | 0.0 | 1.0 |
| | Māori | 0 | 5 | 16 | 7 | 4 | 7 | 4 | 4 | 0 | 47 |
| | | 0.0 | 0.5 | 1.3 | 0.8 | 0.7 | 1.8 | 1.5 | 1.5 | 0.0 | 1.0 |
| | Pacific Peoples | 0 | 0 | 0 | 1 | 4 | 1 | 2 | 0 | 0 | 8 |
| | | 0.0 | 0.0 | 0.0 | 0.5 | 2.7 | 1.0 | 3.7 | 0.0 | - | 0.8 |
| | Other | 0 | 1 | 3 | 13 | 5 | 4 | 3 | 4 | 0 | 33 |
| | 0.0 | 0.5 | 0.5 | 1.4 | 0.7 | 0.8 | 0.8 | 0.7 | 0.0 | 0.8 | |
| Unknown | 0 | 1 | 1 | 2 | 2 | 0 | 3 | 1 | 0 | 10 | |
| | 0.0 | 1.6 | 1.0 | 1.2 | 2.1 | 0.0 | 2.1 | 0.6 | 0.0 | 1.2 | |
| Total | | 0 | 30 | 83 | 72 | 54 | 41 | 34 | 35 | 0 | 349 |
| | | 0.0 | 0.8 | 1.0 | 1.0 | 1.1 | 1.0 | 1.3 | 0.7 | 0.0 | 1.0 |
| Females | European/Pakeha | 0 | 74 | 81 | 40 | 38 | 29 | 9 | 26 | 0 | 297 |
| | | 0.0 | 0.7 | 1.0 | 0.9 | 1.2 | 1.4 | 0.6 | 1.4 | 0.0 | 0.9 |
| | Māori | 1 | 27 | 12 | 9 | 7 | 3 | 0 | 3 | 0 | 62 |
| | | 0.3 | 0.6 | 0.4 | 0.5 | 0.7 | 0.5 | 0.0 | 1.0 | 0.0 | 0.5 |
| | Pacific Peoples | 0 | 0 | 2 | 1 | 1 | 1 | 0 | 0 | 0 | 5 |
| | | 0.0 | 0.0 | 0.8 | 0.8 | 1.2 | 1.7 | 0.0 | 0.0 | - | 0.7 |
| | Other | 0 | 4 | 6 | 4 | 7 | 5 | 0 | 3 | 0 | 29 |
| | 0.0 | 0.7 | 0.6 | 0.4 | 1.0 | 1.2 | 0.0 | 0.8 | - | 0.7 | |
| Unknown | 0 | 0 | 2 | 0 | 0 | 1 | 0 | 1 | 0 | 4 | |
| | 0.0 | 0.0 | 4.3 | 0.0 | 0.0 | 6.3 | 0.0 | 5.9 | - | 2.2 | |
| Total | | 1 | 105 | 103 | 54 | 53 | 39 | 9 | 33 | 0 | 397 |
| | | 0.1 | 0.7 | 0.8 | 0.7 | 1.1 | 1.2 | 0.4 | 1.3 | 0.0 | 0.8 |
| <i>Genital Warts (first presentation)</i> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 160 | 438 | 243 | 172 | 103 | 66 | 86 | 0 | 1 268 |
| | | 0.0 | 6.2 | 7.2 | 5.2 | 4.9 | 3.6 | 3.5 | 2.3 | 0.0 | 5.0 |
| | Māori | 2 | 68 | 93 | 35 | 16 | 14 | 7 | 9 | 0 | 244 |
| | | 3.5 | 6.1 | 7.2 | 3.7 | 2.5 | 3.3 | 2.5 | 3.2 | 0.0 | 4.8 |
| | Pacific Peoples | 0 | 9 | 21 | 11 | 10 | 3 | 5 | 1 | 0 | 60 |
| | | 0.0 | 4.9 | 4.6 | 3.0 | 4.1 | 1.7 | 5.8 | 0.5 | - | 3.5 |
| | Other | 0 | 7 | 41 | 42 | 25 | 10 | 4 | 8 | 0 | 137 |
| | 0.0 | 3.5 | 5.8 | 4.1 | 3.3 | 2.0 | 1.0 | 1.4 | 0.0 | 3.3 | |
| Unknown | 0 | 5 | 11 | 9 | 3 | 6 | 4 | 4 | 0 | 42 | |
| | 0.0 | 7.2 | 8.3 | 4.8 | 2.5 | 4.0 | 2.5 | 1.9 | 0.0 | 4.1 | |
| Total | | 2 | 249 | 604 | 340 | 226 | 136 | 86 | 108 | 0 | 1 751 |
| | | 1.7 | 6.0 | 7.0 | 4.7 | 4.3 | 3.3 | 3.1 | 2.2 | 0.0 | 4.7 |
| Females | European/Pakeha | 9 | 632 | 413 | 168 | 104 | 39 | 24 | 29 | 0 | 1 418 |
| | | 2.8 | 6.2 | 5.0 | 3.7 | 3.4 | 1.9 | 1.6 | 1.6 | 0.0 | 4.5 |
| | Māori | 11 | 229 | 94 | 46 | 15 | 8 | 7 | 2 | 0 | 412 |
| | | 3.0 | 4.8 | 3.0 | 2.7 | 1.5 | 1.3 | 1.7 | 0.7 | 0.0 | 3.3 |
| | Pacific Peoples | 0 | 18 | 29 | 12 | 5 | 5 | 2 | 1 | 0 | 72 |
| | | 0.0 | 3.9 | 4.2 | 2.9 | 2.3 | 3.1 | 2.9 | 0.7 | - | 3.3 |
| | Other | 0 | 23 | 40 | 37 | 9 | 6 | 1 | 0 | 0 | 116 |
| | 0.0 | 4.0 | 3.8 | 3.6 | 1.2 | 1.4 | 0.3 | 0.0 | - | 2.5 | |
| Unknown | 0 | 5 | 8 | 6 | 2 | 4 | 2 | 1 | 0 | 28 | |
| | 0.0 | 4.0 | 4.1 | 5.8 | 2.5 | 4.1 | 2.3 | 1.3 | 0.0 | 3.6 | |
| Total | | 20 | 907 | 584 | 269 | 135 | 62 | 36 | 33 | 0 | 2 046 |
| | | 2.8 | 5.6 | 4.4 | 3.4 | 2.6 | 1.8 | 1.5 | 1.2 | 0.0 | 3.9 |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 26. Cont. number of cases and disease rates¹ by age, sex and ethnicity, SHCs, 2007

| | | 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 | 5 | 3 | 4 | 8 | 12 | 0 | 37 |
| | | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 0.4 | 0.0 | 0.2 |
| | Māori | 0 | 0 | 0 | 1 | 0 | 2 | 1 | 0 | 0 | 4 |
| | | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 1.2 | 0.9 | 0.0 | 0.0 | 0.2 |
| | Pacific Peoples | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 0 | 0 | 4 |
| | | 0.0 | 0.0 | 1.3 | 0.0 | 0.0 | 1.6 | 3.6 | 0.0 | - | 0.7 |
| | Other | 0 | 1 | 2 | 5 | 3 | 2 | 2 | 5 | 0 | 20 |
| | 0.0 | 0.6 | 0.3 | 0.6 | 0.5 | 0.5 | 0.6 | 1.0 | 0.0 | 0.6 | |
| Unknown | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | |
| | 0.0 | 0.0 | 0.0 | 2.5 | 0.0 | 0.0 | 4.2 | 0.0 | 0.0 | 1.0 | |
| Total | | 0 | 2 | 8 | 12 | 6 | 9 | 13 | 17 | 0 | 67 |
| | | 0.0 | 0.1 | 0.1 | 0.2 | 0.1 | 0.3 | 0.6 | 0.4 | 0.0 | 0.2 |
| Females | Pacific Peoples | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| | | 0.0 | 0.0 | 1.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.5 |
| | Other | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | - | 0.2 |
| Total | | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 0 | 4 |
| | | 0.0 | 0.0 | 0.7 | 0.5 | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 | 0.4 |
| <i>NSU (Males Only)</i> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 50 | 110 | 102 | 85 | 54 | 46 | 87 | 0 | 534 |
| | | 0.0 | 1.9 | 1.8 | 2.2 | 2.4 | 1.9 | 2.5 | 2.4 | 0.0 | 2.1 |
| | Māori | 1 | 15 | 31 | 22 | 8 | 10 | 6 | 3 | 0 | 96 |
| | | 1.8 | 1.3 | 2.4 | 2.3 | 1.2 | 2.4 | 2.1 | 1.1 | 0.0 | 1.9 |
| | Pacific Peoples | 0 | 4 | 15 | 18 | 5 | 5 | 1 | 0 | 0 | 48 |
| | | 0.0 | 2.6 | 3.9 | 5.6 | 2.3 | 3.3 | 1.4 | 0.0 | - | 3.3 |
| | Other | 0 | 2 | 11 | 12 | 10 | 13 | 3 | 13 | 0 | 64 |
| | 0.0 | 1.0 | 1.6 | 1.2 | 1.3 | 2.6 | 0.8 | 2.3 | 0.0 | 1.5 | |
| Unknown | 0 | 0 | 1 | 5 | 2 | 4 | 8 | 7 | 0 | 27 | |
| | 0.0 | 0.0 | 0.9 | 3.3 | 2.2 | 3.6 | 6.0 | 4.0 | 0.0 | 3.2 | |
| Total | | 1 | 71 | 168 | 159 | 110 | 86 | 64 | 110 | 0 | 769 |
| | | 0.9 | 1.7 | 2.0 | 2.2 | 2.1 | 2.1 | 2.3 | 2.3 | 0.0 | 2.1 |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Family Planning Clinic Data

Table 27. Number of cases and disease rates¹ by age, sex and ethnicity, FPCs, 2007

| | | 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 | 0 | 109 | 121 | 26 | 10 | 3 | 2 | 1 | 0 | 272 |
| | | 0.0 | 5.5 | 6.2 | 3.4 | 2.1 | 0.6 | 0.5 | 0.3 | 0.0 | 4.2 |
| | Māori | 0 | 37 | 32 | 7 | 5 | 2 | 0 | 0 | 0 | 83 |
| | | 0.0 | 11.6 | 14.5 | 10.6 | 7.2 | 6.1 | 0.0 | 0.0 | - | 10.5 |
| | Pacific Peoples | 0 | 15 | 17 | 4 | 2 | 1 | 0 | 0 | 0 | 39 |
| | | 0.0 | 7.9 | 12.1 | 6.5 | 5.0 | 4.2 | 0.0 | 0.0 | - | 8.0 |
| | Other | 0 | 27 | 29 | 10 | 2 | 3 | 1 | 1 | 0 | 73 |
| | 0.0 | 7.0 | 7.9 | 7.4 | 1.9 | 4.3 | 1.5 | 1.2 | - | 5.8 | |
| Unknown | 0 | 7 | 7 | 3 | 2 | 0 | 0 | 0 | 0 | 19 | |
| | 0.0 | 8.4 | 8.3 | 6.4 | 5.9 | 0.0 | 0.0 | 0.0 | 0.0 | 5.9 | |
| Total | | 0 | 195 | 206 | 50 | 21 | 9 | 3 | 2 | 0 | 486 |
| | | 0.0 | 6.6 | 7.5 | 4.7 | 2.9 | 1.4 | 0.6 | 0.5 | 0.0 | 5.2 |
| Females | European/Pakeha | 30 | 931 | 506 | 127 | 31 | 15 | 4 | 8 | 1 | 1 653 |
| | | 1.4 | 2.1 | 1.4 | 0.9 | 0.3 | 0.2 | 0.1 | 0.1 | 1.8 | 1.3 |
| | Māori | 19 | 325 | 130 | 42 | 12 | 4 | 1 | 1 | 0 | 534 |
| | | 2.3 | 4.6 | 3.3 | 2.7 | 1.2 | 0.5 | 0.3 | 0.4 | 0.0 | 3.4 |
| | Pacific Peoples | 4 | 106 | 92 | 32 | 8 | 4 | 1 | 0 | 0 | 247 |
| | | 2.0 | 3.6 | 3.9 | 3.2 | 1.4 | 1.1 | 0.4 | 0.0 | - | 3.2 |
| | Other | 13 | 214 | 133 | 46 | 16 | 9 | 5 | 1 | 0 | 437 |
| | 2.3 | 2.4 | 1.8 | 1.2 | 0.7 | 0.5 | 0.4 | 0.1 | 0.0 | 1.6 | |
| Unknown | 1 | 39 | 20 | 14 | 0 | 2 | 0 | 0 | 0 | 76 | |
| | 0.6 | 2.0 | 1.4 | 1.5 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 1.1 | |
| Total | | 67 | 1 615 | 881 | 261 | 67 | 34 | 11 | 10 | 1 | 2 947 |
| | | 1.7 | 2.5 | 1.7 | 1.2 | 0.5 | 0.3 | 0.2 | 0.1 | 0.7 | 1.6 |
| <i>Gonorrhoea</i> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 8 | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 20 |
| | | 0.0 | 0.5 | 0.7 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| | Māori | 0 | 6 | 6 | 2 | 1 | 0 | 0 | 0 | 0 | 15 |
| | | 0.0 | 3.0 | 4.8 | 5.4 | 2.2 | 0.0 | 0.0 | 0.0 | - | 3.1 |
| | Pacific Peoples | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| | | 0.0 | 3.5 | 0.0 | 0.0 | 5.6 | 0.0 | 0.0 | 0.0 | - | 2.1 |
| | Other | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | 0.0 | 1.1 | 2.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 1.0 | |
| Unknown | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | |
| | 0.0 | 0.0 | 4.3 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 2.1 | |
| Total | | 0 | 18 | 21 | 4 | 2 | 0 | 0 | 0 | 0 | 45 |
| | | 0.0 | 0.9 | 1.1 | 0.5 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.7 |
| Females | European/Pakeha | 2 | 46 | 21 | 4 | 0 | 0 | 0 | 0 | 1 | 74 |
| | | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.1 |
| | Māori | 3 | 19 | 9 | 1 | 2 | 0 | 0 | 0 | 0 | 34 |
| | | 0.4 | 0.3 | 0.3 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| | Pacific Peoples | 1 | 6 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 9 |
| | | 0.7 | 0.3 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.2 |
| | Other | 1 | 9 | 8 | 1 | 2 | 0 | 0 | 0 | 0 | 21 |
| | 0.2 | 0.1 | 0.2 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| Unknown | 0 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | |
| | 0.0 | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | |
| Total | | 7 | 84 | 42 | 7 | 4 | 0 | 0 | 0 | 1 | 145 |
| | | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.9 | 0.1 |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 27. cont. number of cases and disease rates¹ by age, sex and ethnicity, FPCs, 2007

| | | Age group (years) | | | | | | | Unk | Total | |
|---|-----------------|-------------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|
| | | <15 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | | | ≥44 |
| <u>Genital Herpes (first presentation)</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 4 | 8 | 6 | 3 | 1 | 0 | 1 | 1 | 24 |
| | | 0.0 | 0.3 | 0.6 | 1.0 | 0.8 | 0.3 | 0.0 | 0.5 | 25.0 | 0.5 |
| | Māori | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 1.6 |
| | Other | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 4 |
| | | 0.0 | 1.1 | 1.0 | 2.4 | 3.1 | 0.0 | 0.0 | 0.0 | - | 1.3 |
| | Unknown | 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 | - | 2.6 | |
| Total | | 0 | 5 | 11 | 7 | 4 | 1 | 0 | 1 | 1 | 30 |
| | | 0.0 | 0.3 | 0.7 | 1.1 | 1.0 | 0.2 | 0.0 | 0.4 | 25.0 | 0.6 |
| Females | European/Pakeha | 2 | 29 | 24 | 9 | 7 | 4 | 2 | 9 | 2 | 88 |
| | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.2 | 3.6 | 0.1 |
| | Māori | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 6 |
| | | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 7.7 | 0.1 |
| | Pacific Peoples | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.1 |
| | Other | 0 | 11 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 16 |
| | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| Unknown | 0 | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 8 | |
| | 0.0 | 0.3 | 0.5 | 0.2 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | |
| Total | | 2 | 47 | 32 | 12 | 8 | 4 | 2 | 9 | 3 | 119 |
| | | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 2.8 | 0.1 |
| <u>Genital Warts (first presentation)</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 31 | 58 | 12 | 3 | 3 | 0 | 0 | 0 | 107 |
| | | 0.0 | 1.6 | 3.0 | 1.6 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 1.7 |
| | Māori | 0 | 6 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 11 |
| | | 0.0 | 3.0 | 3.0 | 0.0 | 2.5 | 0.0 | 0.0 | 0.0 | - | 2.3 |
| | Pacific Peoples | 0 | 2 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 7 |
| | | 0.0 | 1.8 | 5.0 | 0.0 | 5.9 | 0.0 | 0.0 | 0.0 | - | 2.7 |
| | Other | 0 | 3 | 14 | 3 | 1 | 0 | 0 | 0 | 0 | 21 |
| | 0.0 | 0.9 | 4.8 | 2.7 | 1.2 | 0.0 | 0.0 | 0.0 | - | 2.0 | |
| Unknown | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | |
| | 0.0 | 0.0 | 5.7 | 4.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 | |
| Total | | 0 | 42 | 82 | 16 | 6 | 3 | 0 | 0 | 0 | 149 |
| | | 0.0 | 1.6 | 3.3 | 1.7 | 1.0 | 0.5 | 0.0 | 0.0 | 0.0 | 1.8 |
| Females | European/Pakeha | 3 | 167 | 111 | 25 | 13 | 2 | 0 | 3 | 0 | 324 |
| | | 0.1 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 |
| | Māori | 0 | 32 | 13 | 7 | 1 | 0 | 0 | 0 | 0 | 53 |
| | | 0.0 | 0.5 | 0.3 | 0.5 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| | Pacific Peoples | 0 | 13 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 19 |
| | | 0.0 | 0.5 | 0.2 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | - | 0.3 |
| | Other | 1 | 30 | 17 | 4 | 2 | 1 | 0 | 0 | 0 | 55 |
| | 0.2 | 0.3 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.2 | |
| Unknown | 0 | 7 | 7 | 2 | 3 | 1 | 0 | 1 | 0 | 21 | |
| | 0.0 | 0.4 | 0.6 | 0.3 | 0.6 | 0.2 | 0.0 | 0.2 | 0.0 | 0.4 | |
| Total | | 4 | 249 | 153 | 38 | 20 | 4 | 0 | 4 | 0 | 472 |
| | | 0.1 | 0.4 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.3 |
| <u>Syphilis</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Females | European/Pakeha | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| | | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total | | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 2 |
| | | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| <u>NSU (Males Only)</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 2 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 10 |
| | | 0.0 | 0.2 | 0.6 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| | Other | 0 | 1 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 4 |
| | | 0.0 | 1.1 | 2.1 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | - | 1.2 |
| Unknown | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| | 0.0 | 0.0 | 0.0 | 25.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 | |
| Total | | 0 | 3 | 8 | 3 | 1 | 0 | 0 | 0 | 0 | 15 |
| | | 0.0 | 0.3 | 0.7 | 0.7 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Student & Youth Health Clinic Data

Table 28. Number of cases and disease rates¹ by age, sex and ethnicity, SYHCs, 2007

| | | 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 | 0 | 39 | 81 | 13 | 2 | 1 | 0 | 1 | 0 | 137 |
| | | 0.0 | 0.7 | 0.7 | 0.5 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.6 |
| | Māori | 1 | 24 | 25 | 6 | 0 | 0 | 0 | 0 | 0 | 56 |
| | | 0.6 | 3.2 | 2.0 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 |
| | Pacific Peoples | 0 | 4 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 15 |
| | | 0.0 | 5.3 | 2.7 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | - | 1.7 |
| | Other | 0 | 3 | 13 | 2 | 0 | 0 | 0 | 0 | 0 | 18 |
| | 0.0 | 0.3 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.2 | |
| Unknown | 0 | 6 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | |
| | 0.0 | 5.5 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| Total | | 1 | 76 | 133 | 22 | 2 | 1 | 0 | 1 | 0 | 236 |
| | | 0.2 | 1.0 | 0.7 | 0.4 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | 0.4 |
| Females | European/Pakeha | 7 | 182 | 186 | 17 | 3 | 1 | 1 | 1 | 0 | 398 |
| | | 2.0 | 0.9 | 0.5 | 0.3 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.6 |
| | Māori | 10 | 112 | 55 | 12 | 4 | 1 | 0 | 0 | 0 | 194 |
| | | 7.1 | 4.7 | 1.5 | 1.0 | 0.8 | 0.2 | 0.0 | 0.0 | 0.0 | 2.0 |
| | Pacific Peoples | 0 | 12 | 20 | 4 | 0 | 0 | 0 | 1 | 0 | 37 |
| | | 0.0 | 2.4 | 2.0 | 1.9 | 0.0 | 0.0 | 0.0 | 0.7 | - | 1.8 |
| | Other | 1 | 13 | 28 | 8 | 2 | 0 | 0 | 0 | 0 | 52 |
| | 0.7 | 0.6 | 0.3 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | |
| Unknown | 0 | 11 | 11 | 2 | 1 | 0 | 0 | 0 | 0 | 25 | |
| | 0.0 | 4.8 | 1.6 | 0.8 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| Total | | 18 | 330 | 300 | 43 | 10 | 2 | 1 | 2 | 0 | 706 |
| | | 2.8 | 1.3 | 0.6 | 0.4 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.5 |
| <i>Gonorrhoea</i> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 6 | 8 | 2 | 0 | 0 | 0 | 0 | 0 | 16 |
| | | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| | Māori | 0 | 4 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 7 |
| | | 0.0 | 1.0 | 0.2 | 0.5 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.4 |
| | Pacific Peoples | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | | 0.0 | 2.6 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.6 |
| Unknown | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| | 0.0 | 12.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total | | 0 | 12 | 11 | 3 | 0 | 1 | 0 | 0 | 0 | 27 |
| | | 0.0 | 0.3 | 0.1 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 |
| Females | European/Pakeha | 1 | 8 | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 15 |
| | | 0.5 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | Māori | 3 | 11 | 0 | 2 | 1 | 0 | 0 | 0 | 0 | 17 |
| | | 3.5 | 0.7 | 0.0 | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| | Pacific Peoples | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | | 0.0 | 1.4 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.5 |
| | 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 | 1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| | 0.0 | 1.4 | 1.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total | | 4 | 21 | 9 | 3 | 2 | 0 | 0 | 0 | 0 | 39 |
| | | 1.3 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 28. cont. number of cases and disease rates¹ by age, sex and ethnicity, SYHCs, 2007

| | | Age group (years) | | | | | | | | | |
|---|-----------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|------------|--------------|
| | | <u><15</u> | <u>15-19</u> | <u>20-24</u> | <u>25-29</u> | <u>30-34</u> | <u>35-39</u> | <u>40-44</u> | <u>>44</u> | <u>Unk</u> | <u>Total</u> |
| <u>Genital Herpes (first presentation)</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| | | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| | Māori | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| | | 0.0 | 0.7 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| | Other | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| | | 0.0 | 0.0 | 0.1 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.1 |
| | Unknown | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 2 |
| | 0.0 | 0.0 | 1.1 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total | | 0 | 4 | 7 | 3 | 0 | 0 | 0 | 0 | 0 | 14 |
| | | 0.0 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Females | European/Pakeha | 0 | 22 | 25 | 7 | 1 | 0 | 1 | 0 | 0 | 56 |
| | | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.1 |
| | Māori | 0 | 5 | 5 | 2 | 0 | 1 | 0 | 0 | 0 | 13 |
| | | 0.0 | 0.3 | 0.2 | 0.2 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.2 |
| | Pacific Peoples | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.5 |
| | Other | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.1 | |
| Unknown | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | |
| | 0.0 | 2.9 | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total | | 0 | 28 | 34 | 10 | 1 | 1 | 1 | 0 | 0 | 75 |
| | | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| <u>Genital Warts (first presentation)</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 10 | 39 | 4 | 0 | 0 | 0 | 0 | 0 | 53 |
| | | 0.0 | 0.2 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| | Māori | 0 | 3 | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 10 |
| | | 0.0 | 0.7 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 33.3 | 0.5 |
| | Pacific Peoples | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 1.0 |
| | Other | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.2 | |
| Unknown | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | |
| | 0.0 | 2.8 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| Total | | 0 | 14 | 54 | 4 | 0 | 0 | 0 | 0 | 1 | 73 |
| | | 0.0 | 0.2 | 0.4 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 |
| Females | European/Pakeha | 0 | 42 | 41 | 4 | 0 | 0 | 0 | 2 | 0 | 89 |
| | | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |
| | Māori | 0 | 8 | 8 | 2 | 0 | 0 | 0 | 0 | 1 | 19 |
| | | 0.0 | 0.4 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.3 |
| | Pacific Peoples | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| | | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.4 |
| | Other | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 5 |
| | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | |
| Unknown | 0 | 3 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | |
| | 0.0 | 1.3 | 1.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total | | 0 | 53 | 65 | 7 | 0 | 0 | 0 | 2 | 1 | 128 |
| | | 0.0 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |
| <u>NSU (Males Only)</u> | | | | | | | | | | | |
| Males | European/Pakeha | 0 | 3 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 11 |
| | | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| | Māori | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | - | 0.4 |
| | Other | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 |
| | | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.6 | 0.0 | - | 0.1 |
| | Unknown | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | 0.0 | 0.0 | 0.0 | 0.0 | 33.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total | | 0 | 3 | 8 | 2 | 1 | 0 | 1 | 0 | 0 | 15 |
| | | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 0.1 |

¹ Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Appendix B: STI Surveillance Case definitions

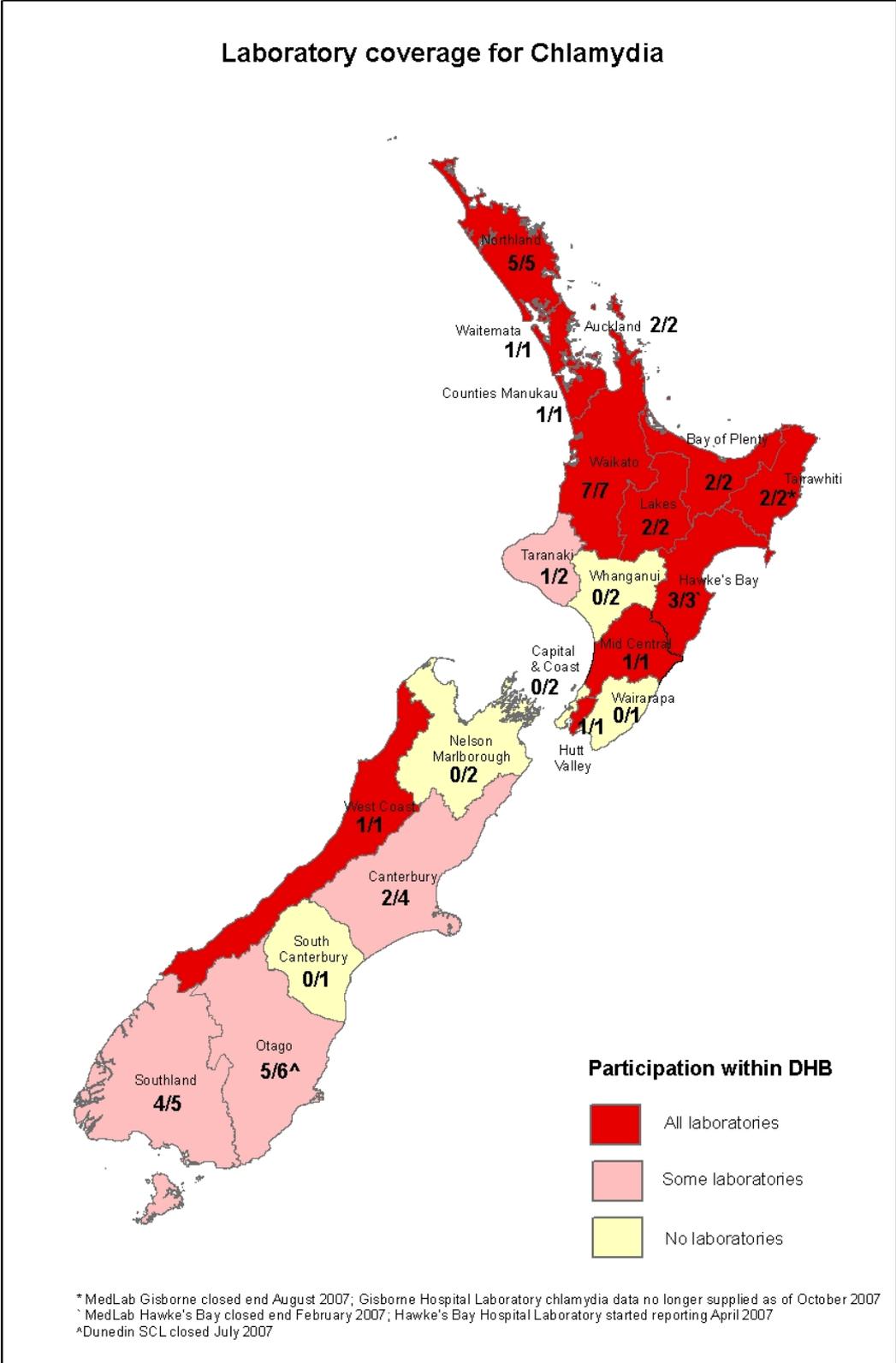
| | |
|---|---|
| Chlamydia | <p><i>Confirmed</i> Laboratory detection of <i>Chlamydia trachomatis</i> in a clinical specimen. Cases should be classified as:</p> <ol style="list-style-type: none"> 1. uncomplicated infection of the lower anogenital* tract * Includes urogenital and anorectal infection. 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

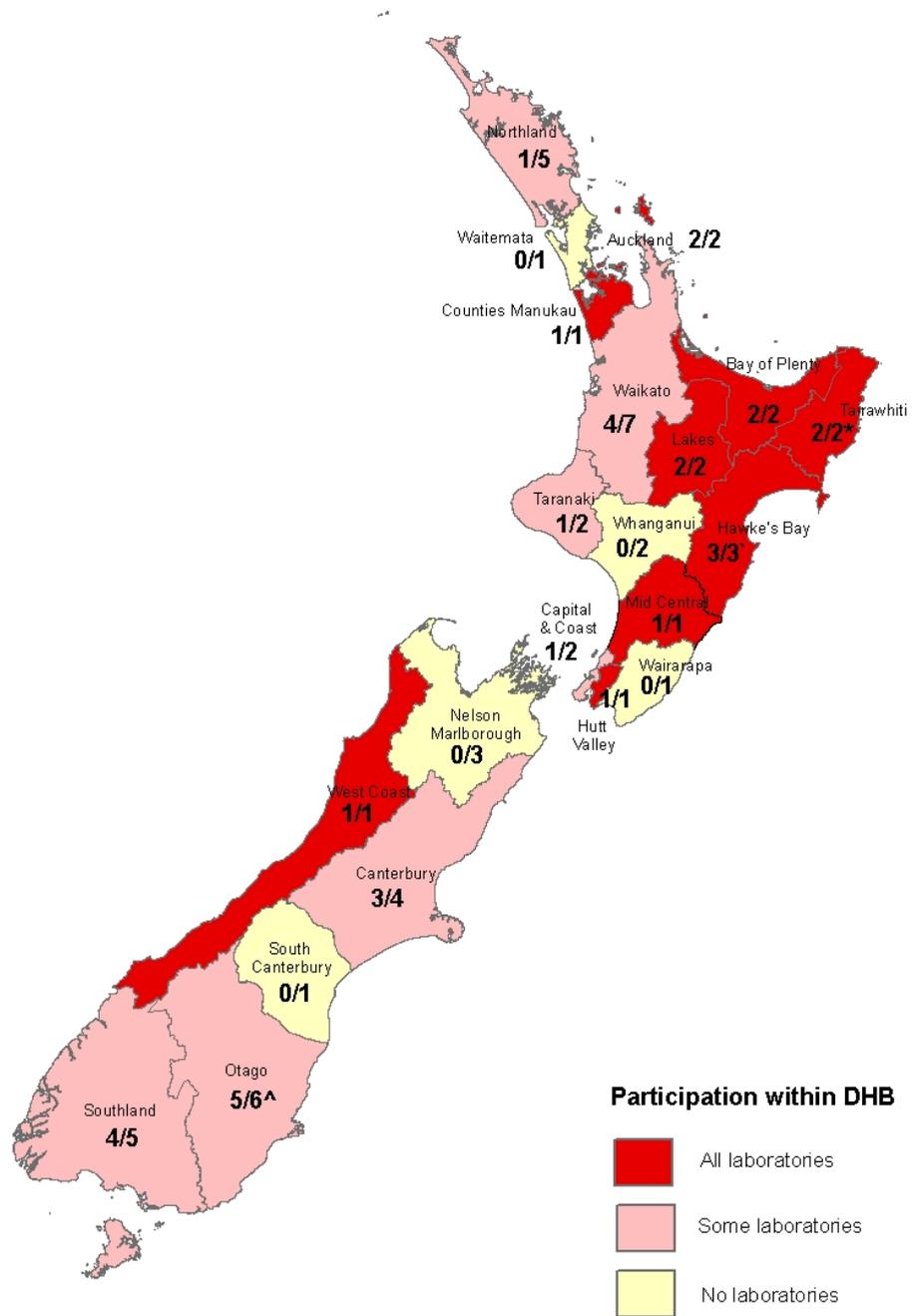
STI surveillance data is received from the following laboratories:

- Northland Pathology Laboratory, Northland
- Dargaville Hospital Laboratory, Northland (Chlamydia only)
- Kaitia Hospital Laboratory, Northland (Chlamydia only)
- Bay of Islands Hospital Laboratory, Northland (Chlamydia only)
- Whangarei Hospital Laboratory, Northland (Chlamydia only)
- North Shore Hospital Laboratory, Waitemata (Chlamydia only)
- 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 (Chlamydia only)
- Taumaranui Hospital, Waikato (Chlamydia only)
- Tokoroa Hospital, Waikato (Chlamydia only)
- 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 (Gonorrhoea only as of October 2007)
- MedLab Gisborne, Tairāwhiti (Closed end August 2007)
- Hastings Southern Community Laboratory, Hawke's Bay
- Hawke's Bay Hospital Laboratory, Hawke's Bay (Started reporting April 2007)
- MedLab Hawke's Bay, Hawke's Bay (Closed end February 2007)
- Taranaki MedLab, Taranaki
- MedLab Central, Mid Central
- Hutt Hospital Laboratory, Hutt Valley
- Aotea Pathology Laboratory, Capital and Coast/Hutt Valley (Gonorrhoea only)
- Grey Hospital Laboratory, West Coast
- Canterbury Health Laboratories, Canterbury (Gonorrhoea only)
- Christchurch Southern Community Laboratory, Canterbury
- Ashburton Southern Community Laboratory, Canterbury
- Oamaru Southern Community Laboratory, Otago
- Dunedin Southern Community Laboratory, Otago (Closed July 2007)
- Otago Southern Community Laboratory, Otago
- Clyde Southern Community Laboratory, Otago
- 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



* MedLab Gisborne closed end August 2007

^ MedLab Hawke's Bay closed end February 2007; Hawke's Bay Hospital Laboratory started reporting April 2007

^ Dunedin SCL closed July 2007