

**Sexually Transmitted Infections  
in New Zealand**

**Annual Surveillance Report  
2008**

Prepared as part of a Ministry of Health  
Contract for scientific services

By

STI Surveillance Team  
Population and Environmental Health Group  
Institute of Environmental Science and Research Limited

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# Summary

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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 three 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 2004 to 2008 the number of cases of chlamydia and gonorrhoea diagnosed at SHCs increased by 25.8% and 29.1% respectively. Over the same time period clinic visits increased by 1.3%.
- From 2004 to 2007 the number of genital herpes infections diagnosed at SHCs remained relatively constant, fluctuating between 726 and 746 cases and increased to 832 cases in 2008.
- Genital warts remain the most common viral infection diagnosed and in SHCs the rate was highest in the 15 to 19 years age group for males and females.
- SHCs reported 89 cases of infectious syphilis in 2008, an increase of 25.4% from 2007.
- The total number of cases of non-specific urethritis (NSU) reported in 2008 by SHCs was 691. This is a 10.1% decrease from 2007 (769 cases) and a 26.7% decrease from 2004 (943 cases).
- Young people remain at high risk of STIs. In SHCs, 71.0% of chlamydia, 65.2% of gonorrhoea, 44.2% of genital herpes and 64.3% of genital warts cases were aged less than 25 years.
- In 2008, 724 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 11 039 SHC patients diagnosed with a STI in 2008, 1 196 patients (10.8%) were diagnosed with subsequent infections.

## ***Laboratory Surveillance: Key points***

- Over the last five years chlamydia rates have increased by 39.4% and gonorrhoea rates have increased by 11.4% 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 young people are at the greatest risk.
- STIs continue to be diagnosed in infants.

# Introduction

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This report summarises the epidemiology of sexually transmitted infections (STIs) in 2008, and examines trends since 2004. 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), within the University of Otago, and only a brief summary of their 2008 data 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. This is for a number of reasons including the stability of both the number of SHCs across New Zealand and the number participating in the surveillance programme, and because SHC data includes ethnicity.

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 reported incidence of chlamydia and gonorrhoea is nearly three 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 2008 is included together with some discussion of trends in all STIs from 2004. Possible factors underlying the observed distribution and trends are discussed.

# Methods

All results and analyses are based on data submitted prior to 16 March 2009. 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 A). 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 is 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 listed in Table 1 and case definitions are presented in Appendix A.

## 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 <sup>st</sup> diagnosis per month)	Uncomplicated lower anogenital, PID/Epididymitis, other site
Gonorrhoea	Confirmed or probable (1 <sup>st</sup> diagnosis per month)	Uncomplicated urogenital or anorectal, PID/Epididymitis, pharynx, other site
Genital warts	1 <sup>st</sup> diagnosis at reporting clinic	
Genital herpes	1 <sup>st</sup> 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. However, 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 that 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 2004 to 2008 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***

STI surveillance data was provided by 27 SHCs, 37 FPCs and 17 SYHCs to ESR for the period, January to December 2008. FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods. One SHCs and two SYHCs provided less than 10 of the 12 months data requested for 2008. One new FPC opened during 2008 therefore also provided less than 10 of the 12 months data.

Of the 18 laboratories in the Auckland, Waikato and BOP regions, chlamydia data was provided for all laboratories and gonorrhoea data for 11/16 (68.8%) of laboratories.

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

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 laboratories 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 84 746 clinic visits during 2008, 58.1% of which were by females. Compared to 2007, the number of clinic visits decreased by 5.0% in 2008.

Age and ethnicity were not recorded for 0.1% and 2.4% of clinic attendees, respectively. Where age and ethnicity information were provided, 59.7% were aged less than 25 years, 66.4% were of European ethnicity, 19.7% were Māori, 3.9% were Pacific Peoples and 10.0% were Other ethnic groups.

#### STI diagnosis at SHCs

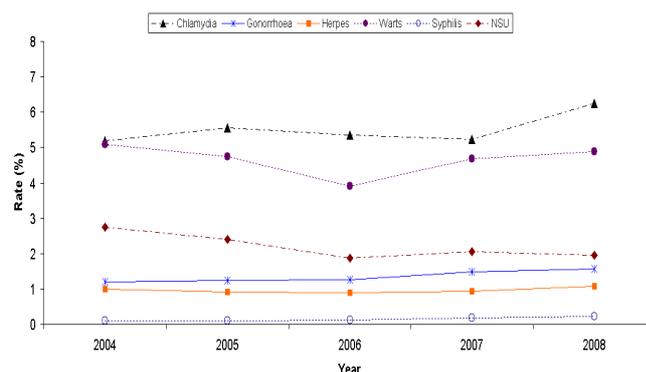
In 2008, a total of 11 220 STI cases were diagnosed, representing a clinic visit rate of 13.2% in SHC attendees, with chlamydia being the most commonly reported STI (see Table 2).

There were 4 970 cases of chlamydia and 910 cases of gonorrhoea diagnosed at SHCs. No cases of chancroid, GI or LGV were reported during 2008.

Figures 1 and 2 show the infection clinic visit rates for the main STIs reported by SHCs from 2004 to 2008 by sex. Male and female combined clinic visit rates increased in all STIs from 2007 to 2008 except for NSU. The highest increase was observed in genital herpes (17.2%).

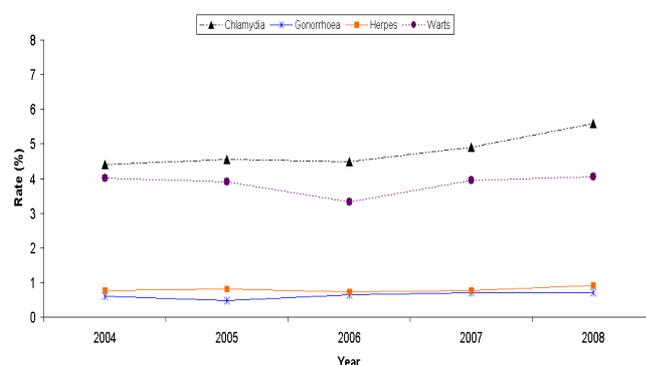
**Figure 1. Male STI clinic visit rates diagnosed at SHCs: 2004 to 2008**

Denominator is the number of male clinic visits



**Figure 2. Female STI clinic visit rates diagnosed at SHCs: 2004 to 2008**

Denominator is the number of female clinic visits



**Table 2. Number of STI diagnoses, clinic visit rates and age comparisons at SHCs, 2008**

Infection	Cases	Rate% <sup>†</sup>	Mean age (years)	Age range (years)
Chlamydia	4 970	5.9	23	(7-77)
Gonorrhoea	910	1.1	24	(7-72)
Genital herpes (first presentation)	832	1.0	29	(14-67)
Genital warts (first presentation)	3 728	4.4	25	(7-89)
Syphilis	89	0.1	37	(18-74)
NSU (males only)	691	1.9	32	(15-81)
<b>STI cases</b>	<b>11 220</b>	<b>13.2</b>	-	-
Total clinic visits	84 746	-	-	-

<sup>†</sup> Cases / total number of clinic visits. For NSU the denominator is male clinic visits only.

## Family Planning Clinics (FPCs)

### FPC attendees

FPCs reported 185 178 clinic visits during 2008, 95.1% of which were by females. Compared to 2007, the number of clinic visits decreased by 3.5% in 2008.

Age and ethnicity were not recorded for 0.04% and 4.7% of clinic attendees, respectively. Where age and ethnicity information were provided, 68.4% were aged less than 25 years, 70.2% were of European ethnicity, 10.8% were Māori, 4.4% were Pacific Peoples and 14.6% were Other ethnic groups.

### STI diagnosis at FPCs

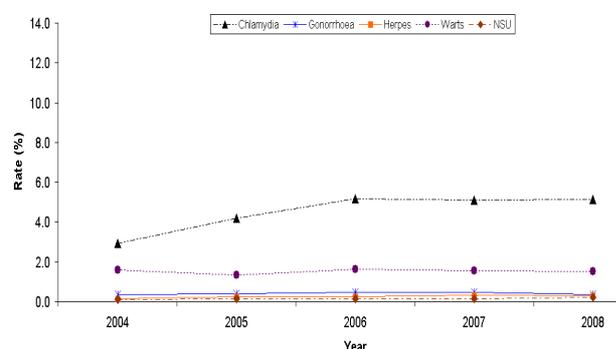
In 2008, a total of 4 454 cases were diagnosed, representing a clinic visit rate of 2.4% in FPC attendees with chlamydia being the most commonly reported STI (see Table 3).

There were 3 545 cases of chlamydia and 180 cases of gonorrhoea diagnosed at FPCs. No cases of syphilis, chancroid, GI or LGV were reported during 2008.

Figures 3 and 4 show the infection clinic visit rates for the main STIs reported by FPCs from 2004 to 2008 by sex. Over this time period, clinic visit rates of chlamydia increased for both sexes, doubling for females. However, there was little change in the other STI clinic visit rates for either sex.

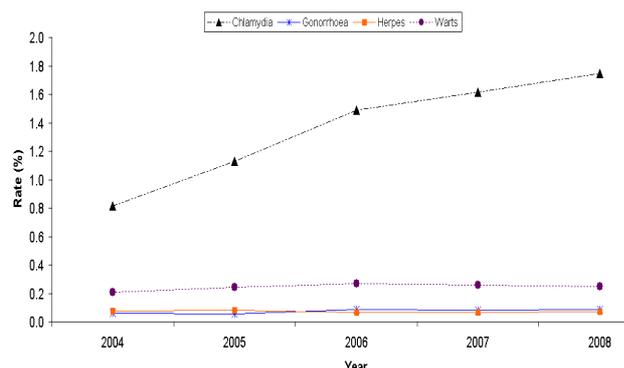
**Figure 3. Male STI clinic visit rates diagnosed at FPCs: 2004 to 2008**

Denominator is the number of male clinic visits



**Figure 4. Female STI clinic visit rates diagnosed at FPCs: 2004 to 2008**

Denominator is the number of female clinic visits



**Table 3. Number of STI diagnoses, clinic visit rates and age comparisons at FPCs, 2008**

Infection	Cases	Rate% <sup>†</sup>	Mean age (years)	Age range (years)
Chlamydia	3 545	1.9	20	(12-50)
Gonorrhoea	180	0.1	20	(14-35)
Genital herpes (first presentation)	145	0.1	24	(15-52)
Genital warts (first presentation)	573	0.3	21	(14-55)
Syphilis	0	-	-	-
NSU (males only)	11	0.1	25	(19-45)
<b>STI cases</b>	<b>4 454</b>	<b>2.4</b>	-	-
Total clinic visits	185 178	-	-	-

<sup>†</sup> Cases / total number of clinic visits. For NSU the denominator is male clinic visits only.

## Student and Youth Health Clinics (SYHCs)

### *SYHC attendees*

SYHCs reported 242 319 clinic visits during 2008, 69.7% of which were by females. Compared to 2007, the number of clinic attendances increased by 12.0% in 2008.

Age and ethnicity were not reported for 33.2% and 35.2% 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, 78.2% were aged less than 25 years, 69.4% were of European ethnicity, 8.8% were Māori, 2.4% were Pacific Peoples and 19.5% were Other ethnic groups.

### *STI diagnosis at SYHCs*

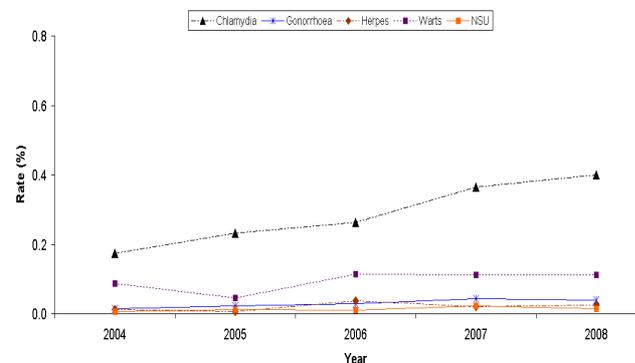
In 2008, a total 1 458 STI cases were diagnosed, representing a clinic visit rate of 0.6% in SYHC attendees, with chlamydia being the most commonly reported STI (see Table 4).

There were 1 056 cases of chlamydia and 64 cases of gonorrhoea diagnosed at SYHCs. No cases of syphilis, chancroid, GI or LGV were reported during 2008.

Figures 5 and 6 show the infection clinic visit rates for the main STIs reported by SYHCs from 2004 to 2008. The trend in chlamydia increased from 2004 to 2008 for both sexes but remained similar for both sexes between this period for other STIs.

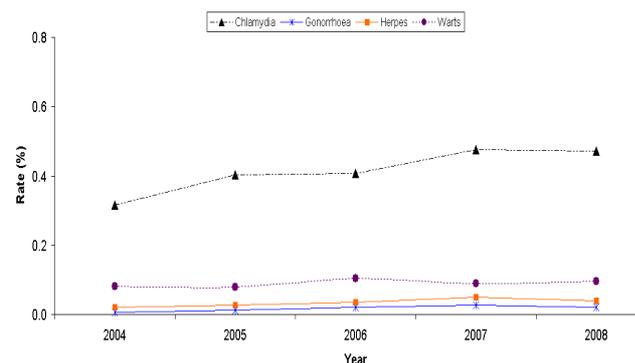
**Figure 5. Male STI clinic visit rates diagnosed at SYHCs: 2004 to 2008**

Denominator is the number of male clinic visits



**Figure 6. Female STI clinic visit rates diagnosed at SYHCs: 2004 to 2008**

Denominator is the number of female clinic visits



**Table 4. Number of STI diagnoses, clinic visit rates and age comparisons at SYHCs, 2008**

Infection	Cases	Rate% <sup>†</sup>	Mean age (years)	Age range (years)
Chlamydia	1 056	0.4	20	(13-54)
Gonorrhoea	64	0.0	20	(15-29)
Genital herpes (first presentation)	84	0.0	21	(15-30)
Genital warts (first presentation)	243	0.1	21	(14-42)
Syphilis	0	-	-	-
NSU (males only)	11	0.0	24	(20-34)
<b>STI cases</b>	<b>1 458</b>	<b>0.6</b>	-	-
Total clinic visits	242 319	-	-	-

<sup>†</sup> Cases / total number of clinic visits. For NSU the denominator is male clinic visits only.

# Chlamydia

In 2008, genital chlamydia infection was the most commonly diagnosed STI in New Zealand. Chlamydia infection is asymptomatic in approximately 25% of male and 70% of female 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 2008

Between 2007 and 2008 the number of cases of chlamydia increased by 10.3% in SHCs (4 504 to 4 970 cases), 3.3% in FPCs (3 433 to 3 545 cases) and 10.3% in SYHCs (957 to 1 056 cases).

Higher clinic visit rates were reported in males attending both SHCs and FPCs compared to females, with rates 1.1 times and 3.0 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 almost seven 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 lower testing rates in males than females. 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.

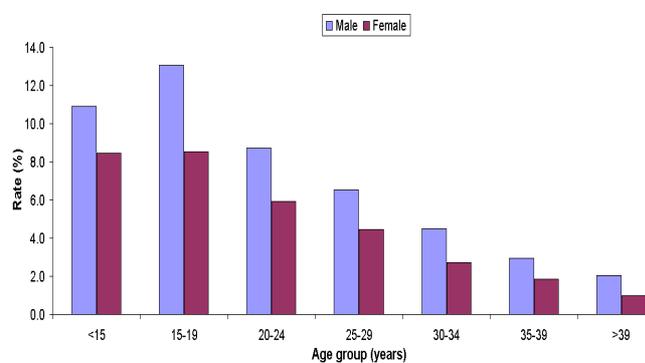
In 2008, 71.0% at SHCs, 85.3% at FPCs and 93.0% at SYHCs of the cases of chlamydia diagnosed were in those aged less than 25 years.

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 792, 197 and 138 cases respectively. For females, the highest numbers were in the 15 to 19 years age group for all clinic types, SHCs (1 344 cases), FPCs (1 617 cases) and SYHCs (411 cases). Figures 7 to 9 present the rates by age group for clinic settings.

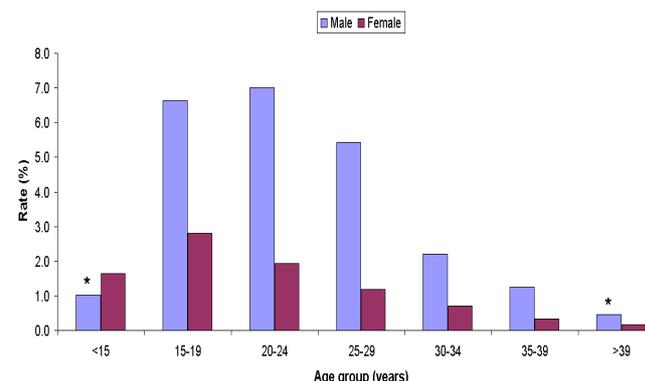
**Figure 7. Clinic visit rates of chlamydia diagnosed at SHCs by age group and sex, 2008**

Denominator is the number of clinic visits



**Figure 8. Clinic visit rates of chlamydia diagnosed at FPCs by age group and sex, 2008**

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 chlamydia cases by sex and health care setting, 2008**

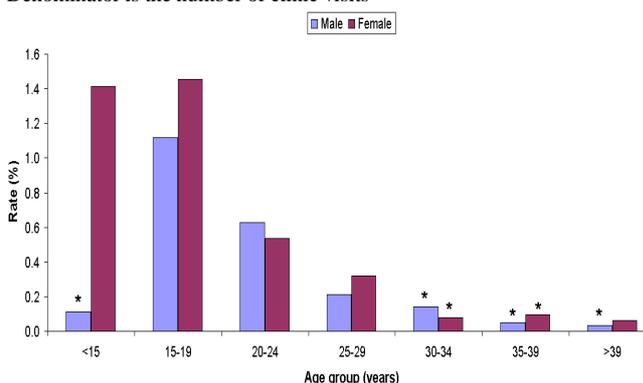
Clinic type	No. of cases			Clinic visit rate <sup>†</sup> (%)		
	Male	Female	Total	Male	Female	Total
SHCs	2 219	2 750	4 970	6.3	5.6	5.9
FPCs	466	3 079	3 545	5.1	1.7	1.9
SYHCs	261	795	1 056	0.4	0.5	0.4

<sup>†</sup> cases/number of clinic visits

Total includes cases with unknown sex.

**Figure 9. Clinic visit rates of chlamydia diagnosed at SYHCs by age group and sex, 2008**

Denominator is the number of clinic visits



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

Of the 4 970 cases of chlamydia in SHCs, 49.6% were European, 37.0% were Māori, 7.4% were Pacific Peoples, 4.6% were of Other ethnicity, and 1.3% were of unknown ethnicity. Of the 3 545 cases of chlamydia in FPCs, 50.8% were European, 22.4% were Māori, 14.0% were of Other ethnicity, 9.4% were Pacific Peoples and 3.4% were of unknown ethnicity. Of the 1 056 cases of chlamydia in SYHCs, 57.2% were European, 25.2% were Māori, 6.9% were of Other ethnicity, 5.4% were Pacific Peoples and 5.3% 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 – 11.3% vs. 4.5%, FPCs – 4.2% vs. 1.5% and SYHCs – 1.9% vs. 0.6%). Similarly, Pacific Peoples chlamydia clinic visit rates were 2.5 to 2.9 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 D for chlamydia site of infection data).

### Complicated infections

In 2008, 2.6% of cases of chlamydia in SHCs, 1.4% in FPCs and 0.7% in SYHCs were diagnosed with complicated infections (epididymitis in males and PID in females).

A total of 33 males (30 in SHCs, 1 in FPCs and 2 in SYHCs) were diagnosed with epididymitis, 57.6% of whom were aged less than 25 years. Of the males with complicated chlamydia, 33.3% were European, 45.5% were Māori, 9.1% were Pacific Peoples, 6.1%

were of Other ethnicity and 6.1% were of unknown ethnicity.

A total of 152 females (97 in SHCs, 50 in FPCs and 5 in SYHCs) were diagnosed with PID, 77.0% of whom were aged less than 25 years. Of the females with complicated chlamydia, 42.8% were European, 44.1% were Māori, 2.0% were Pacific Peoples, 8.6% were of Other ethnicity and 2.6% were of unknown ethnicity.

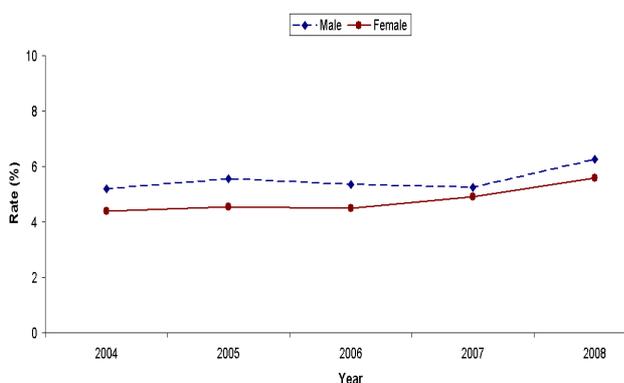
### Recent trends

From 2004 to 2008, the number of cases of chlamydia has increased by 25.8% in SHCs, doubled in FPCs and tripled in SYHCs. The clinic visit rate of chlamydia diagnosed at SHCs has increased by 20.5% in males and 27.0% in females (see Figure 10).

These trends are supported by the rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions, which was 815 per 100 000 population in 2008, an increase of 39.4% since 2004.

**Figure 10. Clinic visit rates of chlamydia diagnosed at SHCs: 2004 to 2008**

Denominator is the number of clinic visits



# Gonorrhoea

Infections due to *Neisseria gonorrhoeae* can cause dysuria and urethral discharge in males and vaginal discharge in females. Asymptomatic infection can occur in up to 5% of males and 50% of females [3]. 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].

Pacific Peoples, 4.6% were of Other ethnicity and 2.1% were of unknown ethnicity. Of the 180 cases of gonorrhoea in FPCs 39.4% were European, 32.2% were Māori, 12.8% were of Other ethnicity, 11.1% were Pacific Peoples and 4.4% were of unknown ethnicity. In all health care settings, over 50% of the cases were Māori and Pacific Peoples. See Table 19 (Appendix D) for gonorrhoea site of infection data.

## Cases of gonorrhoea in 2008

Between 2007 and 2008, the number of cases of gonorrhoea decreased by 1.6% in SHCs (925 compared to 910), 5.3% in FPCs (190 compared to 180) and 8.6% in SYHCs (70 compared to 64).

Higher clinic visit rates were reported in males attending SHCs, FPCs and SHYCs compared to females, with rates 2.3 times, 4.0 times and twice 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.

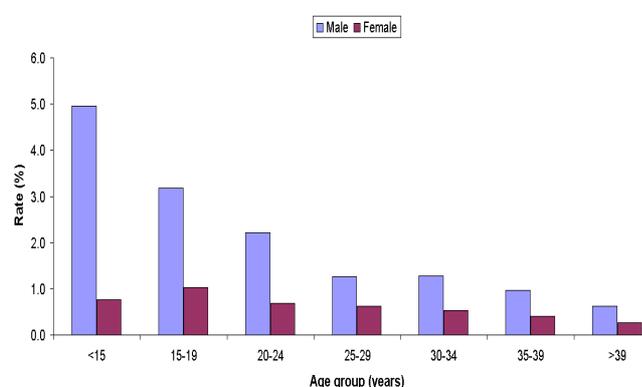
In 2008, 65.2% at SHCs, 83.9% at FPCs and 92.2% at SYHCs of the cases of gonorrhoea diagnosed were in those aged less than 25 years. The mean age of cases of gonorrhoea was 24 years in SHCs and 20 years in both FPCs and SYHCs.

In all clinic settings, the number of males with gonorrhoea was highest in the 20 to 24 years age group (202 cases in SHC, 14 cases in FPC and 15 cases in SHYC cases). In SHCs and FPCs, the number of females with gonorrhoea was highest in the 15 to 19 years age group (161 and 83 cases, respectively). However, in SYHCs the number was highest in the 20 to 24 years age group (16 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 910 cases of gonorrhoea in SHCs, 44.9% were Māori, 37.7% were European, 10.7% were

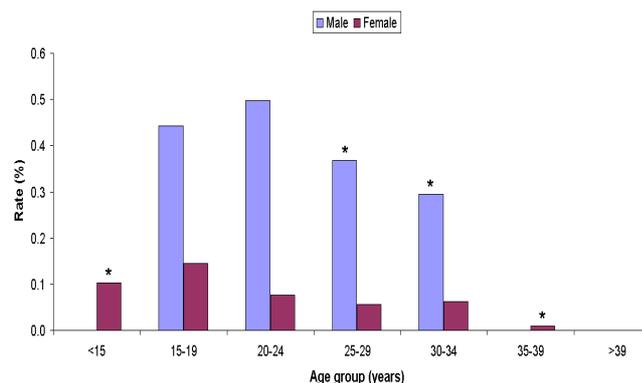
**Figure 11. Clinic visit rates of gonorrhoea diagnosed at SHCs by age group and sex, 2008**

Denominator is the number of clinic visits



**Figure 12. Clinic visit rates of gonorrhoea diagnosed at FPCs by age group and sex, 2008**

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 gonorrhoea cases by sex and health care setting, 2008**

Clinic type	No. of cases			Clinic visit rate <sup>†</sup> (%)		
	Male	Female	Total	Male	Female	Total
SHCs	558	352	910	1.6	0.7	1.1
FPCs	32	148	180	0.4	0.1	0.1
SYHCs	29	35	64	0.04	0.02	0.03

<sup>†</sup> cases/number of clinic visits

Total includes cases with unknown sex.

## Complicated infections

In 2008, 1.4% of cases of gonorrhoea in SHCs, 1.1% in FPCs and no cases in SYHCs were diagnosed with complicated infections (epididymitis in males and PID in females).

A total of 5 males (4 in SHCs and 1 in FPCs) were diagnosed with epididymitis, 80.0% of whom were aged less than 25 years. Of the males with complicated gonorrhoea, 40.0% were European, 40.0% Māori and 20% were Pacific Peoples.

A total of 10 females (9 in SHCs and 1 in FPCs) were diagnosed with PID, 40.0% of whom were aged less than 25 years. Of the females with complicated gonorrhoea, 10.0% were European, 80.0% were Māori and 10.0% were of unknown ethnicity.

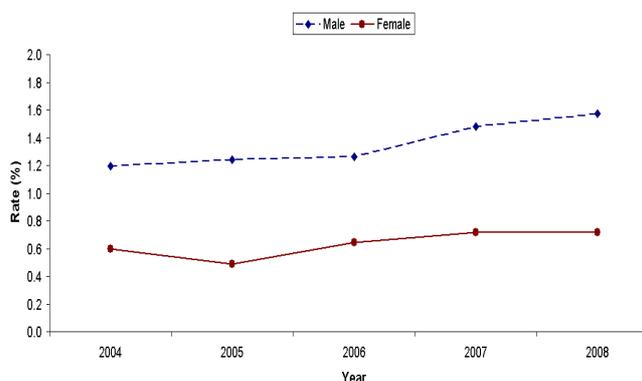
## Recent trends

From 2004 to 2008, the number of cases of gonorrhoea reported increased by 29.1% in SHCs (705 compared to 910), 41.7% in FPCs (127 compared to 180) and increased by almost five times in SYHCs (12 compared to 64). The clinic visit rate of gonorrhoea diagnosed at SHCs has increased by 31.6% in males and 19.5% in females (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 106 per 100 000 population in 2008, an increase of 11.4% since 2004.

**Figure 13. Clinic visit rates of gonorrhoea diagnosed at SHCs: 2004 to 2008**

Denominator is the number of clinic visits

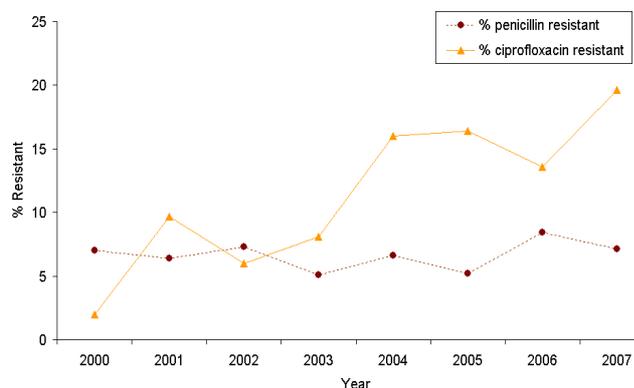


Data on ceftriaxone, ciprofloxacin, penicillin and tetracycline resistance among *N. gonorrhoeae* isolates is collected annually from community and hospital diagnostic microbiology laboratories, and collated at ESR to provide national estimates of resistance to these four antibiotics.

The latest data available is for 2007. In that year, the prevalence of ciprofloxacin resistance among *N. gonorrhoeae* was estimated to be 19.6%, penicillin resistance was 7.1%, and tetracycline resistance 31.9%. No resistance to ceftriaxone, the antibiotic of choice, was identified.

Ciprofloxacin resistance emerged in New Zealand at the beginning of this decade, with an increase from 2% in 2000 to 9.7% in 2001. There was a second large annual increase in 2004 to 16% resistance, and the prevalence of ciprofloxacin resistance has remained around this rate or higher since (Figure 14).

**Figure 14. Prevalence of penicillin and ciprofloxacin resistance among *N. gonorrhoeae*: 2000 to 2007**



# Genital Herpes (first presentation)

Genital herpes infection is caused by the *Herpes simplex* virus (HSV) types 1 or 2. HSV-2 is traditionally regarded as the primary cause of genital infection and HSV-1 is mainly associated with oral infections. However, HSV-1 has been increasingly associated with genital infection [4].

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 [1]. The ulcerative lesions of HSV facilitate the transmission of HIV infection [5].

## Cases of genital herpes in 2008

Between 2007 and 2008, the number of cases of genital herpes increased by 11.5% in SHCs (746 compared to 832) and decreased by 2.7% in FPCs (149 compared to 145) and 6.7% in SYHCs (90 compared to 84).

The case numbers of genital herpes were higher in females; 1.2 times higher in SHCs, 5.6 times higher in FPCs, 3.4 times higher in SYHCs (see Table 7).

In 2008, 44.2% at SHCs, 63.4% at FPCs and 90.5% 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, 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 (110, 6 and 12 cases, respectively). For females, the highest numbers were in the 20 to 24 years age group for SHCs (115 cases) and SYHCs (31 cases). In FPCs highest numbers were in the 15 to 19 years age group (43 cases). Figures 15 and 16 present the clinic visit rates by age group and sex.

In all health care settings the majority of cases of genital herpes were in those of European ethnicity

**Table 7. Number and clinic visit rates of genital herpes cases (first presentation) by sex and health care setting, 2008**

Clinic type	No. of cases			Clinic visit rate <sup>†</sup> (%)		
	Male	Female	Total	Male	Female	Total
SHCs	383	449	832	1.1	0.9	1.0
FPCs	22	123	145	0.2	0.1	0.1
SYHCs	19	65	84	0.03	0.04	0.03

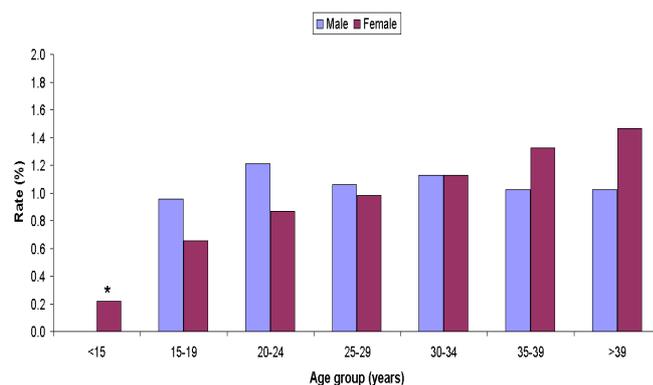
<sup>†</sup> cases/number of clinic visits

Total includes cases with unknown sex.

(SHCs – 74.9%, FPCs – 76.6% and SYHCs – 79.8%) with the clinic visit rates for genital herpes either similar or lower for Maori and Pacific Peoples compared with the European ethnic group.

**Figure 15. Clinic visit rates of genital herpes (first presentation) diagnosed at SHCs by age group and sex, 2008**

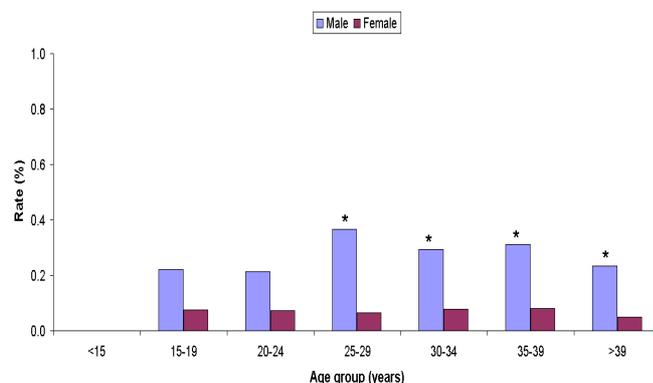
Denominator is the number of clinic visits



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

**Figure 16. Clinic visit rates of genital herpes (first presentation) diagnosed at FPCs by age group and sex, 2008**

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.

## Recent trends

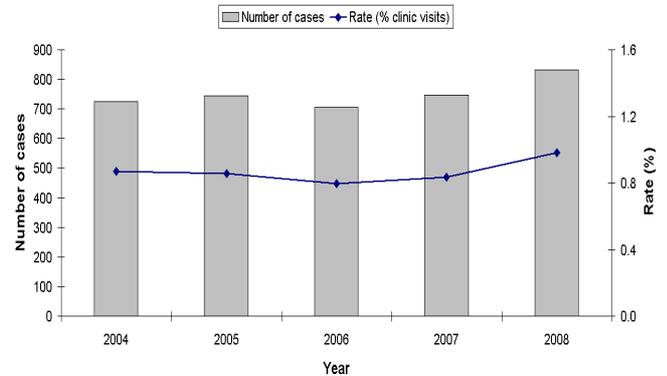
From 2004 to 2007, the number of cases of genital herpes reported by SHCs has fluctuated. However, the clinic visit rate has remained between 0.8% and 0.9% in SHCs. From 2007 to 2008, the number of cases of genital herpes increased by 11.5% in SHCs (746 to 832 cases) and the clinic visit rate increase was 17.4% (see Figure 17).

Reasons for the increase seen at SHCs in 2008 are unclear. Possibilities include greater awareness following a multimedia publicity and healthcare provider education campaign by the New Zealand Herpes Foundation, during 2008 or more widespread use of tests with higher diagnostic sensitivity.

Surveillance as reported here covers only the initial presentation of genital herpes at sentinel clinics. Therefore, this data is an under-estimate of the burden of disease caused by genital herpes. As many as one in five adults may have genital herpes due to HSV-2 but most will have asymptomatic or unrecognised disease. 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 and is more common in women [6]. HSV-1 seroprevalence studies do not distinguish between oral and genital infection sites which makes it much more difficult to generate estimates of the prevalence of genital HSV-1 infection. Nonetheless, it is recognised that HSV-1 accounts for a substantial proportion of diagnosed genital herpes infections, particularly amongst younger women [4].

**Figure 17. Case numbers and clinic visit rates of genital herpes (first presentation) diagnosed at SHCs: 2004 to 2008**

Denominator is the number of clinic visits



# Genital Warts (first presentation)

In 2008, 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 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 [7].

## Cases of genital warts in 2008

Between 2007 and 2008, the number of cases of genital warts decreased by 1.8% in SHCs (3 797 compared to 3 728) and 7.7% in FPCs (621 compared to 573). In contrast there was an increase of 17.4% in SYHCs (207 compared to 243).

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

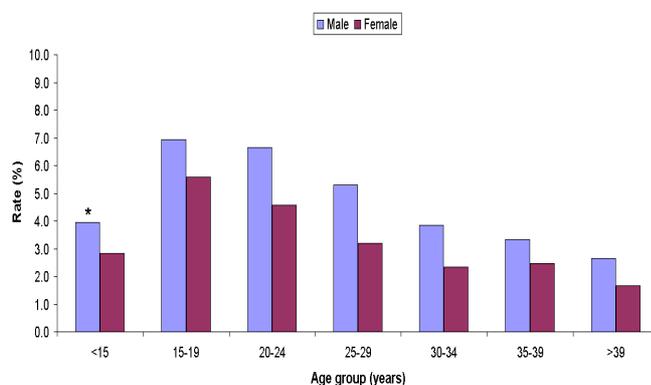
In 2008, 64.3% at SHCs, 83.4% at FPCs and 92.2% at SYHCs of the cases of genital warts diagnosed were in those aged less than 25 years. The mean age of cases of genital warts was 25 years in SHCs, and 21 years in both FPCs and SYHCs.

In SHCs, genital warts were most common in males aged 20 to 24 years (606 cases) and in females aged 15 to 19 years (881 cases). Similarly in FPCs case numbers of genital warts were highest in males aged 20 to 24 years (76 cases) and in females aged 15 to 19 years (218 cases). Figures 18 and 19 present the clinic visit rates by age group and sex.

In all health care settings the majority of cases of genital warts were in those of European ethnicity (SHCs – 69.7%, FPCs – 72.9% and SYHCs – 66.3%).

**Figure 18. Clinic visit rates of genital warts (first presentation) diagnosed at SHCs by age group and sex, 2008**

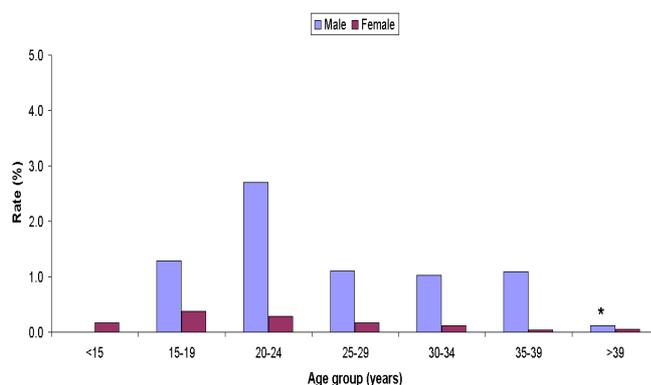
Denominator is the number of clinic visits



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

**Figure 19. Clinic visit rates of genital warts (first presentation) diagnosed at FPCs by age group and sex, 2008**

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 genital warts cases (first presentation) by sex and health care setting, 2008**

Clinic type	No. of cases			Clinic visit rate <sup>†</sup> (%)		
	Male	Female	Total	Male	Female	Total
SHCs	1 731	1 996	3 728	4.9	4.1	4.4
FPCs	138	434	573	1.5	0.2	0.3
SYHCs	82	161	243	0.1	0.1	0.1

<sup>†</sup> cases/number of clinic visits

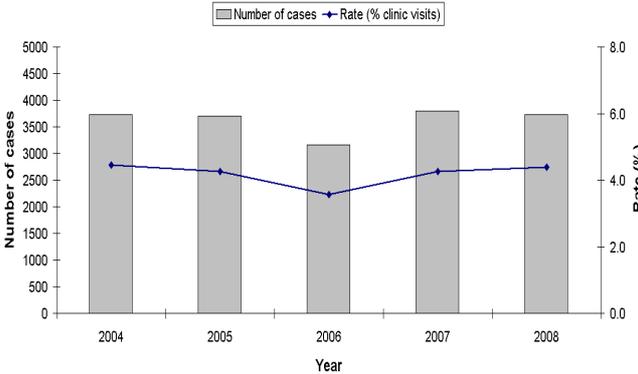
Total includes cases with unknown sex.

## Recent trends

From 2004 to 2008, both the number of cases of genital warts reported by SHCs and the clinic visit rate have been fairly static except for a transitory decrease in 2006. The number of cases was the same in 2004 and in 2008 (3728 cases). The clinic visit rate of genital warts reported by SHCs was 4.5% in 2004, 4.3% in 2005, 3.6% in 2006, 4.3% in 2007 and 4.4% in 2008 (see Figure 20).

**Figure 20. Case numbers and clinic visit rates of genital warts (first presentation) diagnosed at SHCs: 2004 to 2008**

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

## Cases of syphilis in 2008

In SHCs, 89 cases of syphilis were reported in 2008 compared with 71 cases in 2007. The clinic visit rate of syphilis at SHCs was 0.1%. In 2008, no cases of syphilis were reported in FPCs or SYHCs.

The mean age of cases of syphilis was 37 years (range 18 to 74 years). Of the 89 cases of syphilis reported in 2008, 76 (85.4%) were male and 13 (14.6%) were female. Figure 21 presents the clinic visit rates by age group and sex.

In SHCs, the highest number of syphilis cases for males was in the 40+ years age group (29 cases with a clinic visit rate of 0.4%). For females, the highest number of cases was also in the 40+ years age group (5 cases, with a clinic visit rate of 0.1%).

Of the 76 males with syphilis in SHCs, 55.3% were European, 25.0% were of Other ethnicity, 9.2% were Māori, 6.6% were Pacific Peoples and 3.9% were of unknown ethnicity. Of the 13 females with syphilis in SHCs, 38.5% were Pacific Peoples, 23.1% were European, 23.1% were Māori and 15.4% were of Other ethnicity.

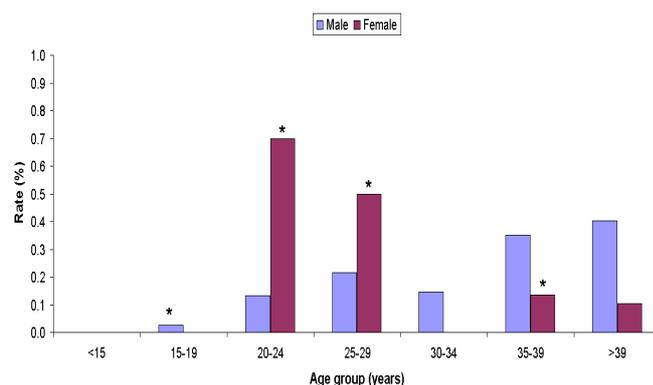
## Recent trends

In 2008, the majority of cases of syphilis (59.6%) occurred in the Auckland (34 cases) and the greater Wellington (19 cases) regions.

Although the overall number of cases of syphilis remains low compared to other STIs, case numbers almost doubled (46 to 89 cases) between 2004 and 2008 (see Figure 22).

**Figure 21. Clinic visit rates of syphilis diagnosed at SHCs by age group and sex, 2008**

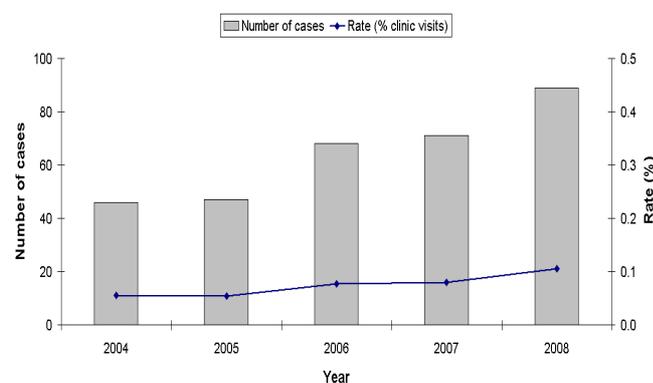
Denominator is the number of clinic visits



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

**Figure 22. Case numbers and clinic visit rates of syphilis diagnosed at SHCs: 2004 to 2008**

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.

## Cases of NSU in 2008

In 2008, there were 691 reported cases of NSU in SHCs, 11 cases in FPCs and 11 cases in SYHCs.

The mean age for cases of NSU was 32 years in SHCs (range 15 to 81 years), 25 years in FPCs (range 19 to 45 years), and 24 years (range 20 to 34 years) in SYHCs.

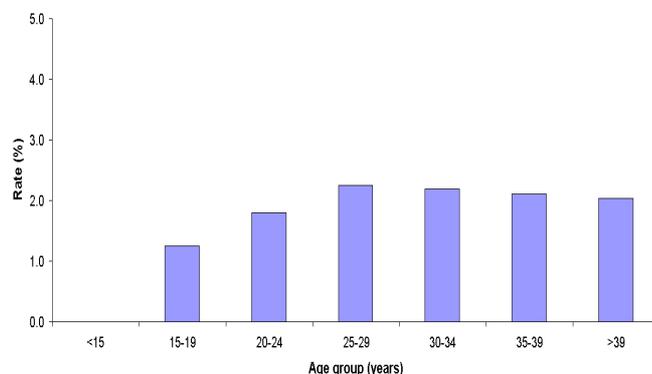
The highest NSU numbers in SHCs were observed in the 20 to 24 years age group with 164 cases. However, the highest NSU clinic visit rates in SHCs were observed in 25 to 29 years age groups with a clinic visit rate of 2.3% (see Figure 23).

## Recent trends

From 2004, the number of cases of NSU diagnosed at SHCs steadily decreased as did the clinic visit rate, more or less. The clinic visit rate of NSU reported by SHCs reduced from 2.7% in 2004 to 2.4% in 2005 and 1.9% in 2006. In 2007, the clinic visit rate of NSU increased to 2.1% and then reduced to 1.9% in 2008 (see Figure 24).

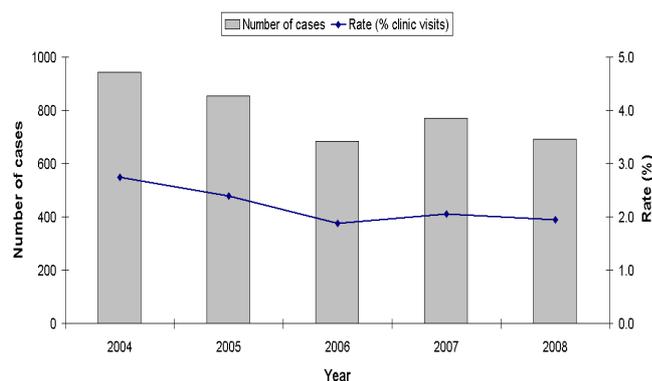
**Figure 23. Clinic visit rates of NSU diagnosed at SHCs by age group, 2008**

Denominator is the number of male clinic visits



**Figure 24. Case numbers and clinic visit rates of NSU diagnosed at SHCs: 2004 to 2008**

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 2008, 724 SHC visits were for concurrent infections. From these visits, 706 cases (97.5%) were diagnosed with two infections and 18 (2.5 %) 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, 2008**

Sex	One STI (%)	Two or more STIs (%)
Male	4 689 (50.3)	347 (47.9)
Female	4 641 (49.7)	377 (52.1)
Unknown	2	-
<b>Total</b>	<b>9 332</b>	<b>724</b>

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, 2008**

Age group (years)	One STI (%)	Two or more STIs (%)
<15	105 (1.1)	11 (1.5)
15-19	2 819 (30.2)	283 (39.1)
20-24	2 844 (30.5)	252 (34.8)
25-29	1 474 (15.8)	103 (14.2)
30-34	808 (8.7)	36 (5.0)
35-39	512 (5.5)	20 (2.8)
>39	764 (8.2)	19 (2.6)
Unknown	-	-
<b>Total</b>	<b>9 332</b>	<b>724</b>

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, 2008**

Ethnicity	Number of patients	% with one STI	% with two or more STIs
European	6 017	94.8	5.2
Māori	2 672	88.6	11.4
Pacific Peoples	553	89.9	10.1
Other	610	94.4	5.6
Unknown	204	92.6	7.4
<b>Total</b>	<b>10 056</b>		

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 48.7% of concurrent infections. Chlamydia and genital warts accounted for a further 34.3% of concurrent infections.

In those with three STIs diagnosed the combination of chlamydia, gonorrhoea and genital warts accounted for 66.7% of concurrent infections.

**Table 12. Number of patients with two concurrent STI diagnoses at SHCs, 2008**

STIs	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	344				
Genital herpes	43	8			
Genital warts	242	8	24		
Syphilis	4	3	1	2	
Non-specific urethritis (NSU)	NA	NA	7	20	0

Note: NA=not applicable

**Table 13. Number of patients with three concurrent STI diagnoses at SHCs, 2008**

First STI	Second STI	Third STI	Number of patients
Chlamydia	Gonorrhoea	Genital warts	12
Chlamydia	Gonorrhoea	Genital herpes	3
Chlamydia	Genital herpes	Genital warts	2
Chlamydia	Gonorrhoea	Syphilis	1

## Subsequent infections

Of the 11 039 SHC patients diagnosed with a STI in 2008, 1 196 patients (10.8%) were diagnosed with subsequent infections. Of these, 1 075 SHC patients were diagnosed with a STI twice in 2007, and a further 121 patients were diagnosed with an STI on three separate occasions in 2008.

Subsequent infections were more common among males (50.4%), young people aged less than 25 years (73.0%) and people of European ethnicity (47.8%). Māori were over-represented with 37.9% of subsequent infections in cases from this ethnic group.

Subsequent infections were diagnosed in 10.9% of male patients (603 out of 5 547), compared to 10.8% of female patients (593 out of 5 490). The majority

of males and females who suffered subsequent infections had an initial diagnosis of genital warts.

Subsequent infections were diagnosed in 15.2% of SHC patients aged less than 15 years and 12.9% of patients aged 15 to 19 years, compared with 7.0% of patients aged 30 years and older. Subsequent infections were diagnosed in 8.9% of SHC patients of European ethnicity, 14.8% of Māori ethnicity, 13.3% of Pacific Peoples ethnicity and 8.8% of Other ethnicity.

# Laboratory Surveillance

## Chlamydia

### Auckland region

In 2008, laboratories in the Auckland region tested 150 487 specimens for chlamydia, of which 10 426 (6.9%) specimens tested positive from 9 911 patients.

The overall rate for the region was 751 per 100 000 population. The rate in males (389 per 100 000) was almost a third of the rate in females (1 093 per 100 000).

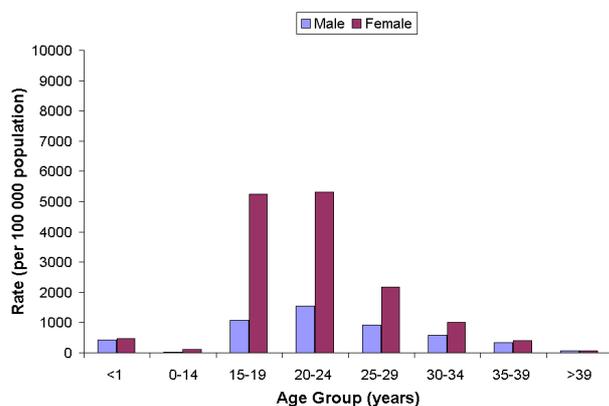
The mean age of cases of chlamydia was 23 years (median age 21 years, range 0 to 77 years). Sixty-eight per cent of all cases of chlamydia were aged less than 25 years.

The chlamydia rate for children aged less than one-year was 442 per 100 000 population (88 cases).

The highest male rate was observed in the 20 to 24 years age group, with a rate of 1 542 per 100 000 population, twice the regional total population rate. The highest female rate was observed in the 20 to 24 years age group, with a rate of 5 313 per 100 000 population, seven times the regional total population rate (see Figure 25).

**Figure 25. Rates of chlamydia in the Auckland region by age group and sex, 2008**

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



### Waikato region

In 2008, laboratories in the Waikato region tested 26 785 specimens for chlamydia, of which 2 885 (10.8%) specimens tested positive from 2 881 patients.

The overall rate for the region was 849 per 100 000 population. The rate in males (462 per 100 000) was almost a third of the rate in females (1 218 per 100 000).

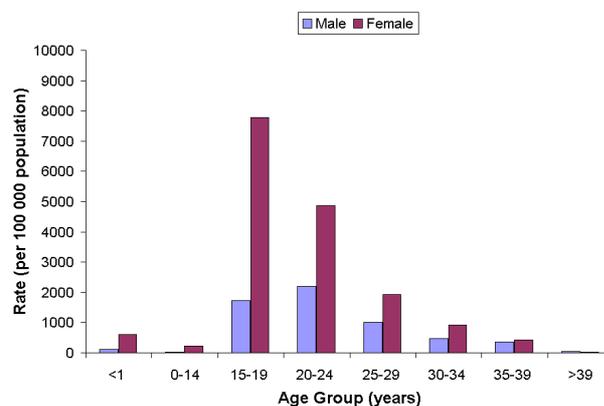
The mean age of cases of chlamydia was 21 years (median age 20 years, range 0 to 80 years). Seventy-nine per cent of all cases of chlamydia were aged less than 25 years.

The chlamydia rate for children aged less than one-year was 361 per 100 000 population (18 cases).

In males the rate was highest in the 20 to 24 years age group, with a rate of 2 190 per 100 000 population, nearly three times the regional total population rate. Comparatively, the highest female rate was observed in the 15 to 19 years age group, with a rate of 7 774 per 100 000 population, over nine times the regional total population rate (see Figure 26).

**Figure 26. Rates of chlamydia in the Waikato region by age group and sex, 2008**

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



## Bay of Plenty region

In 2008, laboratories in the BOP region tested 28 099 specimens for chlamydia, of which 3 112 (11.1%) specimens tested positive from 3 107 patients.

The overall rate for the region was 1 060 per 100 000 population. The rate in males (411 per 100 000) was a quarter the rate in females (1 664 per 100 000).

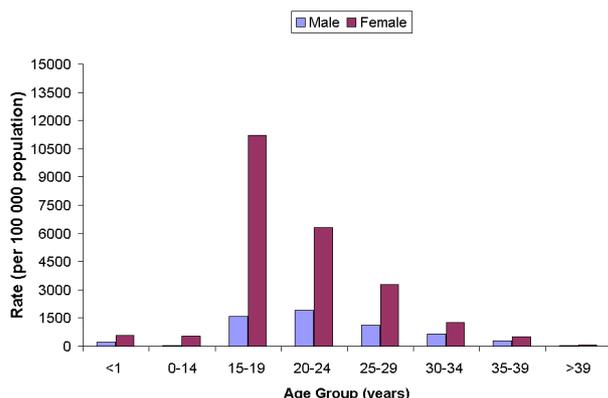
The mean age of cases of chlamydia was 21 years (median age 19 years, range 0 to 74 years). Eighty per cent of all cases of chlamydia were aged less than 25 years.

The chlamydia rate for children aged less than one-year was 402 per 100 000 population (17 cases).

In males the rate was highest in the 20 to 24 years age group, with a rate of 1 918 per 100 000 population, twice the regional total population rate. Comparatively, the highest female rate was observed in the 15 to 19 years age group, with a rate of 11 210 per 100 000 population, over 10 times the regional total population rate (see Figure 27).

**Figure 27. Rates of chlamydia in the BOP region by age group and sex, 2008**

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



## Other regions

In 2008, laboratories in other regions reported 9 198 (10.8%) test positive specimens for chlamydia from 8 744 patients.

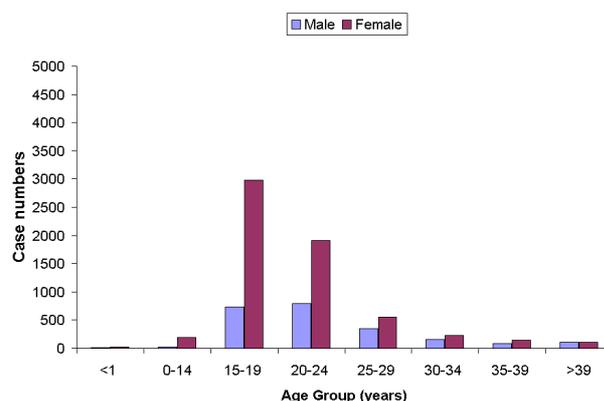
The majority of cases of chlamydia (72.1%) in these regions were in female.

The mean age of cases of chlamydia was 21 years (median age 20 years, range 0 to 81 years). Seventy-six per cent of all cases of chlamydia were aged less than 25 years.

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

The highest total chlamydia numbers were observed in the 15 to 19 years age group (3 715 cases; see Figure 28). The highest male numbers were in the 20 to 24 years age group (797 cases) and the highest female numbers were in the 15 to 19 years age group (2 978 cases).

**Figure 28. Case numbers of chlamydia in Other regions by age group and sex, 2008**



**Table 14. Case numbers and rates of chlamydia by region, age group and sex, 2008**

Age group (years)	Number of cases				Rate per 100 000 population		
	Male	Female	Unknown	Total	Male	Female	Total
<b>Auckland Region</b>							
<1	43	45	0	88	422	464	442
1-14	16	88	2	106	18	105	62
15-19	556	2575	6	3137	1073	5239	3107
20-24	783	2635	5	3423	1542	5313	3410
25-29	451	1099	3	1553	917	2175	1558
30-34	257	477	0	734	593	1011	811
35-39	162	211	0	373	345	400	374
40+	227	259	0	486	75	78	76
Unknown	3	4	4	11	-	-	-
<b>Total</b>	<b>2498</b>	<b>7393</b>	<b>20</b>	<b>9911</b>	<b>389</b>	<b>1093</b>	<b>751</b>
<b>Waikato region</b>							
<1	3	15	0	18	119	609	361
1-14	6	49	0	55	26	222	122
15-19	245	1028	1	1274	1724	7774	4644
20-24	288	628	4	920	2190	4866	3530
25-29	116	217	0	333	999	1929	1457
30-34	45	91	0	136	466	910	692
35-39	36	49	0	85	353	433	395
40+	28	30	0	58	34	33	34
Unknown	1	1	0	2	-	-	-
<b>Total</b>	<b>768</b>	<b>2108</b>	<b>5</b>	<b>2881</b>	<b>462</b>	<b>1218</b>	<b>849</b>
<b>BOP region</b>							
<1	5	12	0	17	586	230	402
1-14	4	104	0	108	547	20	276
15-19	197	1322	2	1521	11210	1604	6320
20-24	202	631	1	834	6316	1918	4064
25-29	82	238	0	320	3269	1127	2198
30-34	47	99	0	146	1272	655	976
35-39	23	49	0	72	509	273	399
40+	27	49	0	76	59	36	48
Unknown	0	2	11	13	-	-	-
<b>Total</b>	<b>587</b>	<b>2506</b>	<b>14</b>	<b>3107</b>	<b>1664</b>	<b>411</b>	<b>1060</b>
<b>Other regions</b>							
<1	14	23	3	40			
1-14	19	194	1	214			
15-19	732	2978	5	3715			
20-24	797	1914	6	2717			
25-29	352	553	2	907			
30-34	160	226	0	386			
35-39	87	141	1	229			
40+	110	104	2	216			
Unknown	134	172	14	320			
<b>Total</b>	<b>2405</b>	<b>6305</b>	<b>34</b>	<b>8744</b>			

## Trend data: Auckland, Waikato and Bay of Plenty regions

Figures 29 and 30 show the chlamydia rates from 2004 to 2008 for males and females in the Auckland, Waikato and BOP regions.

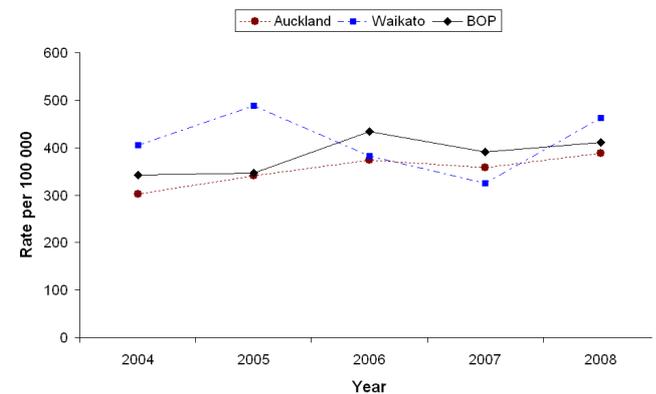
In 2008, the BOP region has the highest rate overall at 1 060 per 100 000 population, compared with 751 and 849 per 100 000 population for the Auckland and Waikato regions, respectively.

From 2007 to 2008, the Waikato region had the highest increase in male and female rates (42.2% and 53.4%, respectively). The Auckland region had an increase of 8.7% in males and 9.0% in females. The BOP region had an increase of 5.2% in males and 7.2% in females.

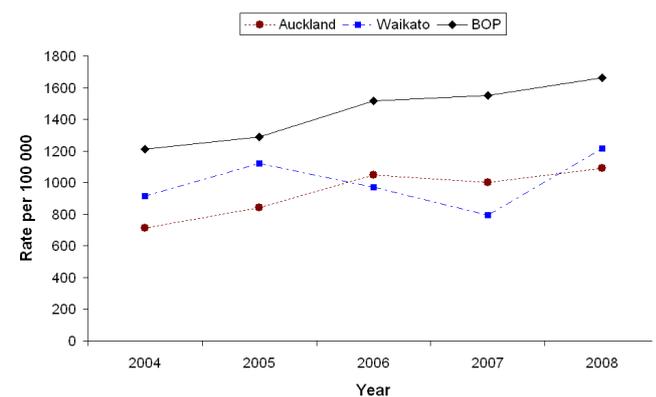
Compared to 2007, the number of chlamydia laboratory tests increased by 7.1% in the Auckland region and 13.0% in the BOP region, but decreased by 15.8% in Waikato. From 2004 to 2008 the number of chlamydia laboratory tests has increased in all three regions (Auckland – 31.4%, Waikato – 14.5% and BOP – 28.1%).

In general, from 2004 to 2008, the overall rate of chlamydia diagnosed by participating laboratories in the Auckland, Waikato and BOP regions has risen more or less steadily by 39.4%, from 584 per 100 000 in 2004 to 815 per 100 000 in 2008.

**Figure 29. Male chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2004 to 2008**  
Denominator is the population in each region



**Figure 30. Female chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2004 to 2008**  
Denominator is the population in each region



# Gonorrhoea

## Auckland region

In 2008, laboratories in the Auckland region tested 231 968 specimens for gonorrhoea, of which 2 218 (1.0%) specimens tested positive from 1 054 patients. Routine cultures for gonorrhoea will be performed on any genital swab (regardless of the reason for the swab being taken).

The overall rate in the region was 126 per 100 000 population. The rate in males (153 per 100 000) was higher than that in females (98 per 100 000).

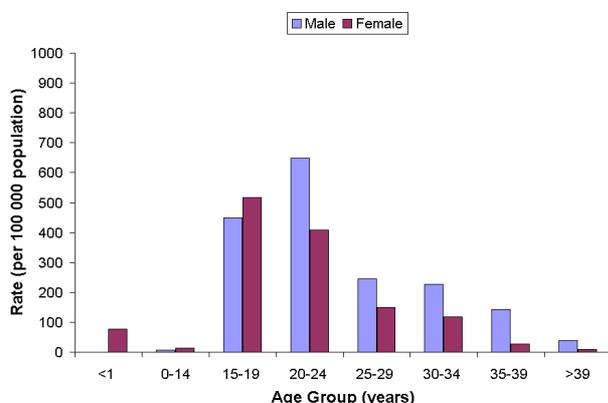
The mean age of cases of gonorrhoea was 25 years (median age 22 years, range 0 to 71 years). Sixty-three per cent of all cases of gonorrhoea were aged less than 25 years.

The gonorrhoea rate for children aged less than one-year was 38 per 100 000 population (5 cases).

The highest male rate was observed in the 20 to 24 years age group, with a rate of 649 per 100 000 population, over five times the regional total population rate. Comparatively, in females the rate was highest in the 15 to 19 years age group, with a rate of 516 per 100 000 population, four times the regional total population rate (see Figure 31).

**Figure 31. Rates of gonorrhoea in the Auckland region by age group and sex, 2008**

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



## Waikato region

In 2008, laboratories in the Waikato region tested 22 379 specimens for gonorrhoea, of which 235 (1.1%) specimens tested positive from 231 patients.

The overall rate in the region was 68 per 100 000 population. The rate in males (77 per 100 000) was higher than that in females (60 per 100 000).

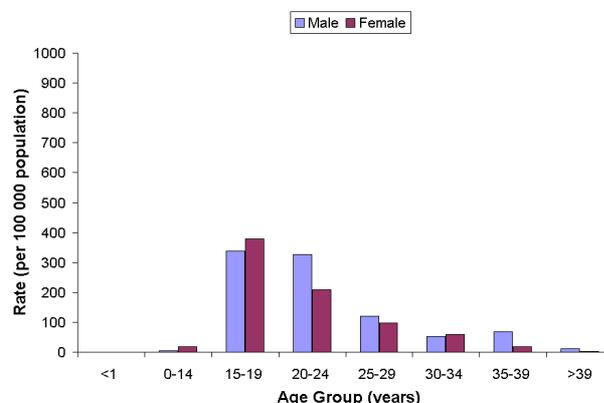
The mean age of cases of gonorrhoea was 23 years (median age 20 years, range 12 to 63 years). Seventy-five per cent of all cases of gonorrhoea were aged less than 25 years.

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

The highest male rate was observed in the 15 to 19 years age group, with a rate of 338 per 100 000 population, nearly five times the regional total population rate. The highest female rate was observed in the 15 to 19 years age group, with a rate of 378 per 100 000 population, nearly six times the regional total population rate (see Figure 32).

**Figure 32. Rates of gonorrhoea in the Waikato region by age group and sex, 2008**

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



## Bay of Plenty region

In 2008, laboratories in the BOP region tested 18 982 specimens for gonorrhoea, of which 271 (1.4%) specimens tested positive from 268 patients.

The overall rate for the region was 91 per 100 000 population. The rate in males (112 per 100 000) was higher than that in females (72 per 100 000).

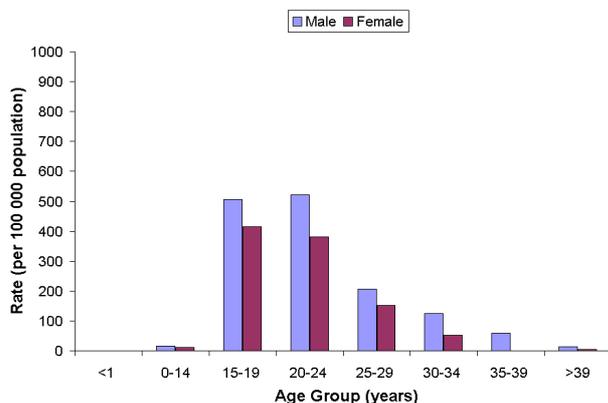
The mean age of cases of gonorrhoea was 22 years (median age 20 years, range 14 to 74 years). Seventy-eight per cent of all cases of gonorrhoea were aged less than 25 years.

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

The highest male rate was observed in the 20 to 24 years age group, with a rate of 522 per 100 000 population, nearly six times the regional total population rate. Comparatively, in females the rate was highest in the 15 to 19 years age group, with a rate of 416 per 100 000 population, nearly five times the regional total population rate (see Figure 33).

**Figure 33. Rates of gonorrhoea in the BOP region by age group and sex, 2008**

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



## Other regions

In 2008, laboratories in other regions reported 1 397 (1.1%) test positive specimens for gonorrhoea from 1 271 patients.

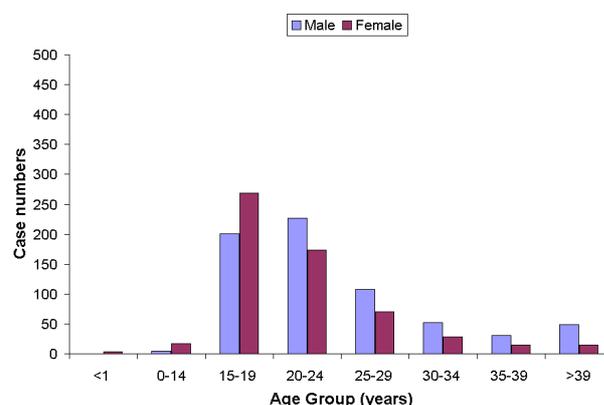
Over half the cases of gonorrhoea (53.0%) in these regions were male.

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

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

The highest total gonorrhoea numbers were observed in the 15 to 19 years age group (470 cases; see Figure 34). The highest male numbers were in the 20 to 24 years age group (227 cases) and the highest female numbers were in the 15 to 19 years age group (269 cases).

**Figure 34. Case numbers of gonorrhoea in Other regions by age group and sex, 2008**



**Table 15. Case numbers and rates of gonorrhoea by region, age group and sex, 2008**

Age group (years)	Number of cases				Rate per 100 000 population		
	Male	Female	Unknown	Total	Male	Female	Total
<b>Auckland Region</b>							
<1	0	5	0	5	0	78	38
1-14	4	7	0	11	7	13	10
15-19	148	161	0	309	450	516	482
20-24	210	130	2	342	649	407	532
25-29	81	52	2	135	244	149	198
30-34	67	38	0	105	227	117	169
35-39	44	9	2	55	143	26	84
40+	70	20	0	90	38	10	23
Unknown	1	1	0	2	-	-	-
<b>Total</b>	<b>625</b>	<b>423</b>	<b>6</b>	<b>1054</b>	<b>153</b>	<b>98</b>	<b>126</b>
<b>Waikato region</b>							
<1	0	0	0	0	0	0	0
1-14	1	4	0	5	4	18	11
15-19	48	50	0	98	338	378	357
20-24	43	27	0	70	327	209	269
25-29	14	11	0	25	121	98	109
30-34	5	6	0	11	52	60	56
35-39	7	2	0	9	69	18	42
40+	10	3	0	13	12	3	8
Unknown	0	0	0	0	-	-	-
<b>Total</b>	<b>128</b>	<b>103</b>	<b>0</b>	<b>231</b>	<b>77</b>	<b>60</b>	<b>68</b>
<b>BOP region</b>							
<1	0	0	0	0	0	0	0
1-14	3	2	0	5	15	11	13
15-19	62	49	0	111	505	416	461
20-24	55	38	0	93	522	380	453
25-29	15	11	0	26	206	151	179
30-34	9	4	0	13	125	51	87
35-39	5	0	0	5	59	0	28
40+	10	3	0	13	13	4	8
Unknown	1	1	0	2	-	-	-
<b>Total</b>	<b>160</b>	<b>108</b>	<b>0</b>	<b>268</b>	<b>112</b>	<b>72</b>	<b>91</b>
<b>Other regions</b>							
<1	0	3	0	3			
1-14	5	17	0	22			
15-19	201	269	0	470			
20-24	227	174	3	404			
25-29	108	70	0	178			
30-34	52	28	0	80			
35-39	31	15	0	46			
40+	49	15	0	64			
Unknown	1	1	2	4			
<b>Total</b>	<b>674</b>	<b>592</b>	<b>5</b>	<b>1271</b>			

## Trend data: Auckland, Waikato and Bay of Plenty regions

Figures 35 and 36 show the gonorrhoea rates from 2004 to 2008 for males and females in the Auckland, Waikato and BOP regions.

The Auckland region had the highest rate overall at 126 per 100 000 population, compared with 91 and 68 per 100 000 population for the BOP and Waikato regions, respectively.

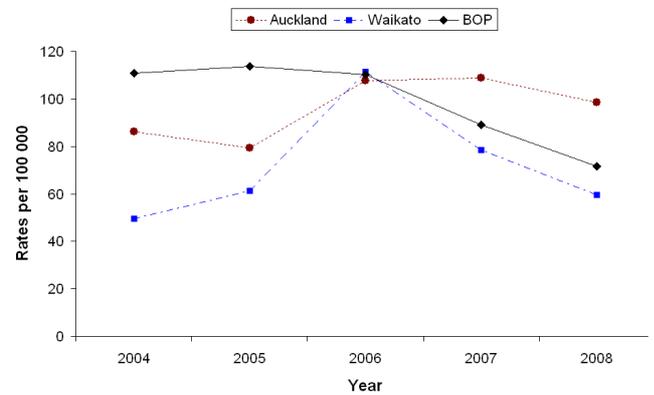
From 2007 to 2008, the Waikato region had the highest decrease in the male and female rates (26.9% and 24.3%, respectively). The Auckland region had a decrease of 14.7% in males and 9.6% in females. The BOP region had a decrease of 19.4% in females. The only increase from 2007 to 2008 was seen in the male rate in the BOP region (5.3 %).

Compared to 2007, the number of gonorrhoea laboratory tests increased by 2.5% in the Auckland region but nearly halved in Waikato and BOP regions. From 2004 to 2008 the number of gonorrhoea laboratory tests increased by 23.6% in the Auckland region but decreased by 38.4% and 46.4% in the BOP and Waikato regions respectively.

Over the last five years gonorrhoea rates in the Auckland, Waikato and BOP regions have increased by 11.4% from a rate of 95 per 100 000 in 2004 to 106 per 100 000 in 2008. The number of laboratories reporting in these regions has not changed from 2004 to 2008 and 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.

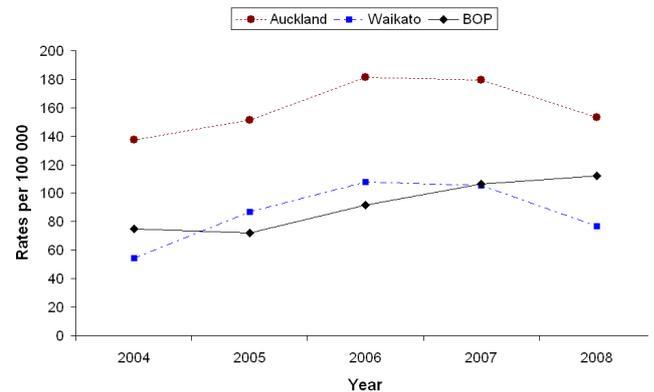
**Figure 35. Male rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2004 to 2008**

Denominator is the population in each region



**Figure 36. Female rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2004 to 2008**

Denominator is the population in each region



# HIV / AIDS summary

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HIV/AIDS surveillance is carried out in New Zealand by the AIDS Epidemiology Group (AEG) within the University of Otago and it is their data which is reported here. A more detailed account of HIV/AIDS in New Zealand in 2008 is available in the publication; AIDS – New Zealand, Issue 63, March 2009 (available at [www.moh.govt.nz/aids](http://www.moh.govt.nz/aids)).

## HIV

A total of 227 new people were reported to the AEG as having HIV in 2008, comprising 184 cases newly diagnosed through antibody testing and an additional 43 reported through viral load testing (most of whom had previously been diagnosed overseas). This is the highest total number of cases, and the highest number cases newly diagnosed through antibody testing reported to the AEG in any one year.

Of the 184 cases newly diagnosed through antibody testing in 2008, 91 (49.5%) were men infected through sex with men (MSM), 61 (33.2%) are thought to have acquired HIV infection heterosexually (39 males and 22 females), four (2.2%) were children infected through perinatal transmission (three overseas and one in New Zealand), two (1.1%) were infected through injecting drug use, two (1.1%) were infected through a transfusion received overseas, three (1.6%) had another reported mode of infection, and for 21 (11.4%) the mode of infection was unknown (see Table 16).

Amongst the 43 cases reported through viral load testing, 25 (58.1%) were infected homosexually (MSM), three (7.0%) through heterosexual contact and for the remaining 15 (34.9%) this information was unknown.

The majority of cases, 182 (80.2%), were aged between 20 and 49 years at time of diagnosis, with 56 (24.7%) in the 20-29 years, 67 (29.5%) in the 30-39 years, and 59 (26.0%) in the 40-49 years age groups. One hundred and four (45.8%) were of European ethnicity, 18 (7.9%) Māori and 6 (2.6%) Pacific Peoples. There were 77 (33.9%) in other ethnic group categories, including 39 (17.2%) of African and 24 (10.6%) of Asian ethnicity. The ethnicity of 22 cases (9.7%) was unknown.

## AIDS

In 2008, 48 cases of AIDS were reported to the AEG compared with 31 cases in 2007. The 2008 AIDS notification rate (1.1 per 100 000) is not significantly higher than the 2007 rate (0.7 per 100 000).

Twenty-two cases (45.8%) were men infected through sex with other men, 19 (39.6%) were infected through heterosexual contact (14 men and five women), two were infected through injecting drug use, two were children infected through perinatal transmission overseas, one case was infected through a transfusion received overseas, and the mode of infection was unknown for the remaining two cases.

The distribution of the 2008 cases according to ethnicity was: 25 (52.1%) European, 12 African (25.0%), five (10.4%) Maori, five (10.4%) Asian, and one (2.1%) Pacific Peoples. The cases ranged from 5 to 57 years of age with a median age of 39 years and mean age of 38.5 years.

Two deaths due to AIDS were reported to the AEG as having occurred in 2008. However, this number is likely to increase due to late notifications.

**Table 16. Risk behaviour category for HIV infections, 1985-2008<sup>1</sup>.**

Exposure	Sex	New cases in 2008 (%)	Cases (%) - Total 1985 to 2008
Homosexual contact	Male	114 (50.2)	1 653 (53.3)
Homosexual & IDU	Male	2 (0.9)	41 (1.3)
Heterosexual contact	Male	39 (17.2)	410 (13.2)
	Female	25 (11.0)	420 (13.6)
Injecting drug user (IDU)	Male	2 (0.9)	59 (1.9)
	Female	0 (0.0)	11 (0.3)
Blood product recipient	Male	0 (0.0)	34 (1.1)
Transfusion recipient <sup>2</sup>	Male	1 (0.4)	12 (0.4)
	Female	1 (0.4)	10 (0.3)
	Unknown	0 (0.0)	5 (0.2)
Perinatal	Male	2 (0.9)	30 (1.0)
	Female	2 (0.9)	20 (0.6)
Other	Male	2 (0.9)	9 (0.3)
	Female	2 (0.9)	11 (0.3)
Awaiting information/ Undetermined	Male	28 (12.3)	314 (10.1)
	Female	7 (3.1)	47 (1.5)
	Unknown	0 (0.0)	13 (0.4)
<b>Total</b>		<b>227 (100.0)</b>	<b>3 099 (100.0)</b>

<sup>1</sup> 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.

<sup>2</sup> All people in this category, diagnosed since 1996, acquired their HIV overseas.

NS = not stated.

Source: AIDS Epidemiology Group, University of Otago.

# Discussion

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## Chlamydia

Chlamydia was again the most commonly diagnosed STI in New Zealand in 2008 across all three clinic types with both case numbers and clinic visit rates increasing for SHCs, FPCs and SYHCs. The laboratory data from the Auckland, Waikato and BOP regions also showed an increase in the number and rate of chlamydia diagnoses, indicating that the drop in laboratory diagnoses observed in 2007 was a short-lived anomaly.

The Chlamydia Management Guidelines, developed by the Ministry of Health's Sexual Health Advisory Group, were released mid-2008 [9]. These guidelines include recommendations for opportunistic testing for chlamydia in at-risk groups. A pilot implementation of the guidelines is planned for 2009 beginning in the Waikato and Lakes regions [10]. If the implementation is successful in reaching those at-risk, surveillance data for 2009 should show both an increase in the number of chlamydia tests submitted and a comparable increase in the number of cases detected. Over a longer period of time, success would be measured by continued high rates of testing in at-risk groups but a decreasing test-positivity rate, indicating a reduction in the overall burden of chlamydia in at-risk groups. Current routine laboratory surveillance data does not enable analysis of tests submitted by demographic variables. Therefore, alternative means of identifying who is being tested will be required in order to monitor implementation of the guidelines.

## 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. For the second consecutive year, laboratory gonorrhoea diagnosis rates decreased for the majority of the region-sex groupings across the Auckland, Waikato and BOP regions. Unlike in 2007, this trend was also reflected in the clinic data with the number of gonorrhoea cases decreasing across all three clinic types and the clinic visit rates decreasing for all but the SHCs (which showed a small, 3.6%, increase in the clinic visit rate). As the number of gonorrhoea tests submitted almost halved in the Waikato and BOP regions between 2007 and 2008, it is difficult to determine whether this

downward trend reflects a true decrease in the burden of gonorrhoea in the community or reduced testing.

## At-risk groups

As in previous years, those aged less than 25 years and non-Europeans demonstrated disproportionate burden with STIs in 2008. The highest numbers and rates for each STI were almost always 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. Laboratory surveillance data does not contain information on ethnicity so the clinic data is the only source of STI rates by ethnicity.

SHC data on concurrent and multiple infections also indicated that those aged less than 25 years and non-Europeans are predominantly affected. Similarly, these population groups were over-represented in the cases with complicated chlamydia and gonorrhoea infection, i.e. those resulting in PID or epididymitis.

The number of neonatal chlamydia cases in the laboratory data from the Auckland, Waikato and BOP regions continues to slowly climb each year with 123 infections diagnosed in children under the age of one in 2008. Neonatal gonorrhoea cases are also occurring with five from these three regions in 2008. These neonatal infections highlight the need to improve STI screening during pregnancy. The Chlamydia Management Guidelines recommend that all pregnant women be tested during their first trimester and that testing be repeated in the third trimester if there are ongoing risk factors.[9] Also, the New Zealand College of Midwives have made a consensus statement that promotes discussion between midwives and women on the risks of STIs during pregnancy and the offer of screening for STIs (NZ College of Midwives, 11 September 2008).

## 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 five times higher than the national chlamydia rates most recently published for Australia (273.8 per 100 000 in 2008), the UK (201.3 per 100 000 in 2007), and the US (370.2 per 100 000 in 2007) [11-13]. A similar observation can be seen with gonorrhoea, where the regional rates in New Zealand were between two and four times higher than the national rates observed in Australia (36.2 per 100 000 in 2008) and the UK (30.9 per 100 000 in 2007) [11, 12] though the Auckland rate was similar to the 2007 US rate (118.9 per 100 000) [13].

### **Human papillomavirus (HPV)**

In September 2008, New Zealand girls born in 1990 and 1991 became eligible to be vaccinated with Gardasil® as part of the national HPV Immunisation Programme, with vaccine eligibility being extended through 2009 and 2010 to girls from 12 years of age [14]. The aim of the immunisation programme is to reduce cervical cancer in New Zealand through the use of a vaccine that protects against infection with the two types of HPV most commonly associated with cervical cancer (types 16 and 18). The vaccine is also immunogenic against HPV types 6 and 11, the types most commonly associated with genital warts.

Both the number of and clinic visit rate of genital warts diagnosed at SHCs has remained relatively stable over the last five years, with a predominance of cases aged less than 25 years. An early indication of the likely success of the HPV Immunisation Programme in reducing cervical cancer may be a drop in cases of genital warts in the Gardasil®-vaccinated age cohort, reported via clinic-based STI surveillance.

### **Emerging/re-emerging STIs**

Although syphilis numbers remain low compared with other STIs, the number of cases detected at SHCs continues to increase with middle-aged people particularly affected (in contrast to the predominance of under 25 year olds for other STIs). This steady increase is of concern as increases in STIs such as syphilis are a marker for behaviours associated with HIV transmission. In addition, syphilitic lesions make it easier to transmit and

acquire HIV infection; there is a two to five fold increased risk of transmitting HIV when syphilis is present [15]. This ongoing increase in cases of syphilis in 2008 coincides with the highest total number of HIV diagnosis in any given year in New Zealand.

Additional syphilis cases diagnosed outside of the participating clinics are not captured in current syphilis surveillance, which is clinic-based only. Therefore, the syphilis numbers reported here will underestimate the true disease burden, as shown in research using laboratory data on positive serological syphilis tests in the greater Wellington region [16]. In the event that syphilis becomes a notifiable disease, quantifying the true disease burden will be made easier through direct laboratory notification (see below). However, enhanced surveillance of syphilis remains important to collect the risk factor information necessary to develop control measures and hence reverse the increasing trend.

### **Limitations of current surveillance system**

Although useful for detecting overall trends in STI incidence, the current national STI surveillance system is limited in many of the areas traditionally used to evaluate a surveillance system particularly: data quality, representativeness and sensitivity. Although the system has now been in place for over a decade we are not yet able to produce national estimates of STI incidence, let alone comprehensive regional estimates or estimates by ethnicity and, as reported in last year's annual report, the system failed to detect two confirmed cases of an emerging STI, LGV, diagnosed that year in separate SHCs who were participating in the surveillance system.

The possibility of adding chlamydia, gonorrhoea and syphilis to the notifiable diseases schedule is still under consideration by the Ministry of Health. If this were to occur, STI surveillance could be vastly improved through direct laboratory reporting of all positive tests of these STIs, a legal requirement for all notifiable conditions under the Epidemic Preparedness Act (2006).

However, other solutions would still be needed to obtain the more comprehensive data required for effective monitoring and public health action such as the ethnicity of cases, their area of residence, and other risk factors and behaviours, as well as information on negative as well as positive tests. A Health Research Council funded study is currently in progress which is evaluating the feasibility of using ethnicity and domicile information in the National Health Index database to supplement demographic

information provided with laboratory STI data. Results are expected later this year [17]. Regardless of the success of this pilot, vital information on non-demographic risk factors for STIs would still be dependent on independent research.

### **Summary**

The STI burden in New Zealand is considerable with young people under the age of 25 years and individuals from non-European ethnic groups over-represented amongst STI cases. In addition, although case numbers of the more serious STIs such as syphilis and HIV are relatively low, they are on the increase. The national STI surveillance system is

reliant on the voluntary involvement of SHCs, FPCs and SHYCs, as well as regional laboratories. While there are issues with the quality, generalisability, and sensitivity of the data, trends and at-risk groups can still be identified. Addition of STIs to the notifiable diseases schedule and utilisation of direct laboratory notification in STI surveillance would improve the data obtained, and enable population-based rates to be generated across New Zealand. However, laboratory reporting of STIs would not address the need for ethnicity, 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

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# Appendix A: STI Surveillance Case definitions

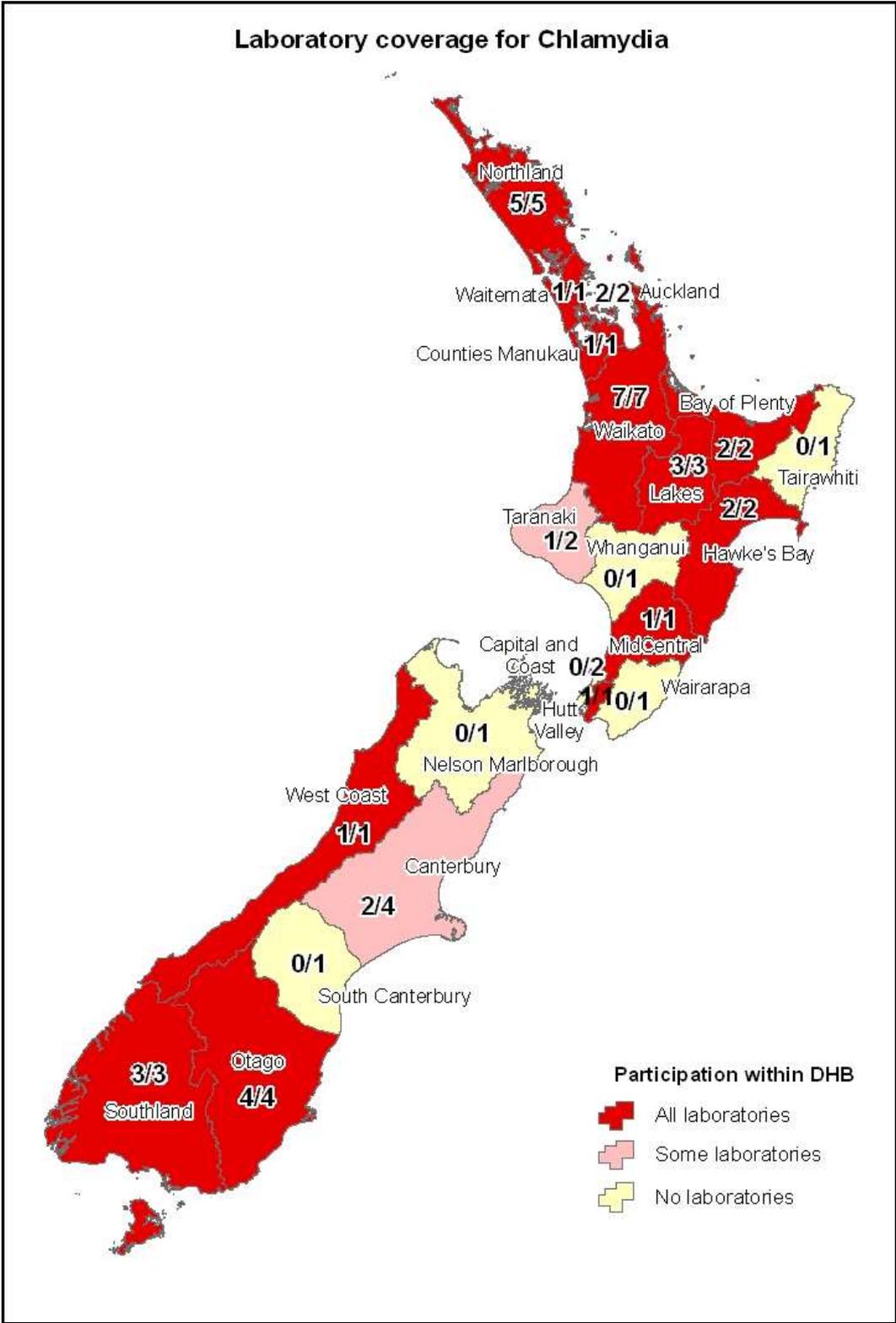
<b>Chlamydia</b>	<p><i>Confirmed</i> Laboratory detection of <i>Chlamydia trachomatis</i> in a clinical specimen. Cases should be classified as:</p> <ol style="list-style-type: none"> <li>1. uncomplicated infection of the lower anogenital* tract * Includes urogenital and anorectal infection.</li> <li>2. PID (pelvic inflammatory disease) or epididymitis</li> <li>3. infection of another site (eg, eye or pharynx)</li> </ol> <p><i>Probable</i> Cases must be <u>all</u> of the following:</p> <ul style="list-style-type: none"> <li>• symptomatic, <b>and</b></li> <li>• a contact of a confirmed case, <b>and</b></li> <li>• non-laboratory confirmed (test negative or test not done).</li> </ul>
<b>Gonorrhoea</b>	<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"> <li>1. uncomplicated infection of one or both of the following:             <ol style="list-style-type: none"> <li>a) urogenital tract</li> <li>b) anorectal area (proctitis)</li> </ol> </li> <li>2. PID (pelvic inflammatory disease) or epididymitis</li> <li>3. extra-genital infection of one or both of the following:             <ol style="list-style-type: none"> <li>a) pharynx</li> <li>b) other site not listed</li> </ol> </li> </ol> <p><i>Probable</i> Cases must be <u>all</u> of the following:</p> <ul style="list-style-type: none"> <li>• symptomatic, <b>and</b></li> <li>• a contact of a confirmed case, <b>and</b></li> <li>• non-laboratory confirmed (test negative or test not done).</li> </ul>
<b>Anogenital Herpes</b>	<p>First diagnosis for the person at your clinic, with either</p> <ol style="list-style-type: none"> <li>1. laboratory detection of herpes simplex virus (HSV) from a clinical specimen,</li> </ol> <p style="text-align: center;"><b>or</b></p> <ol style="list-style-type: none"> <li>2. a clinically compatible illness in the lower anogenital and buttock area (syphilis should be considered as a cause of genital ulceration)</li> </ol>
<b>Anogenital Warts</b>	<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. * Do not include persons for whom there is <u>only</u> demonstration of human papillomavirus (HPV) on cervical cytology or other laboratory method.</p>
<b>Syphilis</b>	<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>
<b>Non-Specific Urethritis (NSU) (males only)</b>	<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>
<b>Chancroid</b>	<p><i>Confirmed</i> Isolation of <i>Haemophilus ducreyi</i> from a clinical specimen. <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, <b>or</b> A clinically compatible illness in a patient who is a contact of a confirmed case.</p>
<b>Granuloma inguinale (GI)</b>	<p><i>Confirmed</i> Demonstration of intracytoplasmic Donovan bodies on Wright or Giemsa stained smears or biopsies of clinical specimens. <i>Probable</i> A clinically compatible illness in a patient who is a contact of a confirmed case.</p>
<b>Lymphogranulom a venereum (LGV)</b>	<p><i>Confirmed</i> Laboratory detection of <i>Chlamydia trachomatis</i> serotype L<sub>1</sub>, L<sub>2</sub> or L<sub>3</sub> from a clinical specimen. <i>Probable</i> A clinically compatible illness with complement fixation titre of &gt; 64 and other causes of ulcerations excluded, <b>or</b> A clinically compatible illness in a person who is a contact of a confirmed case.</p>

# Appendix B: List of Participating Laboratories

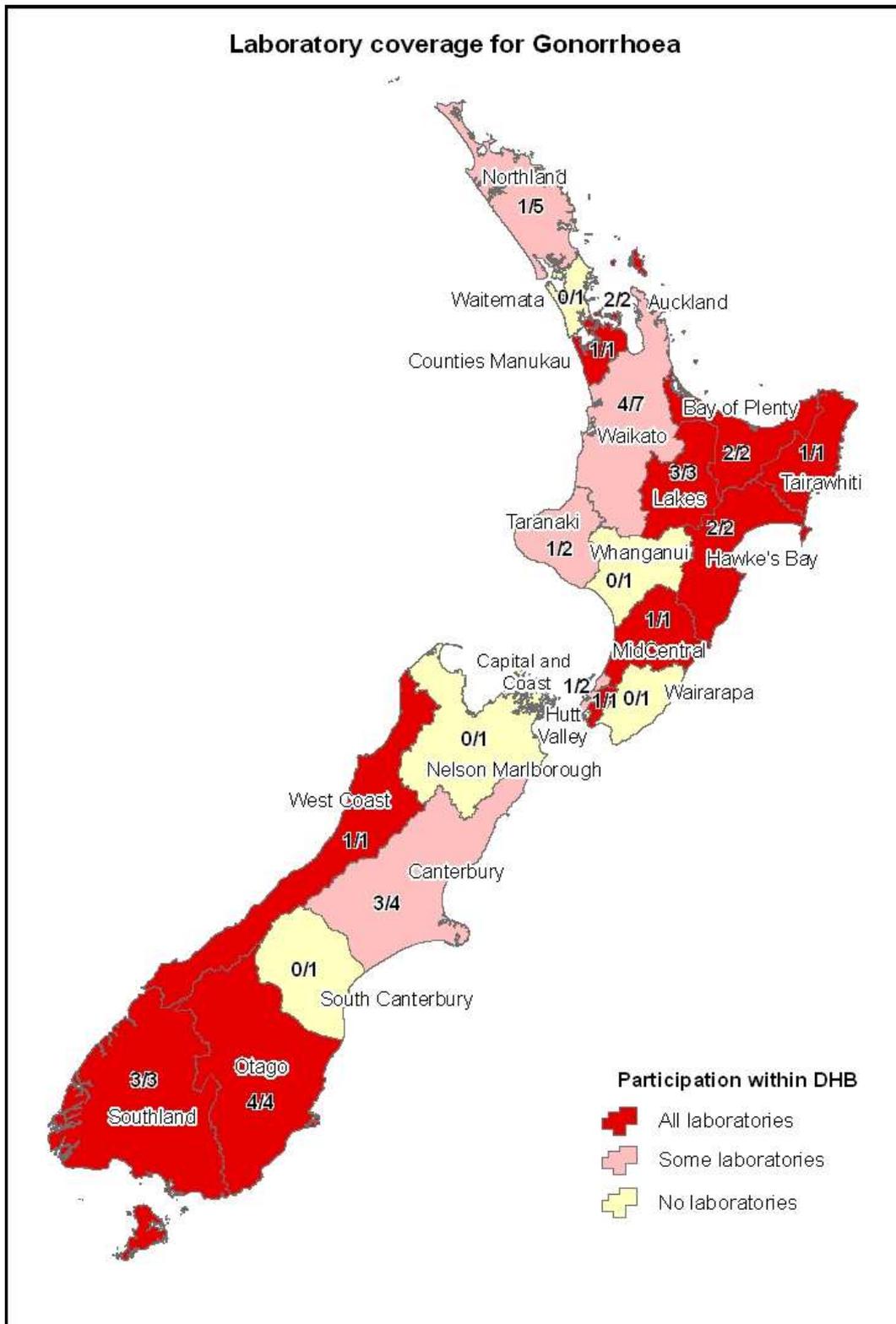
STI surveillance data is received from the following laboratories:

- Kaitaia Hospital Laboratory, Northland (Chlamydia only)
- Bay of Islands Hospital Laboratory, Northland (Chlamydia only)
- Northland Pathology Laboratory, Northland
- Whangarei Hospital Laboratory, Northland (Chlamydia only)
- Dargaville Hospital Laboratory, Northland (Chlamydia only)
- North Shore Hospital Laboratory, Waitemata (Chlamydia only)
- LabPlus, Auckland
- Diagnostic Medlab, Auckland
- Middlemore Hospital Laboratory, Counties-Manukau
- Medlab Hamilton, Waikato
- Pathlab Waikato, Waikato
- Thames Hospital, Waikato (Chlamydia only)
- Waikato Hospital Laboratory, Waikato
- Tokoroa Hospital, Waikato (Chlamydia only)
- Te Kuiti Hospital, Waikato
- Taumarunui Hospital, Waikato (Chlamydia only)
- Rotorua Diagnostic Laboratory, Lakes
- Rotorua Hospital Laboratory, Lakes
- Taupo Southern Community Laboratory, Lakes (Started reported January 2008)
- Pathlab Bay of Plenty, Bay of Plenty
- Whakatane Hospital Laboratory, Bay of Plenty
- Gisborne Hospital Laboratory, Tairāwhiti (Gonorrhoea only)
- Taranaki MedLab, Taranaki
- Hawke's Bay Hospital, Hawke's Bay
- Hawke's Bay Southern Community Laboratory, Hawke's Bay
- Medlab Central, MidCentral
- Hutt Hospital Laboratory, Hutt Valley
- Aotea Pathology, Capital & Coast (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
- Dunstan Southern Community Laboratory, Otago
- Otago Southern Community Laboratory, Otago
- Balclutha Southern Community Laboratory, Otago
- Queenstown Southern Community Laboratory, Southland
- Gore Southern Community Laboratories, Southland
- Invercargill Southern Community Laboratory, Southland (Includes data previously reported separately as Kew Southern Community Laboratory)

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



### Laboratory coverage for Gonorrhoea



# Appendix D: Clinic-based Surveillance Data

## All Clinic Data

Table 17. Summary – disease rate by clinic type, 2008

<u>Clinic Type, by area</u>		<u>Total Clinic Visits<sup>1</sup></u>	<u>Chlamydia</u>	<u>Gonorrhoea</u>	<u>Genital Herpes<sup>2</sup></u>	<u>Genital Warts<sup>2</sup></u>	<u>Syphilis<sup>3</sup></u>
<b>North</b>							
Sexual Health Clinics	No.	23,692	1,308	277	195	1,057	35
	Rate <sup>3</sup>		5.5%	1.2%	0.8%	4.5%	0.1%
Family Planning Clinics	No.	74,859	1,357	53	27	172	0
	Rate <sup>3</sup>		1.8%	0.1%	0.0%	0.2%	0.0%
Student & Youth Health	No.	33,115	88	4	4	19	0
	Rate <sup>3</sup>		0.3%	0.0%	0.0%	0.1%	0.0%
<b>Subtotal North</b>		<b>131,666</b>	<b>2,753</b>	<b>334</b>	<b>226</b>	<b>1,248</b>	<b>35</b>
<b>Midland</b>							
Sexual Health Clinics	No.	24,260	1,900	263	210	991	8
	Rate <sup>3</sup>		7.8%	1.1%	0.9%	4.1%	0.0%
Family Planning Clinics	No.	26,955	770	34	15	60	0
	Rate <sup>3</sup>		2.9%	0.1%	0.1%	0.2%	0.0%
Student & Youth Health	No.	42,352	75	3	3	16	0
	Rate <sup>3</sup>		0.2%	0.0%	0.0%	0.0%	0.0%
<b>Subtotal Midland</b>		<b>93,567</b>	<b>2,745</b>	<b>300</b>	<b>228</b>	<b>1,067</b>	<b>8</b>
<b>Central</b>							
Sexual Health Clinics	No.	19,318	968	206	212	922	31
	Rate <sup>3</sup>		5.0%	1.1%	1.1%	4.8%	0.2%
Family Planning Clinics	No.	37,906	831	46	65	154	0
	Rate <sup>3</sup>		2.2%	0.1%	0.2%	0.4%	0.0%
Student & Youth Health	No.	83,947	558	29	30	81	0
	Rate <sup>3</sup>		0.7%	0.0%	0.0%	0.1%	0.0%
<b>Subtotal Central</b>		<b>141,171</b>	<b>2,357</b>	<b>281</b>	<b>307</b>	<b>1,157</b>	<b>31</b>
<b>South</b>							
Sexual Health Clinics	No.	17,476	794	164	215	758	15
	Rate <sup>3</sup>		4.5%	0.9%	1.2%	4.3%	0.1%
Family Planning Clinics	No.	45,458	587	47	38	187	0
	Rate <sup>3</sup>		1.3%	0.1%	0.1%	0.4%	0.0%
Student & Youth Health	No.	82,905	335	28	47	127	0
	Rate <sup>3</sup>		0.4%	0.0%	0.1%	0.2%	0.0%
<b>Subtotal South</b>		<b>145,839</b>	<b>1,716</b>	<b>239</b>	<b>300</b>	<b>1,072</b>	<b>15</b>
<b>All</b>							
Sexual Health Clinics	No.	84,746	4,970	910	832	3,728	89
	Rate.		5.9%	1.1%	1.0%	4.4%	0.1%
Family Planning Clinics	No.	185,178	3,545	180	145	573	0
	Rate.		1.9%	0.1%	0.1%	0.3%	0.0%
Student & Youth Health	No.	242,319	1,056	64	84	243	0
	Rate.		0.4%	0.0%	0.0%	0.1%	0.0%
<b>Total</b>	<b>No.</b>	<b>512,243</b>	<b>9,571</b>	<b>1,154</b>	<b>1,061</b>	<b>4,544</b>	<b>89</b>
	<b>Rate.</b>		<b>1.9%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.9%</b>	<b>0.0%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinics visits for report period for any reason

<sup>2</sup> First presentation at that clinic.

<sup>3</sup> Infectious syphilis (primary, secondary and early latent)

<sup>4</sup> Rate = (no. of cases/total no. of clinic visits) x100, expressed as a percentage

**Table 18. Summary – chlamydia site of infection, 2008**

	<i>Confirmed</i>						<b>Total<sup>1</sup></b> No. <sup>1</sup>
	<b>Uncomplicated, lower anogenital</b>		<b>PID/epididymitis</b>		<b>Other site</b>		
	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	
Sexual Health Clinics	4794	96.5%	127	2.6%	47	0.9%	<b>4968</b>
Family Planning Clinics	3493	98.4%	51	1.4%	5	0.1%	<b>3549</b>
Student & Youth Health Clinics	1047	99.1%	7	0.7%	2	0.2%	<b>1056</b>
<b>Total</b>	<b>9334</b>	<b>97.5%</b>	<b>185</b>	<b>1.9%</b>	<b>54</b>	<b>0.6%</b>	<b>9573</b>

**Table 19. Summary – gonorrhoea site of infection, 2008**

	<i>Confirmed</i>										<b>Total<sup>1</sup></b> No. <sup>2</sup>
	<b>Uncomplicated infection</b>				<b>PID/epididymitis</b>		<b>Extra-genital</b>				
	<b>Urogenital</b>		<b>Anorectal</b>				<b>Pharynx</b>		<b>Other site</b>		
	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	
Sexual Health Clinics	834	91.9%	41	4.5%	13	1.4%	14	1.5%	6	0.7%	<b>908</b>
Family Planning Clinics	177	98.3%	0	0.0%	2	1.1%	0	0.0%	1	0.6%	<b>180</b>
Student & Youth Health Clinic	63	98.4%	1	1.6%	0	0.0%	0	0.0%	0	0.0%	<b>64</b>
<b>Total</b>	<b>1074</b>	<b>93.2%</b>	<b>42</b>	<b>3.6%</b>	<b>15</b>	<b>1.3%</b>	<b>14</b>	<b>1.2%</b>	<b>7</b>	<b>0.6%</b>	<b>1152</b>

<sup>1</sup> Total = total no. of diagnoses by clinic type; note that some cases may be counted more than once if the disease was confirmed at more than one site.

<sup>2</sup> No. = no. of diagnoses by site

<sup>3</sup> % = no. of diagnoses by site/total no. of diagnoses by clinic type, x100

## Sexual Health Clinic Data

Table 20. Chlamydia - number of cases and disease rates by SHCs, 2007-2008

<u>Total Clinic Visits<sup>1</sup></u>			<u>2007 Total</u>		<u>2008 Total</u>	
<u>2007</u>	<u>2008</u>	<u>Clinic</u>	<u>No.</u>	<u>Rate<sup>2</sup></u>	<u>No.</u>	<u>Rate<sup>2</sup></u>
2253	2581	Whangarei	129	5.7%	205	7.9%
576	637	Dargaville	17	3.0%	21	3.3%
376	302	Kaikohe	36	9.6%	24	7.9%
26510	20172	Auckland	824	3.1%	1058	5.2%
<b>29715</b>	<b>23692</b>	<b>North</b>	<b>1006</b>	<b>3.4%</b>	<b>1308</b>	<b>5.5%</b>
8970	9008	Hamilton	607	6.8%	638	7.1%
6858	7755	Tauranga	520	7.6%	541	7.0%
1263	1080	Rotorua	75	5.9%	54	5.0%
970	1738	Whakatane	103	10.6%	170	9.8%
869	1021	Taupo	74	8.5%	136	13.3%
2233	2332	New Plymouth	328	14.7%	282	12.1%
2884	1326	Gisborne	197	6.8%	79	6.0%
<b>24047</b>	<b>24260</b>	<b>Midland</b>	<b>1904</b>	<b>7.9%</b>	<b>1900</b>	<b>7.8%</b>
1429	1158	Napier	141	9.9%	179	15.5%
787	546	Hastings	117	14.9%	147	26.9%
1080	903	Wanganui	49	4.5%	44	4.9%
3780	4380	Palmerston North/Levin/Dannevirke	261	6.9%	237	5.4%
8524	8130	Wellington	202	2.4%	215	2.6%
886	936	Lower Hutt	22	2.5%	29	3.1%
553	331	Porirua	34	6.1%	21	6.3%
1920	2207	Nelson	52	2.7%	66	3.0%
449	727	Wairau (Blenheim)	22	4.9%	30	4.1%
<b>19408</b>	<b>19318</b>	<b>Central</b>	<b>900</b>	<b>4.6%</b>	<b>968</b>	<b>5.0%</b>
516	492	Greymouth	13	2.5%	34	6.9%
470	490	Westport/Buller	25	5.3%	44	9.0%
8779	10071	Christchurch	252	2.9%	337	3.3%
77	106	Ashburton	6	7.8%	5	4.7%
732	685	Timaru	78	10.7%	55	8.0%
3326	3162	Dunedin	129	3.9%	135	4.3%
2138	2470	Invercargill/Gore/Wyndham	191	8.9%	184	7.4%
<b>16038</b>	<b>17476</b>	<b>South</b>	<b>694</b>	<b>4.3%</b>	<b>794</b>	<b>4.5%</b>
<b>89208</b>	<b>84746</b>	<b>Total</b>	<b>4504</b>	<b>5.0%</b>	<b>4970</b>	<b>5.9%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinic visits for the report period for any reason.

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

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

**Table 21. Gonorrhoea - number of cases and disease rates by SHCs, 2007-2008**

<u>Total Clinic Visits<sup>1</sup></u>			<u>2007 Total</u>		<u>2008 Total</u>	
<u>2007</u>	<u>2008</u>	<u>Clinic</u>	<u>No.</u>	<u>Rate<sup>2</sup></u>	<u>No.</u>	<u>Rate<sup>2</sup></u>
2253	2581	Wangarei	10	0.4%	32	1.2%
576	637	Dargaville	0	0.0%	0	0.0%
376	302	Kaikohe	0	0.0%	1	0.3%
26510	20172	Auckland	294	1.1%	244	1.2%
<b>29715</b>	<b>23692</b>	<b>North</b>	<b>304</b>	<b>1.0%</b>	<b>277</b>	<b>1.2%</b>
8970	9008	Hamilton	105	1.2%	100	1.1%
6858	7755	Tauranga	73	1.1%	48	0.6%
1263	1080	Rotorua	15	1.2%	13	1.2%
970	1738	Whakatane	12	1.2%	13	0.7%
869	1021	Taupo	1	0.1%	11	1.1%
2233	2332	New Plymouth	39	1.7%	41	1.8%
2884	1326	Gisborne	29	1.0%	37	2.8%
<b>24047</b>	<b>24260</b>	<b>Midland</b>	<b>274</b>	<b>1.1%</b>	<b>263</b>	<b>1.1%</b>
1429	1158	Napier	29	2.0%	47	4.1%
787	546	Hastings	26	3.3%	38	7.0%
1080	903	Wanganui	12	1.1%	6	0.7%
3780	4380	Palmerston North/Levin/Dannevirke	29	0.8%	23	0.5%
8524	8130	Wellington	66	0.8%	65	0.8%
886	936	Lower Hutt	9	1.0%	13	1.4%
553	331	Porirua	9	1.6%	7	2.1%
1920	2207	Nelson	15	0.8%	6	0.3%
449	727	Wairau (Blenheim)	2	0.4%	1	0.1%
<b>19408</b>	<b>19318</b>	<b>Central</b>	<b>197</b>	<b>1.0%</b>	<b>206</b>	<b>1.1%</b>
516	492	Greymouth	12	2.3%	6	1.2%
470	490	Westport/Buller	4	0.9%	0	0.0%
8779	10071	Christchurch	60	0.7%	81	0.8%
77	106	Ashburton	4	5.2%	2	1.9%
732	685	Timaru	14	1.9%	14	2.0%
3326	3162	Dunedin	12	0.4%	14	0.4%
2138	2470	Invercargill/Gore/Wyndham	44	2.1%	47	1.9%
<b>16038</b>	<b>17476</b>	<b>South</b>	<b>150</b>	<b>0.9%</b>	<b>164</b>	<b>0.9%</b>
<b>89208</b>	<b>84746</b>	<b>Total</b>	<b>925</b>	<b>1.0%</b>	<b>910</b>	<b>1.1%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinic visits for the report period for any reason.

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

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

**Table 22. Genital Herpes (first presentation) - number of cases and disease rates by SHCs, 2007-2008**

<u>Total Clinic Visits<sup>1</sup></u>			<u>2007 Total</u>		<u>2008 Total</u>	
<u>2007</u>	<u>2008</u>	<u>Clinic</u>	<u>No.</u>	<u>Rate<sup>2</sup></u>	<u>No.</u>	<u>Rate<sup>2</sup></u>
2253	2581	Whangarei	18	0.8%	26	1.0%
576	637	Dargaville	0	0.0%	2	0.3%
376	302	Kaikohe	1	0.3%	1	0.3%
26510	20172	Auckland	168	0.6%	166	0.8%
<b>29715</b>	<b>23692</b>	<b>North</b>	<b>187</b>	<b>0.6%</b>	<b>195</b>	<b>0.8%</b>
8970	9008	Hamilton	91	1.0%	103	1.1%
6858	7755	Tauranga	64	0.9%	65	0.8%
1263	1080	Rotorua	12	1.0%	7	0.6%
970	1738	Whakatane	4	0.4%	6	0.3%
869	1021	Taupo	8	0.9%	6	0.6%
2233	2332	New Plymouth	19	0.9%	22	0.9%
2884	1326	Gisborne	5	0.2%	1	0.1%
<b>24047</b>	<b>24260</b>	<b>Midland</b>	<b>203</b>	<b>0.8%</b>	<b>210</b>	<b>0.9%</b>
1429	1158	Napier	17	1.2%	31	2.7%
787	546	Hastings	16	2.0%	13	2.4%
1080	903	Wanganui	10	0.9%	12	1.3%
3780	4380	Palmerston North/Levin/Dannevirke	36	1.0%	36	0.8%
8524	8130	Wellington	49	0.6%	74	0.9%
886	936	Lower Hutt	11	1.2%	7	0.7%
553	331	Porirua	0	0.0%	3	0.9%
1920	2207	Nelson	19	1.0%	28	1.3%
449	727	Wairau (Blenheim)	5	1.1%	8	1.1%
<b>19408</b>	<b>19318</b>	<b>Central</b>	<b>163</b>	<b>0.8%</b>	<b>212</b>	<b>1.1%</b>
516	492	Greymouth	5	1.0%	8	1.6%
470	490	Westport/Buller	2	0.4%	7	1.4%
8779	10071	Christchurch	107	1.2%	116	1.2%
77	106	Ashburton	0	0.0%	1	0.9%
732	685	Timaru	17	2.3%	7	1.0%
3326	3162	Dunedin	30	0.9%	44	1.4%
2138	2470	Invercargill/Gore/Wyndham	32	1.5%	32	1.3%
<b>16038</b>	<b>17476</b>	<b>South</b>	<b>193</b>	<b>1.2%</b>	<b>215</b>	<b>1.2%</b>
<b>89208</b>	<b>84746</b>	<b>Total</b>	<b>746</b>	<b>0.8%</b>	<b>832</b>	<b>1.0%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinic visits for the report period for any reason.

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

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

**Table 23. Genital Warts (first presentation) - number of cases and disease rates by SHCs, 2007-2008**

<u>Total Clinic Visits<sup>1</sup></u>			<u>2007 Total</u>		<u>2008 Total</u>	
<u>2007</u>	<u>2008</u>	<u>Clinic</u>	<u>No.</u>	<u>Rate<sup>2</sup></u>	<u>No.</u>	<u>Rate<sup>2</sup></u>
2253	2581	Whangarei	119	5.3%	86	3.3%
576	637	Dargaville	4	0.7%	8	1.3%
376	302	Kaikohe	0	0.0%	0	0.0%
26510	20172	Auckland	1117	4.2%	963	4.8%
<b>29715</b>	<b>23692</b>	<b>North</b>	<b>1240</b>	<b>4.2%</b>	<b>1057</b>	<b>4.5%</b>
8970	9008	Hamilton	429	4.8%	476	5.3%
6858	7755	Tauranga	271	4.0%	247	3.2%
1263	1080	Rotorua	76	6.0%	80	7.4%
970	1738	Whakatane	67	6.9%	37	2.1%
869	1021	Taupo	20	2.3%	23	2.3%
2233	2332	New Plymouth	109	4.9%	128	5.5%
2884	1326	Gisborne	0	0.0%	0	0.0%
<b>24047</b>	<b>24260</b>	<b>Midland</b>	<b>972</b>	<b>4.0%</b>	<b>991</b>	<b>4.1%</b>
1429	1158	Napier	60	4.2%	69	6.0%
787	546	Hastings	54	6.9%	55	10.1%
1080	903	Wanganui	34	3.1%	48	5.3%
3780	4380	Palmerston North/Levin/Dannevirke	123	3.3%	142	3.2%
8524	8130	Wellington	280	3.3%	319	3.9%
886	936	Lower Hutt	45	5.1%	55	5.9%
553	331	Porirua	33	6.0%	21	6.3%
1920	2207	Nelson	95	4.9%	116	5.3%
449	727	Wairau (Blenheim)	72	16.0%	97	13.3%
<b>19408</b>	<b>19318</b>	<b>Central</b>	<b>796</b>	<b>4.1%</b>	<b>922</b>	<b>4.8%</b>
516	492	Greymouth	16	3.1%	17	3.5%
470	490	Westport/Buller	15	3.2%	12	2.4%
8779	10071	Christchurch	366	4.2%	378	3.8%
77	106	Ashburton	8	10.4%	8	7.5%
732	685	Timaru	45	6.1%	36	5.3%
3326	3162	Dunedin	155	4.7%	158	5.0%
2138	2470	Invercargill/Gore/Wyndham	184	8.6%	149	6.0%
<b>16038</b>	<b>17476</b>	<b>South</b>	<b>789</b>	<b>4.9%</b>	<b>758</b>	<b>4.3%</b>
<b>89208</b>	<b>84746</b>	<b>Total</b>	<b>3797</b>	<b>4.3%</b>	<b>3728</b>	<b>4.4%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinic visits for the report period for any reason.

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

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

**Table 24. Syphilis - number of cases and disease rates by SHCs, 2007-2008**

<u>Total Clinic Visits<sup>1</sup></u>			<u>2007 Total</u>		<u>2008 Total</u>	
<u>2007</u>	<u>2008</u>	<u>Clinic</u>	<u>No.</u>	<u>Rate<sup>2</sup></u>	<u>No.</u>	<u>Rate<sup>2</sup></u>
2253	2581	Whangarei	0	0.0%	1	0.0%
576	637	Dargaville	0	0.0%	0	0.0%
376	302	Kaikohe	0	0.0%	0	0.0%
26510	20172	Auckland	48	0.2%	34	0.2%
<b>29715</b>	<b>23692</b>	<b>North</b>	<b>48</b>	<b>0.2%</b>	<b>35</b>	<b>0.1%</b>
8970	9008	Hamilton	4	0.0%	3	0.0%
6858	7755	Tauranga	2	0.0%	5	0.1%
1263	1080	Rotorua	0	0.0%	0	0.0%
970	1738	Whakatane	0	0.0%	0	0.0%
869	1021	Taupo	0	0.0%	0	0.0%
2233	2332	New Plymouth	0	0.0%	0	0.0%
2884	1326	Gisborne	0	0.0%	0	0.0%
<b>24047</b>	<b>24260</b>	<b>Midland</b>	<b>6</b>	<b>0.0%</b>	<b>8</b>	<b>0.0%</b>
1429	1158	Napier	0	0.0%	0	0.0%
787	546	Hastings	0	0.0%	2	0.4%
1080	903	Wanganui	0	0.0%	1	0.1%
3780	4380	Palmerston North/Levin/Dannevirke	1	0.0%	6	0.1%
8524	8130	Wellington	12	0.1%	16	0.2%
886	936	Lower Hutt	0	0.0%	3	0.3%
553	331	Porirua	0	0.0%	0	0.0%
1920	2207	Nelson	1	0.1%	1	0.0%
449	727	Wairau (Blenheim)	0	0.0%	2	0.3%
<b>19408</b>	<b>19318</b>	<b>Central</b>	<b>14</b>	<b>0.1%</b>	<b>31</b>	<b>0.2%</b>
516	492	Greymouth	0	0.0%	0	0.0%
470	490	Westport/Buller	0	0.0%	0	0.0%
8779	10071	Christchurch	2	0.0%	6	0.1%
77	106	Ashburton	0	0.0%	0	0.0%
732	685	Timaru	0	0.0%	0	0.0%
3326	3162	Dunedin	1	0.0%	7	0.2%
2138	2470	Invercargill/Gore/Wyndham	0	0.0%	2	0.1%
<b>16038</b>	<b>17476</b>	<b>South</b>	<b>3</b>	<b>0.0%</b>	<b>15</b>	<b>0.1%</b>
<b>89208</b>	<b>84746</b>	<b>Total</b>	<b>71</b>	<b>0.1%</b>	<b>89</b>	<b>0.1%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinic visits for the report period for any reason.

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

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

**Table 25. NSU (males only) - number of cases and disease rates by SHCs, 2007-2008**

<u>Total Clinic Visits for males<sup>1</sup></u>			<u>2007 Total</u>		<u>2008 Total</u>	
<u>2007</u>	<u>2008</u>	<u>Clinic</u>	<u>No.</u>	<u>Rate<sup>2</sup></u>	<u>No.</u>	<u>Rate<sup>2</sup></u>
601	640	Whangarei	0	0.0%	2	0.3%
34	20	Dargaville	0	0.0%	0	0.0%
53	19	Kaikohe	0	0.0%	2	10.5%
12938	10070	Auckland	407	3.1%	367	3.6%
<b>13626</b>	<b>10749</b>	<b>North</b>	<b>407</b>	<b>3.0%</b>	<b>371</b>	<b>3.5%</b>
3406	3714	Hamilton	59	1.7%	0	0.0%
1630	1720	Tauranga	53	3.3%	47	2.7%
483	395	Rotorua	2	0.4%	1	0.3%
250	244	Whakatane	3	1.2%	3	1.2%
265	308	Taupo	2	0.8%	0	0.0%
952	981	New Plymouth	57	6.0%	49	5.0%
353	154	Gisborne	0	0.0%	0	0.0%
<b>7339</b>	<b>7516</b>	<b>Midland</b>	<b>176</b>	<b>2.4%</b>	<b>100</b>	<b>1.3%</b>
325	258	Napier	0	0.0%	0	0.0%
138	104	Hastings	0	0.0%	0	0.0%
370	302	Wanganui	1	0.3%	6	2.0%
1664	1901	Palmerston North/Levin/Dannevirke	45	2.7%	59	3.1%
4557	4475	Wellington	7	0.2%	35	0.8%
400	465	Lower Hutt	1	0.3%	3	0.6%
263	147	Porirua	1	0.4%	0	0.0%
925	1039	Nelson	32	3.5%	17	1.6%
318	367	Wairau (Blenheim)	0	0.0%	0	0.0%
<b>8960</b>	<b>9058</b>	<b>Central</b>	<b>87</b>	<b>1.0%</b>	<b>120</b>	<b>1.3%</b>
169	191	Greymouth	0	0.0%	0	0.0%
113	151	Westport/Buller	3	2.7%	1	0.7%
4608	5257	Christchurch	70	1.5%	71	1.4%
32	49	Ashburton	0	0.0%	0	0.0%
356	322	Timaru	0	0.0%	0	0.0%
1135	1032	Dunedin	6	0.5%	4	0.4%
1019	1147	Invercargill/Gore/Wyndham	20	2.0%	24	2.1%
<b>7432</b>	<b>8149</b>	<b>South</b>	<b>99</b>	<b>1.3%</b>	<b>100</b>	<b>1.2%</b>
<b>37357</b>	<b>35472</b>	<b>Total</b>	<b>769</b>	<b>2.1%</b>	<b>691</b>	<b>1.9%</b>

<sup>1</sup> Total No. of Clinic Visits = total no. of clinic visits for the report period for any reason.

<sup>2</sup> Rate = (no. of cases/total no. of clinic visits) x 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 rates<sup>1</sup> by age, sex and ethnicity, SHCs, 2008**

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Chlamydia</i></b>											
<b>Males</b>	European/Pakeha	1	244	451	247	116	59	36	68	0	<b>1222</b>
		2.2	9.9	7.2	5.8	3.6	2.3	2.0	2.0	0.0	<b>5.1</b>
	Maori	8	210	221	98	56	25	11	11	0	<b>640</b>
		20.0	20.2	15.2	12.5	9.5	6.1	4.6	3.6	0.0	<b>13.2</b>
	Pacific Peoples	1	51	71	48	20	8	8	2	0	<b>209</b>
		33.3	27.1	18.8	14.7	9.7	5.0	8.8	2.2	-	<b>14.5</b>
	Other	1	11	37	27	20	13	5	3	0	<b>117</b>
		16.7	6.4	4.6	2.8	2.9	2.6	1.4	0.5	0.0	<b>2.9</b>
	Unknown	0	4	12	6	3	4	1	1	0	<b>31</b>
		0.0	3.5	5.7	3.4	2.6	3.4	0.9	0.4	-	<b>2.9</b>
<b>Total</b>	<b>11</b>	<b>520</b>	<b>792</b>	<b>426</b>	<b>215</b>	<b>109</b>	<b>61</b>	<b>85</b>	<b>0</b>	<b>2219</b>	
	<b>10.9</b>	<b>13.0</b>	<b>8.7</b>	<b>6.5</b>	<b>4.5</b>	<b>2.9</b>	<b>2.4</b>	<b>1.8</b>	<b>0.0</b>	<b>6.3</b>	
<b>Females</b>	European/Pakeha	24	635	351	127	50	30	10	13	1	<b>1241</b>
		5.7	6.3	4.2	3.1	1.8	1.6	0.8	0.7	4.2	<b>4.0</b>
	Maori	53	625	323	124	47	14	6	6	2	<b>1200</b>
		11.3	14.1	10.9	8.5	5.4	2.5	2.0	1.9	9.5	<b>10.5</b>
	Pacific Peoples	0	39	71	26	12	6	3	3	0	<b>160</b>
		0.0	9.6	11.3	8.8	6.4	5.9	4.7	2.3	-	<b>8.8</b>
	Other	1	28	32	30	12	4	3	3	1	<b>114</b>
		8.3	5.5	3.4	2.8	2.0	1.1	1.0	0.8	16.7	<b>2.7</b>
	Unknown	0	17	9	6	2	1	0	0	0	<b>35</b>
		0.0	6.6	3.0	5.0	2.5	1.4	0.0	0.0	0.0	<b>3.5</b>
<b>Total</b>	<b>78</b>	<b>1344</b>	<b>786</b>	<b>313</b>	<b>123</b>	<b>55</b>	<b>22</b>	<b>25</b>	<b>4</b>	<b>2750</b>	
	<b>8.5</b>	<b>8.5</b>	<b>5.9</b>	<b>4.4</b>	<b>2.7</b>	<b>1.9</b>	<b>1.1</b>	<b>0.9</b>	<b>7.5</b>	<b>5.6</b>	
<b><i>Gonorrhoea</i></b>											
		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b>Males</b>	European/Pakeha	1	43	77	36	30	16	12	21	0	<b>236</b>
		2.2	1.7	1.2	0.8	0.9	0.6	0.7	0.6	0.0	<b>1.0</b>
	Maori	4	67	84	29	18	14	1	3	0	<b>220</b>
		10.0	6.5	5.8	3.7	3.1	3.4	0.4	1.0	0.0	<b>4.5</b>
	Pacific Peoples	0	13	25	3	9	4	2	0	0	<b>56</b>
		0.0	6.9	6.6	0.9	4.4	2.5	2.2	0.0	-	<b>3.9</b>
	Other	0	2	12	13	2	2	1	2	0	<b>34</b>
		0.0	1.2	1.5	1.3	0.3	0.4	0.3	0.4	0.0	<b>0.8</b>
	Unknown	0	2	4	1	2	0	2	1	0	<b>12</b>
		0.0	1.8	1.9	0.6	1.8	0.0	1.9	0.4	-	<b>1.1</b>
<b>Total</b>	<b>5</b>	<b>127</b>	<b>202</b>	<b>82</b>	<b>61</b>	<b>36</b>	<b>18</b>	<b>27</b>	<b>0</b>	<b>558</b>	
	<b>5.0</b>	<b>3.2</b>	<b>2.2</b>	<b>1.3</b>	<b>1.3</b>	<b>1.0</b>	<b>0.7</b>	<b>0.6</b>	<b>0.0</b>	<b>1.6</b>	
<b>Females</b>	European/Pakeha	1	65	21	7	4	5	1	3	0	<b>107</b>
		0.2	0.6	0.2	0.2	0.1	0.3	0.1	0.2	0.0	<b>0.3</b>
	Maori	6	84	46	25	15	5	7	1	0	<b>189</b>
		1.3	1.9	1.6	1.7	1.7	0.9	2.4	0.3	0.0	<b>1.7</b>
	Pacific Peoples	0	8	22	8	2	0	1	0	0	<b>41</b>
		0.0	2.0	3.5	2.7	1.1	0.0	1.6	0.0	-	<b>2.3</b>
	Other	0	2	1	1	2	2	0	0	0	<b>8</b>
		0.0	0.4	0.1	0.1	0.3	0.6	0.0	0.0	0.0	<b>0.2</b>
	Unknown	0	2	1	3	1	0	0	0	0	<b>7</b>
		0.0	0.8	0.3	2.5	1.3	0.0	0.0	0.0	0.0	<b>0.7</b>
<b>Total</b>	<b>7</b>	<b>161</b>	<b>91</b>	<b>44</b>	<b>24</b>	<b>12</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>352</b>	
	<b>0.8</b>	<b>1.0</b>	<b>0.7</b>	<b>0.6</b>	<b>0.5</b>	<b>0.4</b>	<b>0.5</b>	<b>0.1</b>	<b>0.0</b>	<b>0.7</b>	

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

Table 26. Cont. number of cases and disease rates<sup>1</sup> by age, sex and ethnicity, SHCs, 2008

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Genital Herpes (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	24	75	54	41	30	22	35	0	<b>281</b>
		0.0	1.0	1.2	1.3	1.3	1.2	1.2	1.0	0.0	<b>1.2</b>
	Maori	0	13	18	3	9	2	6	2	0	<b>53</b>
		0.0	1.3	1.2	0.4	1.5	0.5	2.5	0.7	0.0	<b>1.1</b>
	Pacific Peoples	0	0	2	2	0	1	0	0	0	<b>5</b>
		0.0	0.0	0.5	0.6	0.0	0.6	0.0	0.0	-	<b>0.3</b>
	Other	0	1	9	7	2	5	5	4	0	<b>33</b>
		0.0	0.6	1.1	0.7	0.3	1.0	1.4	0.7	0.0	<b>0.8</b>
	Unknown	0	0	6	3	2	0	0	0	0	<b>11</b>
		0.0	0.0	2.8	1.7	1.8	0.0	0.0	0.0	-	<b>1.0</b>
<b>Total</b>		<b>0</b>	<b>38</b>	<b>110</b>	<b>69</b>	<b>54</b>	<b>38</b>	<b>33</b>	<b>41</b>	<b>0</b>	<b>383</b>
		<b>0.0</b>	<b>1.0</b>	<b>1.2</b>	<b>1.1</b>	<b>1.1</b>	<b>1.0</b>	<b>1.3</b>	<b>0.9</b>	<b>0.0</b>	<b>1.1</b>
<b>Females</b>	European/Pakeha	1	84	92	47	38	24	18	38	0	<b>342</b>
		0.2	0.8	1.1	1.2	1.4	1.3	1.4	2.0	0.0	<b>1.1</b>
	Maori	1	12	8	10	7	10	3	2	0	<b>53</b>
		0.2	0.3	0.3	0.7	0.8	1.8	1.0	0.6	0.0	<b>0.5</b>
	Pacific Peoples	0	3	6	0	1	0	0	0	0	<b>10</b>
		0.0	0.7	1.0	0.0	0.5	0.0	0.0	0.0	-	<b>0.5</b>
	Other	0	2	5	11	4	3	3	6	0	<b>34</b>
		0.0	0.4	0.5	1.0	0.7	0.9	1.0	1.5	0.0	<b>0.8</b>
	Unknown	0	2	4	1	1	2	0	0	0	<b>10</b>
		0.0	0.8	1.3	0.8	1.3	2.7	0.0	0.0	0.0	<b>1.0</b>
<b>Total</b>		<b>2</b>	<b>103</b>	<b>115</b>	<b>69</b>	<b>51</b>	<b>39</b>	<b>24</b>	<b>46</b>	<b>0</b>	<b>449</b>
		<b>0.2</b>	<b>0.7</b>	<b>0.9</b>	<b>1.0</b>	<b>1.1</b>	<b>1.3</b>	<b>1.2</b>	<b>1.7</b>	<b>0.0</b>	<b>0.9</b>
<b><i>Genital Warts (first presentation)</i></b>											
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b>Males</b>	European/Pakeha	2	169	438	256	132	87	50	100	0	<b>1234</b>
		4.3	6.8	7.0	6.0	4.1	3.5	2.8	2.9	0.0	<b>5.1</b>
	Maori	2	80	89	34	19	16	7	7	0	<b>254</b>
		5.0	7.7	6.1	4.3	3.2	3.9	3.0	2.3	0.0	<b>5.2</b>
	Pacific Peoples	0	16	31	10	7	4	3	0	0	<b>71</b>
		0.0	8.5	8.2	3.1	3.4	2.5	3.3	0.0	-	<b>4.9</b>
	Other	0	5	35	34	21	10	6	7	1	<b>119</b>
		0.0	2.9	4.3	3.5	3.0	2.0	1.7	1.3	100.0	<b>2.9</b>
	Unknown	0	6	13	12	5	6	4	7	0	<b>53</b>
		0.0	5.3	6.2	6.9	4.4	5.1	3.8	3.1	-	<b>5.0</b>
<b>Total</b>		<b>4</b>	<b>276</b>	<b>606</b>	<b>346</b>	<b>184</b>	<b>123</b>	<b>70</b>	<b>121</b>	<b>1</b>	<b>1731</b>
		<b>4.0</b>	<b>6.9</b>	<b>6.7</b>	<b>5.3</b>	<b>3.8</b>	<b>3.3</b>	<b>2.7</b>	<b>2.6</b>	<b>2.4</b>	<b>4.9</b>
<b>Females</b>	European/Pakeha	16	632	406	140	68	50	25	27	1	<b>1365</b>
		3.8	6.2	4.8	3.4	2.4	2.7	2.0	1.4	4.2	<b>4.4</b>
	Maori	10	193	112	28	19	11	2	5	0	<b>380</b>
		2.1	4.3	3.8	1.9	2.2	1.9	0.7	1.6	0.0	<b>3.3</b>
	Pacific Peoples	0	26	37	16	8	5	3	2	0	<b>97</b>
		0.0	6.4	5.9	5.4	4.3	5.0	4.7	1.5	-	<b>5.3</b>
	Other	0	16	36	36	10	5	3	8	0	<b>114</b>
		0.0	3.1	3.9	3.3	1.7	1.4	1.0	2.0	0.0	<b>2.7</b>
	Unknown	0	14	14	5	1	2	3	1	0	<b>40</b>
		0.0	5.4	4.7	4.2	1.3	2.7	3.8	1.4	0.0	<b>4.0</b>
<b>Total</b>		<b>26</b>	<b>881</b>	<b>605</b>	<b>225</b>	<b>106</b>	<b>73</b>	<b>36</b>	<b>43</b>	<b>1</b>	<b>1996</b>
		<b>2.8</b>	<b>5.6</b>	<b>4.6</b>	<b>3.2</b>	<b>2.3</b>	<b>2.5</b>	<b>1.8</b>	<b>1.5</b>	<b>1.9</b>	<b>4.1</b>

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

**Table 26. Cont. number of cases and disease rates<sup>1</sup> by age, sex and ethnicity, SHCs, 2008**

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Syphilis</i></b>											
<b>Males</b>	European/Pakeha	0	0	5	7	3	6	7	14	0	42
		0.0	0.0	0.1	0.2	0.1	0.2	0.4	0.4	0.0	0.2
	Maori	0	0	2	0	2	1	0	2	0	7
		0.0	0.0	0.1	0.0	0.3	0.2	0.0	0.7	0.0	0.1
	Pacific Peoples	0	0	1	1	0	3	0	0	0	5
		0.0	0.0	0.3	0.3	0.0	1.9	0.0	0.0	-	0.3
	Other	0	1	4	6	2	1	1	4	0	19
	0.0	0.6	0.5	0.6	0.3	0.2	0.3	0.7	0.0	0.5	
Unknown	0	0	0	0	0	2	0	1	0	3	
	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.4	-	0.3	
<b>Total</b>		<b>0</b>	<b>1</b>	<b>12</b>	<b>14</b>	<b>7</b>	<b>13</b>	<b>8</b>	<b>21</b>	<b>0</b>	<b>76</b>
		<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.2</b>	<b>0.1</b>	<b>0.4</b>	<b>0.3</b>	<b>0.5</b>	<b>0.0</b>	<b>0.2</b>
<b>Females</b>	European/Pakeha	0	0	0	0	0	1	0	2	0	3
		0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
	Maori	0	0	1	2	0	0	0	0	0	3
		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	Pacific Peoples	0	0	1	0	0	2	0	2	0	5
		0.0	0.0	0.2	0.0	0.0	2.0	0.0	1.5	-	0.3
	Other	0	0	0	0	0	1	0	1	0	2
	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0	
<b>Total</b>		<b>0</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>13</b>
		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>
<b><i>NSU (Males Only)</i></b>											
<b>Males</b>	European/Pakeha	0	29	110	95	66	50	42	73	0	465
		0.0	1.2	1.8	2.2	2.1	2.0	2.3	2.1	0.0	1.9
	Maori	0	12	27	21	14	7	5	4	0	90
		0.0	1.2	1.9	2.7	2.4	1.7	2.1	1.3	0.0	1.9
	Pacific Peoples	0	2	10	9	8	5	0	1	0	35
		0.0	1.1	2.7	2.8	3.9	3.1	0.0	1.1	-	2.4
	Other	0	5	13	18	17	9	10	10	0	82
	0.0	2.9	1.6	1.8	2.4	1.8	2.8	1.8	0.0	2.0	
Unknown	0	2	4	4	0	7	0	2	0	19	
	0.0	1.8	1.9	2.3	0.0	5.9	0.0	0.9	-	1.8	
<b>Total</b>		<b>0</b>	<b>50</b>	<b>164</b>	<b>147</b>	<b>105</b>	<b>78</b>	<b>57</b>	<b>90</b>	<b>0</b>	<b>691</b>
		<b>0.0</b>	<b>1.3</b>	<b>1.8</b>	<b>2.3</b>	<b>2.2</b>	<b>2.1</b>	<b>2.2</b>	<b>1.9</b>	<b>0.0</b>	<b>1.9</b>

<sup>1</sup> 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 rates<sup>1</sup> by age, sex and ethnicity, FPCs, 2008

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<b><i>Chlamydia</i></b>											
<b>Males</b>	European/Pakeha	1	88	106	28	8	5	2	0	0	238
		0.9	5.2	5.5	3.9	1.8	1.1	0.5	0.0	0.0	4.0
	Maori	1	54	44	5	1	1	1	1	0	108
		1.5	12.5	15.0	4.7	1.9	2.2	5.6	7.7	-	10.5
	Pacific Peoples	0	12	15	6	2	2	0	0	0	37
		0.0	7.3	12.1	12.8	5.9	6.1	0.0	0.0	-	8.5
	Other	1	21	19	17	3	0	0	0	0	61
		2.1	7.0	6.1	11.4	3.1	0.0	0.0	0.0	0.0	5.8
	Unknown	0	5	13	3	1	0	0	0	0	22
		0.0	3.8	7.8	4.2	2.0	0.0	0.0	0.0	0.0	3.7
<b>Total</b>	<b>3</b>	<b>180</b>	<b>197</b>	<b>59</b>	<b>15</b>	<b>8</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>466</b>	
	<b>1.0</b>	<b>6.6</b>	<b>7.0</b>	<b>5.4</b>	<b>2.2</b>	<b>1.2</b>	<b>0.6</b>	<b>0.3</b>	<b>0.0</b>	<b>5.1</b>	
<b>Females</b>	European/Pakeha	15	825	531	118	39	21	12	3	0	1564
		1.0	2.2	1.5	0.8	0.4	0.3	0.3	0.0	0.0	1.3
	Maori	20	391	192	56	20	5	1	0	0	685
		2.9	5.2	4.0	2.7	1.6	0.6	0.2	0.0	0.0	3.8
	Pacific Peoples	4	136	99	36	18	2	0	0	0	295
		2.9	5.4	4.4	3.7	3.0	0.4	0.0	0.0	-	4.0
	Other	6	225	122	49	18	8	6	2	0	436
		1.5	3.2	1.9	1.3	0.7	0.4	0.5	0.2	0.0	1.8
	Unknown	3	40	35	12	5	2	1	1	0	99
		2.0	1.9	1.9	1.1	0.6	0.3	0.2	0.1	0.0	1.2
<b>Total</b>	<b>48</b>	<b>1617</b>	<b>979</b>	<b>271</b>	<b>100</b>	<b>38</b>	<b>20</b>	<b>6</b>	<b>0</b>	<b>3079</b>	
	<b>1.6</b>	<b>2.8</b>	<b>1.9</b>	<b>1.2</b>	<b>0.7</b>	<b>0.3</b>	<b>0.3</b>	<b>0.1</b>	<b>0.0</b>	<b>1.7</b>	
<b><i>Gonorrhoea</i></b>											
<b>Males</b>	European/Pakeha	0	1	5	3	2	0	0	0	0	11
		0.0	0.1	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.2
	Maori	0	8	3	1	0	0	0	0	0	12
		0.0	1.8	1.0	0.9	0.0	0.0	0.0	0.0	-	1.2
	Pacific Peoples	0	2	2	0	0	0	0	0	0	4
		0.0	1.2	1.6	0.0	0.0	0.0	0.0	0.0	-	0.9
	Other	0	1	3	0	0	0	0	0	0	4
		0.0	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
	Unknown	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2
<b>Total</b>	<b>0</b>	<b>12</b>	<b>14</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>32</b>	
	<b>0.0</b>	<b>0.4</b>	<b>0.5</b>	<b>0.4</b>	<b>0.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	
<b>Females</b>	European/Pakeha	1	31	16	4	7	1	0	0	0	60
		0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
	Maori	2	28	10	5	1	0	0	0	0	46
		0.3	0.4	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.3
	Pacific Peoples	0	8	6	1	1	0	0	0	0	16
		0.0	0.3	0.3	0.1	0.2	0.0	0.0	0.0	-	0.2
	Other	0	13	4	2	0	0	0	0	0	19
		0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
	Unknown	0	3	3	1	0	0	0	0	0	7
		0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1
<b>Total</b>	<b>3</b>	<b>83</b>	<b>39</b>	<b>13</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>148</b>	
	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>	

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

Table 27. cont. number of cases and disease rates<sup>1</sup> by age, sex and ethnicity, FPCs, 2008

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	≥44	Unk	Total
<b><i>Genital Herpes (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	2	5	3	2	1	2	0	0	15
		0.0	0.1	0.3	0.4	0.4	0.2	0.5	0.0	0.0	0.3
	Maori	0	3	0	1	0	1	0	0	0	5
		0.0	0.7	0.0	0.9	0.0	2.2	0.0	0.0	-	0.5
	Other	0	1	0	0	0	0	0	0	0	1
		0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Unknown	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	<b>Total</b>	<b>0</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>22</b>
		<b>0.0</b>	<b>0.2</b>	<b>0.2</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>
<b>Females</b>	European/Pakeha	0	30	33	10	7	9	4	3	0	96
		0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
	Maori	0	6	3	1	0	0	0	0	0	10
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Other	0	5	1	3	4	0	1	0	0	14
		0.0	0.1	0.0	0.1	0.2	0.0	0.1	0.0	0.0	0.1
	Unknown	0	2	0	1	0	0	0	0	0	3
		0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
	<b>Total</b>	<b>0</b>	<b>43</b>	<b>37</b>	<b>15</b>	<b>11</b>	<b>9</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>123</b>
		<b>0.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>
<b><i>Genital Warts (first presentation)</i></b>											
<b>Unknown</b>	European/Pakeha	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	-	4.0
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
		<b>0.0</b>	<b>0.0</b>	<b>14.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.0</b>
<b>Males</b>	European/Pakeha	0	19	61	7	5	4	0	1	0	97
		0.0	1.1	3.2	1.0	1.1	0.9	0.0	0.3	0.0	1.6
	Maori	0	6	7	2	0	2	0	0	0	17
		0.0	1.4	2.4	1.9	0.0	4.3	0.0	0.0	-	1.7
	Pacific Peoples	0	2	2	0	0	0	0	0	0	4
		0.0	1.2	1.6	0.0	0.0	0.0	0.0	0.0	-	0.9
	Other	0	7	4	1	1	1	0	0	0	14
		0.0	2.3	1.3	0.7	1.0	1.5	0.0	0.0	0.0	1.3
	Unknown	0	1	2	2	1	0	0	0	0	6
		0.0	0.8	1.2	2.8	2.0	0.0	0.0	0.0	0.0	1.0
	<b>Total</b>	<b>0</b>	<b>35</b>	<b>76</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>138</b>
		<b>0.0</b>	<b>1.3</b>	<b>2.7</b>	<b>1.1</b>	<b>1.0</b>	<b>1.1</b>	<b>0.0</b>	<b>0.3</b>	<b>0.0</b>	<b>1.5</b>
<b>Females</b>	European/Pakeha	5	157	113	24	10	4	4	3	0	320
		0.3	0.4	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.3
	Maori	0	31	12	2	1	0	0	0	0	46
		0.0	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.3
	Pacific Peoples	0	3	2	3	1	0	0	0	0	9
		0.0	0.1	0.1	0.3	0.2	0.0	0.0	0.0	-	0.1
	Other	0	18	8	7	1	1	0	0	0	35
		0.0	0.3	0.1	0.2	0.0	0.1	0.0	0.0	0.0	0.1
	Unknown	0	9	8	3	3	0	0	1	0	24
		0.0	0.4	0.4	0.3	0.3	0.0	0.0	0.1	0.0	0.3
	<b>Total</b>	<b>5</b>	<b>218</b>	<b>143</b>	<b>39</b>	<b>16</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>434</b>
		<b>0.2</b>	<b>0.4</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	<b>0.0</b>	<b>0.1</b>	<b>0.0</b>	<b>0.0</b>	<b>0.2</b>
<b><i>Syphilis</i></b>											
<b>Males</b>	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Males</b>	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b><i>NSU (Males Only)</i></b>											
<b>Males</b>	European/Pakeha	0	1	2	4	1	0	0	1	0	9
		0.0	0.1	0.1	0.6	0.2	0.0	0.0	0.3	0.0	0.2
	Maori	0	2	0	0	0	0	0	0	0	2
		0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	-	0.2
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>11</b>
		<b>0.0</b>	<b>0.1</b>	<b>0.1</b>	<b>0.5</b>	<b>0.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>0.0</b>	<b>0.2</b>

<sup>1</sup> 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 rates<sup>1</sup> by age, sex and ethnicity, SYHCs, 2008

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<b><i>Chlamydia</i></b>											
<b>Males</b>	European/Pakeha	1	61	71	5	0	1	0	0	0	139
		0.3	0.9	0.5	0.2	0.0	0.1	0.0	0.0	0.0	0.5
	Maori	0	28	30	1	1	0	0	0	0	60
		0.0	4.9	2.0	0.4	0.4	0.0	0.0	0.0	-	1.8
	Pacific Peoples	0	2	11	0	1	0	0	0	0	14
		0.0	1.3	3.3	0.0	0.5	0.0	0.0	0.0	-	1.2
	Other	0	7	16	4	1	0	1	0	0	29
		0.0	0.6	0.3	0.2	0.1	0.0	0.3	0.0	-	0.3
	Unknown	0	5	10	3	1	0	0	0	0	19
		0.0	1.3	1.0	0.8	0.7	0.0	0.0	0.0	0.0	0.1
<b>Total</b>	<b><u>1</u></b>	<b><u>103</u></b>	<b><u>138</u></b>	<b><u>13</u></b>	<b><u>4</u></b>	<b><u>1</u></b>	<b><u>1</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>261</u></b>	
	<b><u>0.1</u></b>	<b><u>1.1</u></b>	<b><u>0.6</u></b>	<b><u>0.2</u></b>	<b><u>0.1</u></b>	<b><u>0.1</u></b>	<b><u>0.1</u></b>	<b><u>0.0</u></b>	<b><u>0.0</u></b>	<b><u>0.4</u></b>	
<b>Females</b>	European/Pakeha	6	237	194	20	4	1	1	1	1	465
		1.6	1.1	0.5	0.3	0.1	0.1	0.1	0.0	0.1	0.6
	Maori	7	138	50	9	0	1	0	0	1	206
		4.6	6.2	1.1	0.7	0.0	0.2	0.0	0.0	-	2.0
	Pacific Peoples	0	14	26	3	0	0	0	0	0	43
		0.0	2.9	2.2	0.8	0.0	0.0	0.0	0.0	-	1.6
	Other	0	12	25	6	0	0	0	1	0	44
		0.0	0.5	0.3	0.1	0.0	0.0	0.0	0.2	-	0.2
	Unknown	0	10	21	3	0	1	1	0	1	37
		0.0	1.1	1.1	0.6	0.0	0.9	1.4	0.0	0.0	0.1
<b>Total</b>	<b><u>13</u></b>	<b><u>411</u></b>	<b><u>316</u></b>	<b><u>41</u></b>	<b><u>4</u></b>	<b><u>3</u></b>	<b><u>2</u></b>	<b><u>2</u></b>	<b><u>3</u></b>	<b><u>795</u></b>	
	<b><u>1.4</u></b>	<b><u>1.5</u></b>	<b><u>0.5</u></b>	<b><u>0.3</u></b>	<b><u>0.1</u></b>	<b><u>0.1</u></b>	<b><u>0.1</u></b>	<b><u>0.0</u></b>	<b><u>0.0</u></b>	<b><u>0.5</u></b>	
<b><i>Gonorrhoea</i></b>											
<b>Males</b>	European/Pakeha	0	5	7	0	0	0	0	0	0	12
		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maori	0	6	5	0	0	0	0	0	0	11
		0.0	1.1	0.3	0.0	0.0	0.0	0.0	0.0	-	0.3
	Pacific Peoples	0	1	0	0	0	0	0	0	0	1
		0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	-	0.1
	Other	0	0	2	1	0	0	0	0	0	3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Unknown	0	1	1	0	0	0	0	0	0	2	
	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Total</b>	<b><u>0</u></b>	<b><u>13</u></b>	<b><u>15</u></b>	<b><u>1</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>29</u></b>	
	<b><u>0.0</u></b>	<b><u>0.1</u></b>	<b><u>0.1</u></b>	<b><u>0.0</u></b>							
<b>Females</b>	European/Pakeha	0	13	9	2	0	0	0	0	0	24
		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maori	0	1	3	1	0	0	0	0	0	5
		0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	-	0.0
	Pacific Peoples	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-	0.0
	Other	0	1	2	1	0	0	0	0	0	4
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Unknown	0	0	1	0	0	0	0	0	0	1	
	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Total</b>	<b><u>0</u></b>	<b><u>15</u></b>	<b><u>16</u></b>	<b><u>4</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>0</u></b>	<b><u>35</u></b>	
	<b><u>0.0</u></b>	<b><u>0.1</u></b>	<b><u>0.0</u></b>								

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

Table 28. cont. number of cases and disease rates<sup>1</sup> by age, sex and ethnicity, SYHCs, 2008

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Genital Herpes (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	3	7	0	1	0	0	0	0	11
		0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	Maori	0	1	2	0	0	0	0	0	0	3
		0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-
	Other	0	1	1	0	0	0	0	0	0	2
		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
<b>Females</b>	European/Pakeha	0	23	30	3	0	0	0	0	0	56
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Maori	0	4	0	1	0	0	0	0	0	5
		0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-
	Pacific Peoples	0	1	0	0	0	0	0	0	0	1
		0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
<b>Total</b>		<u>0</u>	<u>5</u>	<u>12</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>19</u>
		<u>0.0</u>	<u>0.1</u>	<u>0.1</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
		0	28	31	5	1	0	0	0	0	65
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		0	23	30	3	0	0	0	0	0	56
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
<b><i>Genital Warts (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	13	40	4	1	0	0	0	0	58
		0.0	0.2	0.3	0.1	0.1	0.0	0.0	0.0	0.0	0.2
	Maori	0	3	4	0	0	0	0	0	0	7
		0.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-
	Pacific Peoples	0	3	2	1	0	0	0	0	0	6
		0.0	1.9	0.6	0.7	0.0	0.0	0.0	0.0	0.0	-
<b>Females</b>	European/Pakeha	1	48	52	2	0	0	0	0	0	103
		0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Maori	0	8	8	1	1	1	1	0	1	21
		0.0	0.4	0.2	0.1	0.1	0.2	0.3	0.0	0.0	-
	Pacific Peoples	0	0	4	0	0	0	0	0	0	4
		0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-
<b>Total</b>		<u>1</u>	<u>66</u>	<u>83</u>	<u>5</u>	<u>3</u>	<u>1</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>161</u>
		<u>0.1</u>	<u>0.2</u>	<u>0.1</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>
		0	0	9	0	2	0	0	0	0	11
		0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0	0.0
		<u>0</u>	<u>0</u>	<u>9</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>11</u>
		<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	<u>0.2</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>

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