

**Sexually Transmitted Infections
in New Zealand**

**Annual Surveillance Report
2004**

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By

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Summary

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

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

When comparing the same regions, laboratory surveillance reported three times the number of chlamydia and double the number of gonorrhoea cases 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 2000 to 2004 the number of confirmed chlamydia and gonorrhoea cases diagnosed at SHCs has increased by 28.2% and 44.4% respectively.
- Genital warts remains the most common viral infection diagnosed and in SHCs the rate was highest in the 15–19 year age group.
- From 2003 to 2004 the number of genital herpes (first presentation) infections decreased by 0.5% at SHCs. Cases were equally distributed between sexes and predominantly associated with European ethnicity.
- There were 46 cases of syphilis reported in 2004, an increase of 53.3% from 2003.
- The total number of NSU cases reported in 2004 was 1 005, the rate of NSU has steadily decreased since 2001.
- Young people remain at high risk of STIs with those aged less than 24 years having the highest rates of chlamydia, gonorrhoea, genital herpes and genital warts diagnosed at SHCs.
- In 2004, 758 SHC attendees were diagnosed with concurrent infections. Young people and those of Maori and Pacific People ethnicity are at greater risk of concurrent infections.
- Of the 10 321 SHC patients diagnosed with an STI in 2004, 10.9% presented with a subsequent STI infection.

Laboratory Surveillance Key points

- STI rates in infants remain high, reinforcing the need for effective STI screening during pregnancy.
- Young people were confirmed as being at the highest risk of chlamydia with the highest rates being in females aged 15 to 19 years and in males aged 20 to 24 years.
- Extrapolation of regional laboratory surveillance indicates that chlamydia is the most common communicable bacterial disease occurring in New Zealand.

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

Introduction

The report summarises the epidemiology of sexually transmitted infections (STIs) in 2004, and examines trends since 2000. It covers the STIs of public health importance, including chlamydia, gonorrhoea, genital herpes, genital warts, syphilis, non-specific urethritis, chancroid, granuloma inguinale and lymphogranuloma venereum.

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

The clinic-based data is derived from SHCs, FPCs, 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.

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, Dunedin, and only a brief summary report is presented here.

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

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

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

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

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. Data has been received from the new laboratories but 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 2004 is included together with some discussion of trends in all STIs from 2000. Possible factors underlying the observed distribution and trends are discussed.

Methods

All results and analyses are based on data submitted prior to the 28th February 2005. 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 cases meeting one or more of the STI surveillance case definitions (see Appendix B). Each month clinics send the demographic data of 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 (DHB): Northland, Tairāwhiti, Taranaki, Hutt Valley, Capital and Coast, Canterbury, West Coast and Southland.

With current data and reporting practice it is not possible to determine the total number of positive cases and specimens. Furthermore, a case with multiple positive specimens may be double counted.

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

Diseases under STI surveillance

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

Analysis methods

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

Table 1. STIs under clinic-based surveillance

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

STI Rates

Calculation of rates

The rates have been calculated using the appropriate numerator and denominator data.

For several reasons population-based rates have not been determined for the new laboratories. Data submitted from newly participating laboratories is presented as the number of test-positive reported cases by age and sex.

The reader is urged to use caution when interpreting rates printed in this report which are based on fewer than five cases as these rates are likely to be unstable and imprecise. Care should also be exercised when interpreting and comparing rates based on fewer than 20 cases.

Numerator data

Clinic-specific rates: the total number of reported cases by disease for the specific clinic. For gonorrhoea and chlamydia the total number of cases includes all confirmed and probable reports.

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

Denominator data

Clinic-specific rates: the denominator for the calculation of clinic-specific infection rates is defined as the total number of clinic visits for any reason. This denominator includes all new and follow-up visits made by clinic attendees, whether for sexual or other health reasons. For specialised youth centres (one-stop shops), denominator does not include non-clinical visits such as career advice and counselling.

Laboratory-specific rates: the denominator for the calculation of laboratory-specific infection rates is the total 'usually resident' population data for the DHBs included in each region as described in the Numerator data section. Data was supplied from the 2001 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.

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

Comparison with previous years

It is not possible to directly compare STI rates at SHCs from 1998 onwards with rates from previous years, as a different denominator (the number of new clinic patients, defined as patients first attending the SHCs and patients re-attending after ≥ 3 months had elapsed) was used prior to 1998.

There have also been significant variations in the number of clinics and laboratories reporting up until 2000. From 2001 to 2004 the data sources have been relatively stable and year-on-year comparisons for this period are reasonably valid.

Data Limitations

Data Completeness

Twenty-six SHCs, thirty-eight FPCs and sixteen SYHCs provided STI surveillance data to ESR for the period, January to December 2004. FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods. Two SHC, two FPCs and five SYHCs provided less than 10 of the 12 months data requested for 2004.

In the Auckland, Waikato and BOP regions chlamydia data was provided by 15/16 (94%) of laboratories and gonorrhoea data from 10/16 (63%) of laboratories.

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 of their region.

For the second half of 2004, additional laboratories have submitted data on chlamydia and gonorrhoea.

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

Generalisability

Clinics participating in STI surveillance are located in cities and some larger rural towns. Most other rural towns and isolated populations have limited or no access to the services offered by SHCs and FPCs. University and polytechnic student health clinics provide services only to those students and staff who attend their institution.

While STIs are diagnosed and treated by a range of primary health care providers, including 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 and therefore differences in the denominator (total clinic visits) 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. Therefore, SHCs will see fewer people than FPCs and student and youth clinics but diagnose more STIs, and 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 86 636 clinic visits during 2004, 59.0% of which were by females. Compared to 2003, the number of clinic visits increased by 6.6% in 2004. Age and ethnicity were not recorded for 0.04% and 1.4% of clinic attendees, respectively. Where age and ethnicity information were provided, 58.0% were aged less than 25 years, 69.2% were of European ethnic group, 18.6% were Maori, 8.6% were Pacific Peoples and 3.6% were Other ethnic groups.

STI diagnosis at SHCs

In 2004, there were 4 061 confirmed and 623 probable cases of chlamydia and 735 confirmed and 84 probable cases of gonorrhoea diagnosed at SHCs. A total of 11 108 STI cases were diagnosed, a rate of 12.8% in SHC attendees.

Chlamydia was the most commonly reported STI, followed by genital warts. No cases of chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2004.

Figures 1 and 2 show the infection rates for the five main STIs reported by SHCs from 2000 to 2004. In males there has been a slight decrease in chlamydia rates from 2003 to 2004. NSU rates steadily decreased from 2001. There was little change in the other STI rates.

Over this period the chlamydia rates in females have steadily increased and there has been little change in the rates of the other STIs.

Figure 1. STI rates at SHCs in males: 2000 to 2004

Denominator is the number of male clinic visits

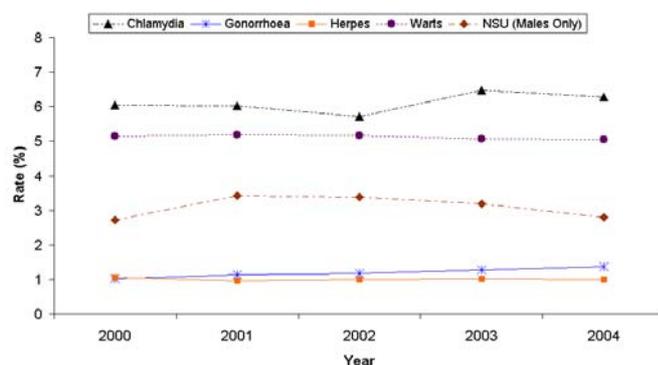


Figure 2. STI rates at SHCs in females: 2000 to 2004

Denominator is the number of female clinic visits

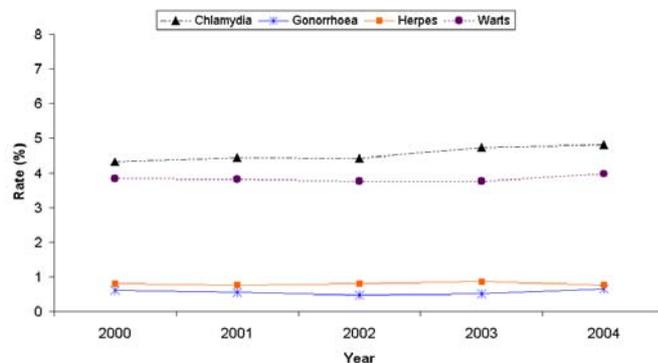


Table 2. Number of STI diagnoses, rates and age comparisons at SHCs, 2004

Infection	Confirmed cases	Total cases [†]	Rate [‡]	Mean age (years)	Age range (years)
Chlamydia	4 061	4 684	5.4%	23	0-68
Gonorrhoea	735	819	0.9%	27	13-83
Genital herpes (first presentation)	-	742	0.9%	29	4-67
Genital warts (first presentation)	-	3 822	4.4%	24	2-73
Syphilis	-	46	0.1%	37	19-70
NSU (males only)	-	995	2.8%	30	15-74
Total STI cases	-	11 108	12.8%		
Total clinic visits		86 636			

[†]Total number of confirmed and probable cases; [‡]Total cases divided by total number of clinic visits. For NSU denominator is male clinic visits only.

Family Planning Clinics (FPCs)

FPC attendees

FPCs reported 179 403 clinic visits during 2004, 96.1% of which were by females. Compared to 2003, the number of clinic visits decreased by 2.2% in 2004.

Age and ethnicity were not recorded for 0.2% and 9.7% of clinic attendees, respectively. Where age and ethnicity information were provided, 69.6% were aged less than 25 years, 74.9% were of European ethnic group, 8.0% were Maori, 13.7% were Pacific Peoples and 3.4% were Other ethnic groups.

STI diagnosis at FPCs

In 2004, 1 607 confirmed chlamydia and 131 confirmed gonorrhoea cases were reported by FPCs. An additional 392 probable cases of chlamydia and 28 probable cases of gonorrhoea were reported in 2004. A total of 2 780 STI episodes were diagnosed, representing a rate of 1.5% in FPC attendees (see Table 3).

Chlamydia was the most commonly reported STI, followed by genital warts. No cases of syphilis, chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2004.

Figures 3 and 4 show the infection rates for the five main STIs reported by FPCs from 2000 to 2004. From 2000 to 2003 rates of chlamydia for males and females have been steadily increasing followed by a decrease between 2003 and 2004.

Over this five-year period there was little change in the other STI rates for both males and females.

Figure 3. STI rates at FPCs in males: 2000 to 2004

Denominator is the number of male clinic visits

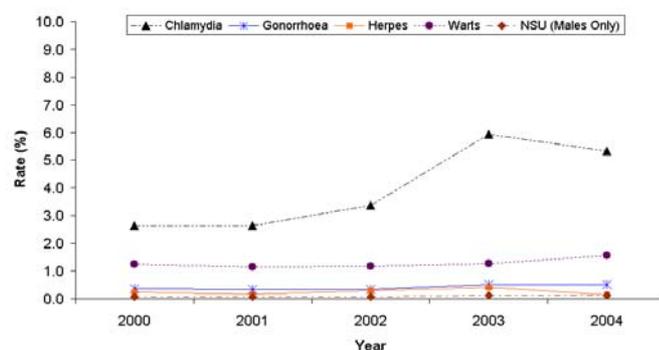


Figure 4. STI rates at FPCs in females: 2000 to 2004

Denominator is the number of female clinic visits

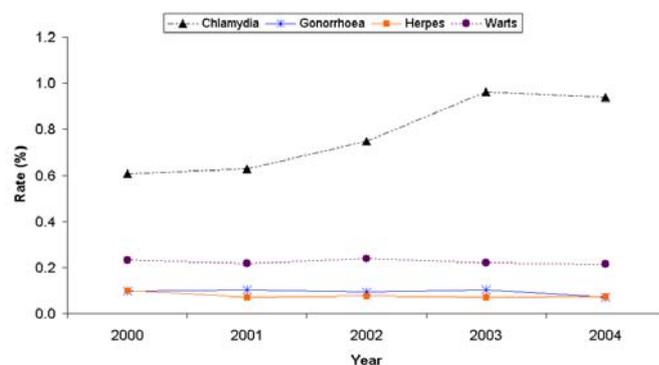


Table 3. Number of STI diagnoses, rates and age comparisons at FPCs, 2004

Infection	Confirmed cases	Total cases [†]	Rate [‡]	Mean age (years)	Age range (years)
Chlamydia	1 607	1 999	1.1%	20	12-59
Gonorrhoea	131	159	0.1%	20	12-55
Genital herpes (first presentation)	-	137	0.1%	25	14-50
Genital warts (first presentation)	-	478	0.3%	21	14-50
Syphilis	-	0	0.0%	-	-
NSU (males only)	-	7	0.1%	23	17-42
Total STI cases	-	2 780	1.5%		
Total clinic visits		179 403			

[†]Total number of confirmed and probable cases; [‡]Total cases divided by total number of clinic visits. For NSU denominator is male clinic visits only

Student and Youth Health Clinics (SYHCs)

SYHC attendees

SYHCs reported 151 332 clinic visits during 2004, 70.1% of which were by females. Compared to 2003 the number of clinic attendances increased by 11.0% in 2004.

Age and ethnicity were not reported for 52.1% and 54.1% of clinic attendees, respectively. Demographics of SYHC attendees are not routinely collected and as some clinics are not computerised the collation of data manually may not be completed due to time restraints.

Where age and ethnicity information were provided, 76.0% were aged less than 25 years, 61.6% were of European ethnic group, 16.0% were Maori, 19.9% were Pacific Peoples and 2.6% were Other ethnic groups.

STI diagnosis at SYHCs

In 2004, 445 confirmed chlamydia cases and 19 confirmed gonorrhoea cases were reported by SYHCs. An additional 11 probable cases of chlamydia were reported in 2004. Therefore a total 637 STIs episodes were diagnosed representing a rate of 0.4% in SYHC attendees (see Table 4).

Chlamydia was the most commonly reported STI followed by genital warts. No cases of syphilis, chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2004.

Figures 5 and 6 show the infection rates for the five main STIs reported by SYHCs from 2000 to 2004.

From 2003 to 2004 there have been increases in the rates of chlamydia and genital warts in both males and females. Over this five-year period there was little change in the other STI rates.

Figure 5. STI rates at SYHCs in males: 2000 to 2004

Denominator is the number of male clinic visits

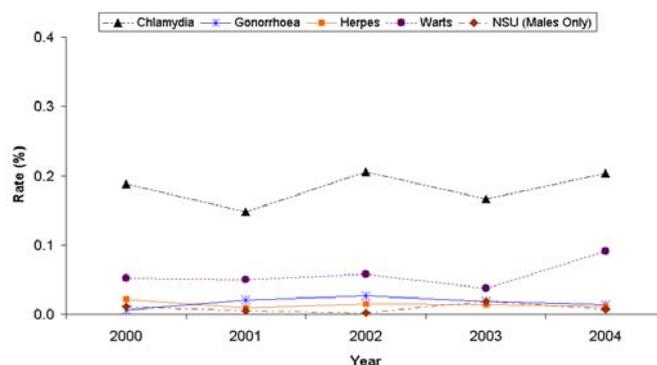


Figure 6. STI rates at SYHCs in females: 2000 to 2004

Denominator is the number of female clinic visits

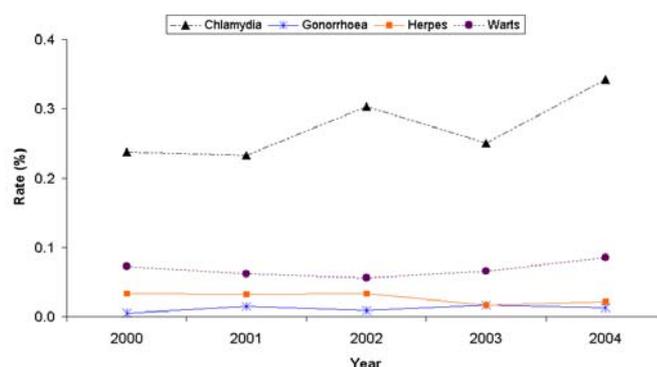


Table 4. Number of STI diagnoses, rates and age comparisons at SYHCs, 2004

Infection	Confirmed cases	Total cases [†]	Rate [‡]	Mean age (years)	Age range (years)
Chlamydia	445	456	0.3%	20	15-54
Gonorrhoea	19	19	0.0%	22	16-34
Genital herpes (first presentation)	-	28	0.0%	26	17-51
Genital warts (first presentation)	-	131	0.1%	21	14-33
Syphilis	-	0	0.0%	-	-
NSU (males only)	-	3	0.0%	22	22-22
Total STI cases	-	637	0.4%		
Total clinic visits		151 332			

[†]Total number of confirmed and probable cases; [‡]Total cases divided by total number of clinic visits. For NSU, denominator is male clinic visits only.

Chlamydia

In 2004, genital chlamydia infection was the most commonly diagnosed STI in New Zealand, with higher rates than genital warts.

Chlamydia infection is asymptomatic in approximately 70% of female and 50% of male cases. 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.

Chlamydia cases in 2004

Between 2003 and 2004 the number of confirmed chlamydia cases increased by 6.8% in SHCs (4 061 compared to 3 800) and 44.0% in SYHCs (445 compared to 309). In contrast there was a decrease of 5.0% in FPCs (1 607 compared to 1 691). In 2004, the number of probable cases accounted for a further 623 cases in SHCs, 392 in FPCs and 11 in SYHCs.

For the total number of cases (confirmed and probable) highest rates were reported in SHCs (5.4%) compared to FPCs (1.1%) and the SYHCs (0.3%). This difference may reflect the different clinic denominators used to calculate rates. Highest rates were reported in males attending FPCs and SHCs compared to females. In FPC attendees the rate in males was nearly five times higher than the overall clinic rate (see Table 5). This possibly reflects that the males attending are partners of chlamydia positive patients contacted through partner notification in FPCs.

In 2004 the majority, over 75%, of chlamydia cases (confirmed and probable) at all clinics were aged less than 25 years. The mean age of chlamydia cases was 23 years in SHCs and 20 years in both FPCs and SYHCs.

In SHCs and SYHCs the highest rates for males and females were from the 15 to 19 years age group. (SHC male - 13.5%, SHC female - 7.2%, SHYC males - 1.0% and SYHC female - 1.2%). In FPCs the chlamydia rates were highest in males aged 20 to 24 years (9.0%) and in females aged 15 to 19 years (1.5%) (see Figures 7 to 9).

Figure 7. Rates of chlamydia diagnosed at SHCs by age group and sex, 2004

Denominator is the number of clinic visits

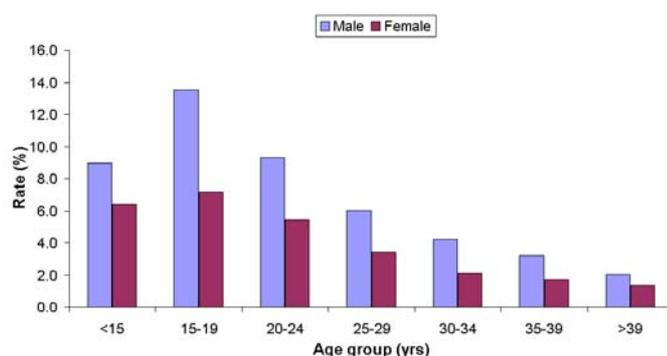
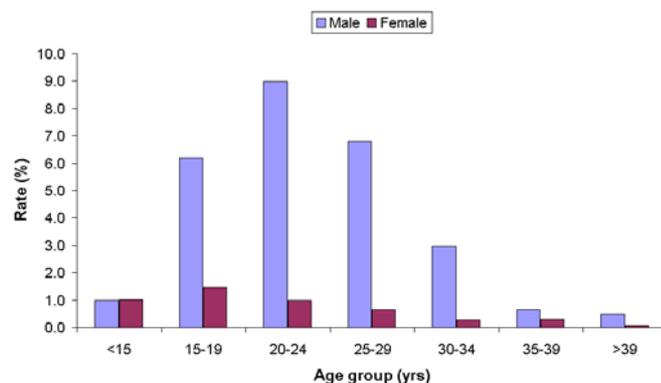


Figure 8. Rates of chlamydia diagnosed at FPCs by age group and sex, 2004

Denominator is the number of clinic visits



Note: In FPCs the male to female ratio is 1:25. Therefore the rates for males may overestimate the true incidence

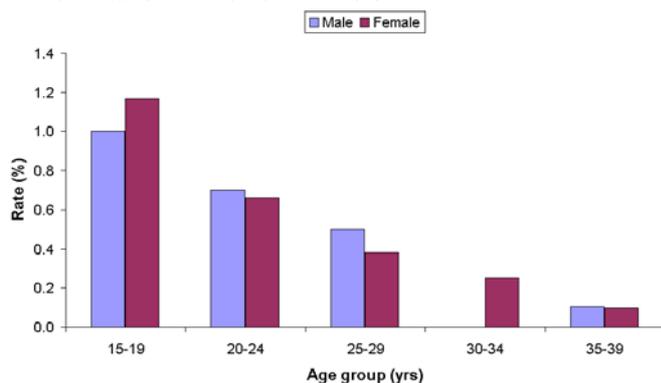
Table 5. Number and rates of chlamydia cases by sex and health care setting, 2004

Clinic type	No. of confirmed cases			Total number of cases [†]			Rate [‡] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
SHCs	2 228	1 833	4 061	2 454	2 230	4 684	4.8%	6.3%	5.4%
FPCs	1 398	209	1 607	1 621	378	1 999	0.9%	5.3%	1.1%
SYHCs	357	88	445	364	92	456	0.3%	0.2%	0.3%

[†]total number of confirmed and probable cases. [‡]total number of confirmed and probable cases/number of clinic visits

Figure 9. Rates of chlamydia diagnosed at SYHCs by age group and sex, 2004

Denominator is the number of clinic visits



In all health care settings the rates of chlamydia varied by ethnic group. In SHCs the rate of chlamydia in Maori (10.1%) was nearly 2.5 times higher than those of European ethnicity (4.2%). In FPCs the chlamydia rate in Maori (2.7%) was three times higher than those of European ethnicity (0.9%). In SYHCs the highest rates were found in those of Maori (1.3%) and Pacific Peoples (1.4%) ethnicity. This may reflect variation in the accessibility and sexual health care provision for different ethnic groups.

SHCs report higher rates in males than females because males are more likely to be symptomatic and are also more likely to seek treatment at SHCs. Higher rates in males in FPCs are likely to be due to a small selected group attending as a result of partner notification.

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

Complicated infections

In 2004, 12.5% of chlamydia cases in SHCs, 2.3% in FPCs and 1.9% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 142 females (77 in SHCs, 38 in FPCs and 27 in SYHCs) were diagnosed with PID, 75.4% of whom were aged less than 25 years. Of the female complicated chlamydia cases, 19.7% were European, 26.8% Maori and 6.3% Pacific Peoples.

A total of 36 males (31 in SHCs, 3 in FPCs and 2 in SYHCs) were diagnosed with epididymitis, 41.7% of whom were aged less than 25 years. Of the male complicated chlamydia cases 36.1% were European, 16.7% Maori and 27.8% Pacific Peoples.

Recent trends

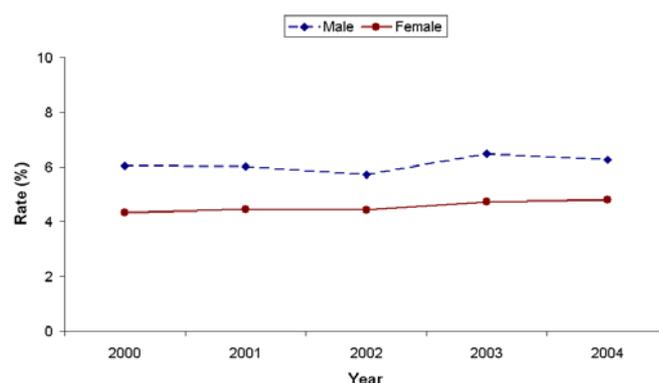
Over the past five years, the total number of chlamydia cases (confirmed and probable) has increased by 28.2% in SHCs, 208.5% in FPCs and 49.0% in SYHCs. The rate of chlamydia diagnosed in males and females at SHCs has increased by 3.9% and 11.2%, respectively (see Figure 10).

These trends are supported by the rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions which was 646 per 100 000 population, an increase of 31.7% since 2001.

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

Figure 10. Rates of chlamydia diagnosed at SHCs: 2000 to 2004

Denominator is the number of clinic visits



The true number of infected people is likely to be much higher than the number of cases reported because of the reservoir of undiagnosed, asymptomatic infection. Opportunistic screening for chlamydia can identify asymptomatic cases enabling treatment and cure but there are no chlamydia screening guidelines, at present, in New Zealand¹.

Gonorrhoea

Infections due to *Neisseria gonorrhoeae* can cause dysuria and vaginal discharge in females and urethral discharge in males. Asymptomatic infection can occur in up to 50% of females and 10% of males. 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.

Gonorrhoea cases in 2004

Between 2003 and 2004, the number of confirmed cases of gonorrhoea increased by 22.9% in SHCs (735 compared to 598). In contrast there was a decrease of 32.1% in FPCs (131 compared to 193) and a decrease of 20.8% in SYHCs (19 compared to 24). In 2004, the number of probable cases accounted for a further 84 cases in SHCs and 28 in FPCs.

Highest rates were reported in SHCs (0.9%) compared to FPCs (0.1%) and SYHCs (0.01%). This difference may be caused by the denominator used to calculate rates, for example, in FPCs and SYHCs the denominator includes visits not related to sexual health. Differences in rates may also reflect differences between the populations attending each health care setting.

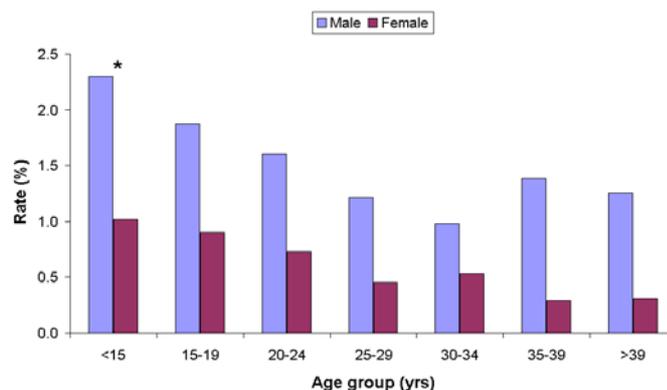
Across health care settings the highest rates were reported in males (see Table 6). Males are more likely to be symptomatic and to seek treatment than females.

In 2004, over 55% at SHCs, over 65% at SHYCs and over 85% at FPCs of the gonorrhoea cases (confirmed and probable) diagnosed were in those aged less than 25 years. The mean age of gonorrhoea cases was 26 years in SHCs, 20 years in FPCs and 22 years in SYHCs. In SHCs the highest rates for males and females were from those aged less than 15 years (2.3%, 1.0%, respectively). In FPCs rates of gonorrhoea were highest in females aged less than 15 years (1.1%) and in males aged 20 to 24 years (2.0%) (see Figures 11 and 12).

In all health care settings the rates of gonorrhoea varied by ethnic group. Higher rates were found in males and females of Maori and Pacific Peoples ethnicity compared to European.

Figure 11. Rates of gonorrhoea diagnosed at SHCs by age group and sex, 2004

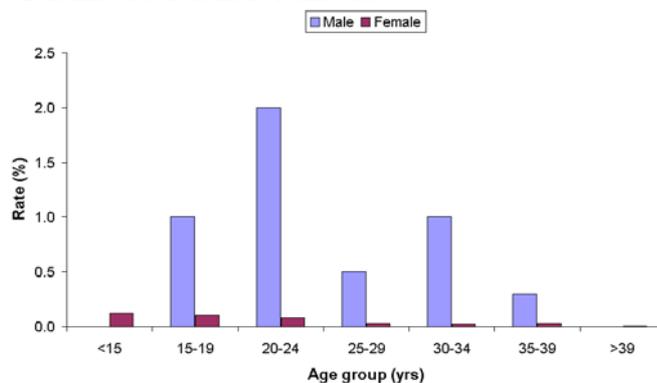
Denominator is the number of clinic visits



* For those aged less than 15 years gonorrhoea rates are distorted due to small number of cases and visits (see Table 25).

Figure 12. Rates of gonorrhoea diagnosed at FPCs by age group and sex, 2004

Denominator is the number of clinic visits



Note: In FPCs the male to female ratio is 1:25. Therefore the rates for males may overestimate the true incidence.

Table 6. Number and rates of gonorrhoea cases by sex and health care setting, 2004

Clinic type	No. of confirmed cases			Total number of cases [†]			Rate [‡] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
SHCs	299	436	735	332	487	819	0.6%	1.4%	0.9%
FPCs	106	25	131	122	37	159	0.1%	0.5%	0.1%
SYHCs	13	6	19	13	6	19	0.01%	0.01%	0.01%

[†]total number of confirmed and probable cases. [‡]total number of confirmed and probable cases/number of clinic visit

Complicated infections

In 2004, 5.0% of gonorrhoea cases in SHCs and 2.0% in FPCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 34 females (30 at SHCs, 4 at FPCs) were diagnosed with PID, 82.4% of whom were aged less than 25 years. Of the female complicated gonorrhoea cases 32.4% were of European ethnic origin and 38.2% of Maori ethnicity.

A total of 13 males (13 at SHCs) were diagnosed with epididymitis, 61.0% of whom were aged less than 25 years.

Of the male complicated gonorrhoea cases 38.5% were of Maori ethnicity, 23.1% of Pacific Peoples and 38.5% of European ethnic origin.

Recent trends

Over the past five years, the total number of gonorrhoea cases reported increased by 44.4% in SHCs, 55.9% in FPCs and 171.4% in SYHCs. The rate of gonorrhoea diagnosed in males and females at SHCs has increased by 34.0% and 6.6%, respectively (see Figure 13).

Over the same period, laboratory gonorrhoea surveillance in the Auckland, Waikato and BOP regions increased by 46.9% from 71 per 100 000 in 2000, to 104 per 100 000 in 2004.

Increases in gonorrhoea are reported in both males and females. In the Auckland region, increases in gonorrhoea are thought to be a reflection of increasing trends in at-risk sexual behaviour in men who have sex with men². Similar findings have also been documented in other countries³.

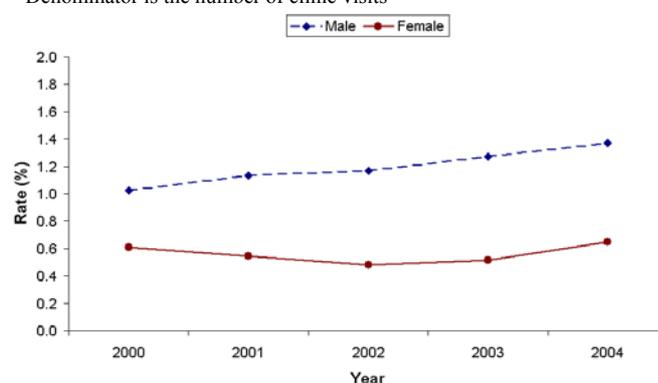
In New Zealand, the increase in gonorrhoea may reflect failures in safe sex messages, the need for more targeted sexual health promotion, shortfalls in partner notification or barriers to accessing sexual health services.

Antibiotic resistant gonorrhoea infection is also becoming a more prominent problem. In 2001 the level of penicillin resistance reached 9.0% and surpassed that acceptable for first line therapy⁴.

In 2004 resistance to ciprofloxacin is also increasing⁵.

Figure 13. Rates of gonorrhoea diagnosed at SHCs: 2000 to 2004

Denominator is the number of clinic visits



Genital Herpes (first presentation)

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

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

Genital herpes cases in 2004

Between 2003 and 2004, the number of cases of genital herpes decreased by 0.5% in SHCs (742 compared to 746) and 11.6% in FPCs (137 compared to 155). In contrast there was an increase of 33.3% in SYHCs (28 compared to 21).

Highest rates were reported in SHCs (0.9%) compared to FPCs (0.1%) and SYHCs (0.02%). This difference may be caused by the denominator used to calculate rates, for example in FPCs and SYHCs the denominator includes visits not related to sexual health. Differences in rates may also reflect differences between the populations attending each health care setting.

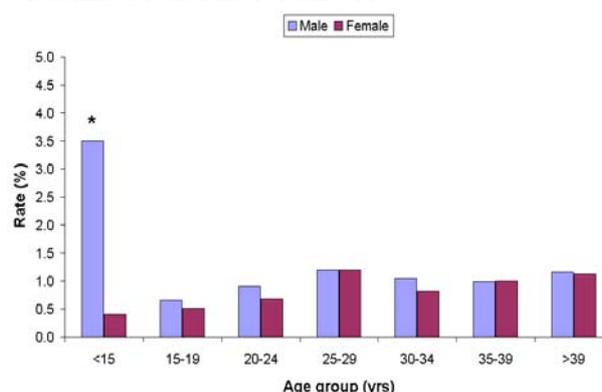
Across all health care settings the highest rates were reported in males (see Table 7).

In 2004, over 60% of the genital herpes cases diagnosed at FPCs and SYHCs were in those aged less than 25 years. In SHCs the highest rates for males were from those aged less than 15 years (3.5% with 3 cases) and the highest rates for females were from the 25 to 29 years age group (1.2% with 87 cases). In FPCs the highest rates for males were in the 25 to 29 years age group (1.7% with 4 cases) (see Figures 14 and 15).

The mean age of genital herpes cases was 29 years in SHCs and 25 years in both FPCs and SYHCs. In all health care settings the majority of genital herpes cases were in those of European ethnicity.

Figure 14. Rates of genital herpes (first presentation) diagnosed at SHCs by age group and sex, 2004

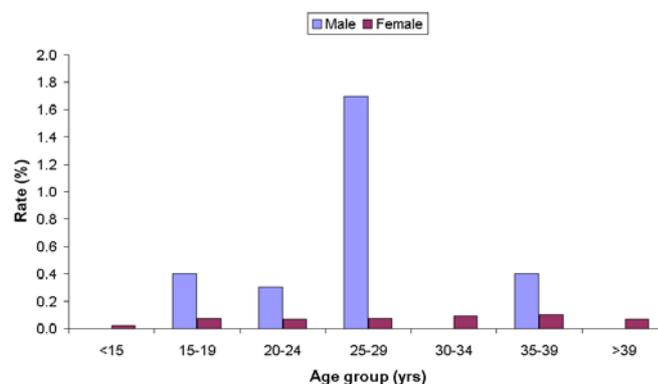
Denominator is the number of clinic visits



* For males aged less than 15 years genital herpes rates are distorted due to small number of cases and visits (see Table 25).

Figure 15. Rates of genital herpes (first presentation) diagnosed at FPCs by age group and sex, 2004

Denominator is the number of clinic visits



Note: In FPCs the male to female ratio is 1:25. Therefore the rates for males may overestimate the true incidence.

Table 7. Number and rates of genital herpes (first presentation) cases by sex and health care setting, 2004

Clinic type	Total number of cases			Rate† (% of clinic visits)		
	Female	Male	Total	Female	Male	Total
SHCs	389	353	742	0.8%	1.0%	0.9%
FPCs	127	10	137	0.1%	0.1%	0.1%
SYHCs	23	5	28	0.01%	0.02%	0.02%

† number of cases/number of clinic visits

Recent trends

Over the past five years, the total number of genital herpes cases reported has fluctuated at SHCs, increasing over 2002 and 2003. From 2003 to 2004 the total number of genital herpes cases reported decreased by 0.5% (see Figure 16).

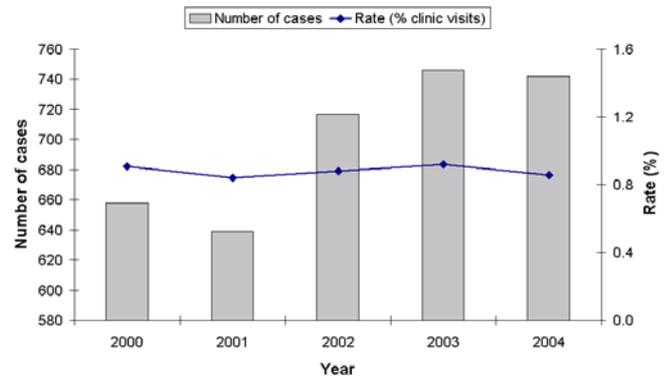
Over the past five years, the rates of genital herpes remained fairly constant. Although this appears insignificant the effect of the increasing number of cases is masked by the very large number of clinic visits used as the denominator (see Table 21).

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

Surveillance as reported here covers only the initial presentation of genital herpes. Prevalence in the population is likely to be much higher.

Figure 16. Number of cases and rates of genital herpes (first presentation) diagnosed at SHCs: 2000 to 2004

Denominator is the number of clinic visits



Genital Warts (first presentation)

In 2004, genital warts, a visible manifestation of human papillomavirus (HPV) infection, was the most commonly reported viral STI in New Zealand. Genital warts are typically caused by two types of HPV, types 6 and 11. But infected patients may also be infected with oncogenic “high risk” HPV types (namely 16 and 18), which are associated with cervical cancer.

Genital warts cases in 2004

Between 2003 and 2004, the number of cases of genital warts increased by 9.6% in SHCs (3 822 compared to 3 488) and 63.8% in SYHCs (131 compared to 80). In contrast there was a decrease of 2.4% in FPCs (478 compared to 490).

Highest rates were reported in SHCs (4.4%) compared to FPCs (0.3%) and SYHCs (0.1%). This difference may be caused by the denominator used to calculate rates, for example, in FPCs and SYHCs the denominator includes visits not related to sexual health. Differences in rates may also reflect differences between the populations attending each health care setting.

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

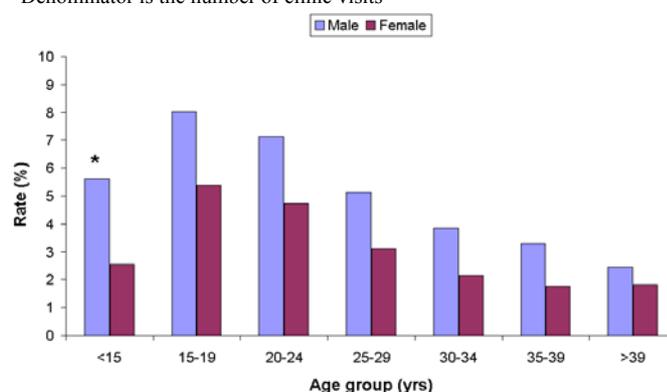
In 2004, the majority of genital warts cases at all clinics were aged less than 25 years (SHCs, 65% of cases; FPCs, 85% of cases; SYHCs 90% of cases). The mean age of genital warts cases was 24 years in SHCs, 21 years in FPCs and 20 years in SYHCs.

In SHCs the rates of genital warts were highest in the 15 to 19 years age groups (male - 8.0% and female - 5.4%). In FPCs the highest rates for males were from 20 to 24 years age group (3.7%) (see Figures 17 and 18).

In SHCs the rates of genital warts varied by ethnic origin. The highest rate of genital warts was in the Maori ethnic group (1.9%).

Figure 17. Rates of genital warts (first presentation) diagnosed at SHCs by age group and sex, 2004

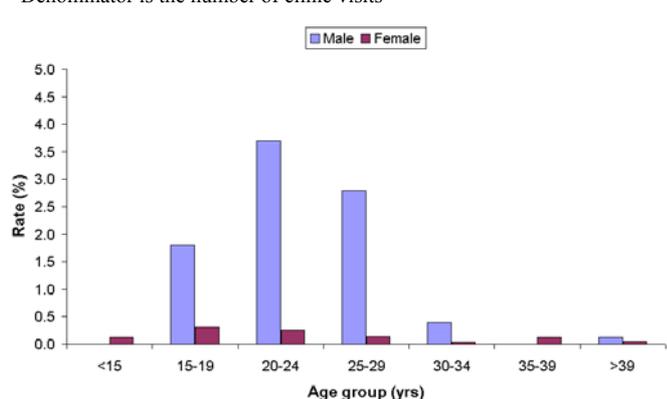
Denominator is the number of clinic visits



* For males aged less than 15 years genital warts rates are distorted due to small number of cases and visits (see Table 25).

Figure 18. Rates of genital warts (first presentation) diagnosed at FPCs by age group and sex, 2004

Denominator is the number of clinic visits



Note: In FPCs the male to female ratio is 1:25. Therefore the rates for males may overestimate the true incidence.

Table 8. Number and rates of genital warts (first presentation) cases by sex and health care setting, 2004

Clinic type	Total number of cases			Rate [†] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total
SHCs	2 029	1 793	3 822	4.0%	5.0%	4.4%
FPCs	367	111	478	0.2%	1.6%	0.3%
SYHCs	90	41	131	0.1%	0.1%	0.1%

[†]number of cases/number of clinic visits

Recent trends

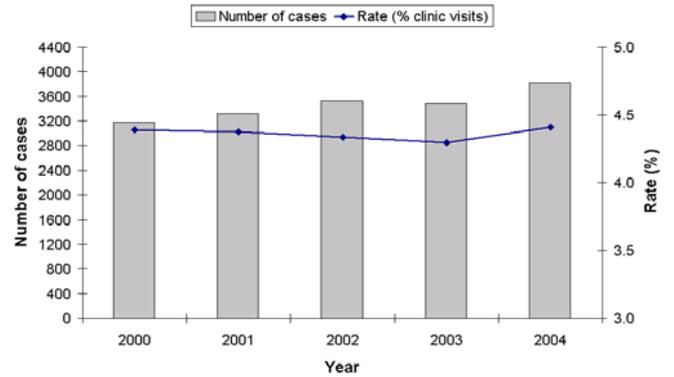
From 2000 to 2004 the number of genital warts cases reported by SHCs had increased by 20.2% (see Figure 19).

Between 2000 and 2004 the rate has varied between 4.3% and 4.4 %. Although this appears insignificant the effect of the increasing number of cases is masked by the very large number of clinic visits, used as the denominator (see Table 22).

Genital warts are of particular public health importance because of the association between some types of human papillomavirus (HPV, mainly types 16 and 18) and cervical, penile and anal cancers. However, approximately 90% of genital warts are caused by HPV types 6 or 11, which are not associated with cervical cancer⁶.

Figure 19. Number of cases and rates of genital warts (first presentation) diagnosed at SHCs: 2000 to 2004

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 can occur for up to five years whereas sexual transmission is usually only for one year.

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

Syphilis cases in 2004

In 2004, a total of 46 syphilis cases were reported at SHCs, representing an increase of 53.3% compared to 2003. In 2004, the rate of syphilis at SHCs was 0.1%.

In 2004, no cases of syphilis were reported at FPCs or SYHCs.

The mean age of syphilis cases was 37 years (range 19 to 70 years). Of the 46 syphilis cases reported in 2004, 34 (74%) were male and 12 (26%) were female.

In SHCs the highest rate of syphilis for females was in the 25 to 29 years age group and for males was in age groups above 35 years (all with 0.3%).

Of the 34 male SHCs attendees with syphilis 44.1% were European and 35.3% were of Other ethnicity. Of the 12 female SHCs attendees with syphilis 25% were European and 50% were of Other ethnicity. (see Table 25).

Recent trends

In 2004 the majority of cases (63%) occurred in the Auckland and Waikato Health Districts. In Auckland, the number of cases reported by SHCs has increased from 12 (in 2003) to 20 (in 2004) with the majority of cases thought to be in the men who have sex with men population⁷.

Over the past five years the number of cases diagnosed at SHCs has varied, but the numbers remain low: 13 (in 2000), 18 (in 2001), 47 (in 2002), 30 (in 2003), 46 (in 2004) (see Figure 21).

Surveillance of infectious syphilis could be more effectively carried out through laboratory reporting. This is being proposed as part of an extended laboratory surveillance programme.

Figure 20. Rates of syphilis diagnosed at SHCs by age group and sex, 2004

Denominator is the number of clinic visits

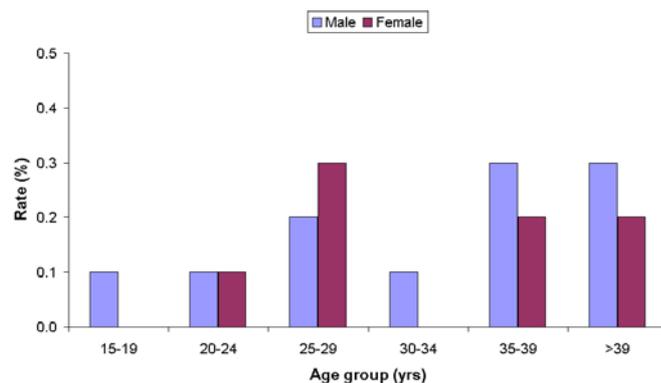
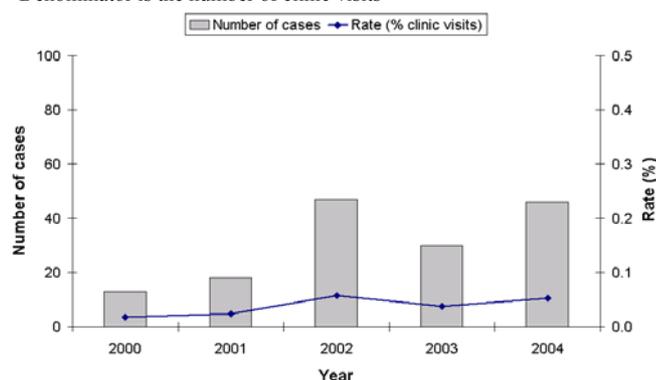


Figure 21. Number of cases and rates of syphilis diagnosed at SHCs: 2000 to 2004

Denominator is the number of clinic visits



NSU (males only)

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

In 2004, there were 995 reported cases of NSU in SHCs, 7 cases in FPCs and 3 cases in SYHCs.

NSU cases in 2004

The mean age for NSU cases was 30 years in SHCs (range 15 to 74 years), 23 years in FPCs (range 17 to 42 years), and 22 years in SYHCs.

In SHCs rates were highest in the 15 to 19 years age group (3.4% with 113 cases).

Recent trends

In SHCs over the past five years the number of cases reported has fluctuated: 825 (in 2000), 1 056 (in 2001), 1 123 (in 2002), 1 057 (in 2003), 995 (in 2004). In 2004 the number of cases decreased by 5.9% compared to 2003. After the increase in from 2000 to 2001, the rate of NSU has steadily decreased from 2001 to 2004 (see Figure 23).

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

Figure 22. Rates of NSU diagnosed at SHCs by age group, 2004

Denominator is the number of male clinic visits

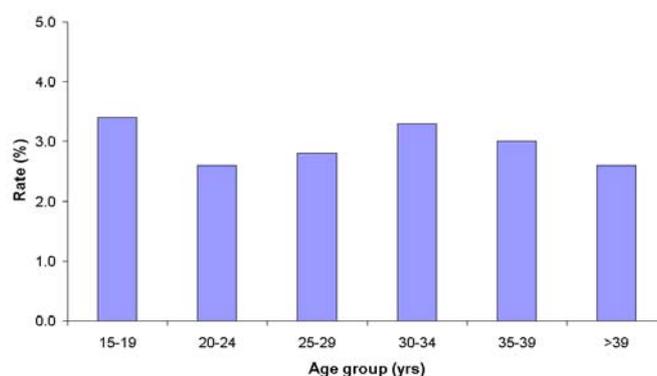
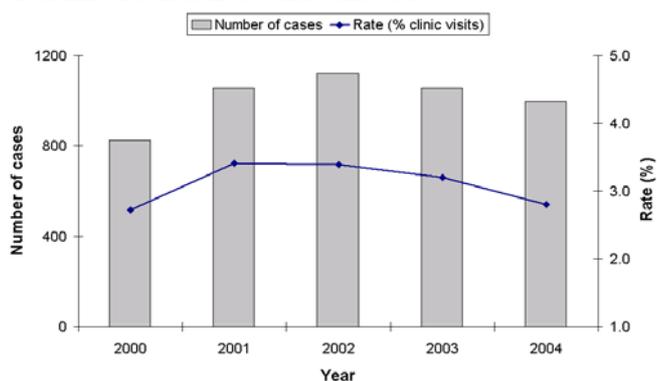


Figure 23. Number of cases and rates of NSU diagnosed at SHCs: 2000 to 2004

Denominator is the number of male clinic visits



Multiple infections

Some SHCs attendees are diagnosed with more than one STI during the same year. Multiple 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 2004, 758 SHC visits were for concurrent infections. Of these 729 (96.2 %) were diagnosed with two infections, 28 (3.7 %) were diagnosed with three infections and one case with four infections in the same month. It is not possible to determine what proportion of clinic attendees were diagnosed with concurrent infections as SHC surveillance does not record the number of patients attending, but rather the total number of clinic visits. In an effort to overcome this problem, some data cleaning was used to try and determine the actual number of cases of concurrent infections reported in Tables 12 and 13.

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

Table 9. Comparison of the sex of attendees with one or concurrent STIs diagnosed at SHCs, 2004

Sex	One STI (%)	Two or more STIs (%)
Male	5 099 (53.32)	390 (51.45)
Female	4 464 (46.68)	368 (48.55)
Total	9 563	758

A significantly higher proportion of those with multiple STIs were in young people. Over 70% 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, 2004

Age group (years)	One STI (%)	Two or more STIs (%)
<15	96 (1.00)	12 (1.58)
15-19	2 577 (26.95)	278 (36.68)
20-24	3 125 (32.68)	250 (32.98)
25-29	1 587 (16.60)	103 (13.59)
30-34	895 (9.36)	53 (6.99)
35-39	520 (5.44)	26 (3.43)
>39	761 (7.96)	36 (4.75)
Unknown	2 (0.02)	
Total	9 563	758

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

Table 11. Comparison of the ethnicities of attendees with one or concurrent STIs diagnosed at SHCs, 2004

Ethnicity	Number of patients	% with one STI	% with two or more STIs
European	6 522	94.76	5.24
Maori	2 513	88.9	11.1
Pacific Peoples	545	83.67	16.33
Other	620	93.55	6.45
Unknown	121	93.39	6.61
Total	10 321		

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 38.1% of concurrent infections. Chlamydia and genital warts accounted for a further 35.4% of concurrent infections.

In those with three STIs diagnosed the combination of chlamydia, gonorrhoea and genital warts accounted for over 60% of concurrent infections.

Table 12. Number of patients with two STI diagnoses at SHC, 2004

STIs	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	289				
Genital herpes	41	2			
Genital warts	268	10	17		
Syphilis	1	0	0	1	
Non-specific urethritis (NSU)	16	0	11	37	0

Table 13. Number of patients with three STI diagnoses at SHC, 2004

First STI	Second STI	Third STI	Numbers of patients
Chlamydia	Gonorrhoea	Genital warts	17
Chlamydia	Genital herpes	Genital warts	5
Chlamydia	Gonorrhoea	Genital herpes	3
Genital herpes	Genital warts	Non-specific urethritis (NSU)	1

Subsequent infections

Of the 10 321 SHC patients diagnosed with an STI in 2004, 1 121 patients (10.9%) were diagnosed with subsequent infections. Of these, 998 SHC patients were diagnosed with an STI twice in 2004, and a further 123 patients were diagnosed with an STI on three separate occasions in 2004.

Subsequent infections were more common among males (53.4%), young people aged under 25 years (82.9%) and people of European ethnicity (49.8%).

Subsequent infections were diagnosed in 10.9% of male patients (599 out of 5489), compared to 10.8% of female patients (522 out of 4832). The greatest proportion of males and females who suffered subsequent infections were those initially diagnosed with genital warts.

Subsequent infections were diagnosed in 11.1% of SHC patients aged less than 15 years and 13.0% of patients aged 15 to 19 years, compared with 6.9% of patients aged 30 years and older. Subsequent infections were diagnosed in 15.5% of Maori, 19.8% of Pacific Peoples and 8.6% of European ethnicity.

Further studies are required to determine the reasons why patients acquire subsequent infections and the current health promotion documents should be re-evaluated to ensure it targets the population at risk. Innovative ideas for health promotion are needed to ensure the safe sex message is not ignored.

Laboratory Surveillance

Chlamydia

Auckland region

In 2004, laboratories in the Auckland region tested 114 530 specimens for chlamydia, of which 7 075 (6.2%) specimens tested positive from 6 821 patients.

The overall rate for the region was 581 per 100 000. The rate in females (799 per 100 000) was nearly twice the rate in males (341 per 100 000).

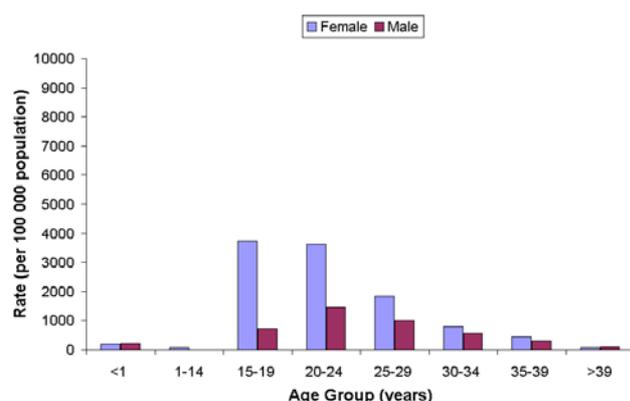
The mean age of chlamydia cases was 24 years (median age 22 years, range 0 to 79 years). Sixty-one per cent of all chlamydia cases were aged less than 25 years.

The chlamydia rate for the less than one-year age group was 211 per 100 000 population (39 cases).

The highest female rates were observed in the 15 to 19 years age group, with a rate of 3 740 per 100 000 population, which equates to nearly six times the regional rate. Comparatively, in males rates were highest in the 20 to 24 years age group with a rate of 1 464 per 100 000 population, followed by the 25 to 29 years age group, with a rate of 1 016 per 100 000 population.

Figure 24. Rates of chlamydia in the Auckland region by age group and sex, 2004

Denominator is the population in each region



Waikato region

In 2004, laboratories in the Waikato region tested 23 399 specimens for chlamydia, of which 2 268 (9.7%) specimens tested positive from 2 262 patients.

The overall rate for the region was 712 per 100 000. The rate in females (979 per 100 000) was twice the rate in males (432 per 100 000).

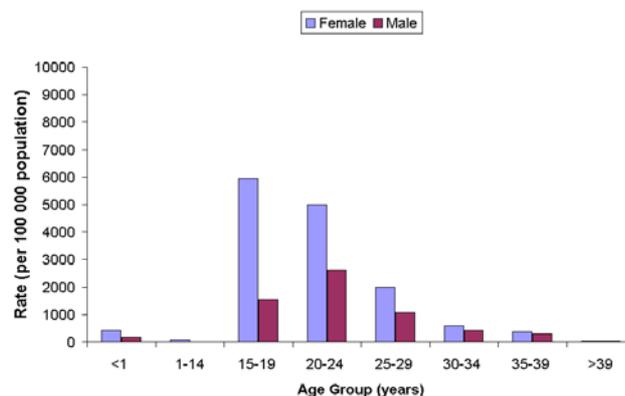
The mean age of chlamydia cases was 22 years (median age 20 years, range 0 to 67 years). Seventy-five per cent of all chlamydia cases were aged less than 25 years.

The chlamydia rate for the less than one year age group was 290 per 100 000 population (14 cases).

The highest female rates were observed in the 15 to 19 years age group, with a rate of 5 937 per 100 000 population, which equates to nearly eight times the regional rate. Comparatively, in males rates were highest in the 20 to 24 years age group with a rate of 2 608 per 100 000 population, followed by the 15 to 19 years age group, with a rate of 1 542 per 100 000 population.

Figure 25. Rates of chlamydia in the Waikato region by age group and sex, 2004

Denominator is the population in each region



Bay of Plenty region

In 2004, laboratories in the BOP region tested 21 932 specimens for chlamydia, of which 2 322 (10.6%) specimens tested positive from 2 322 patients.

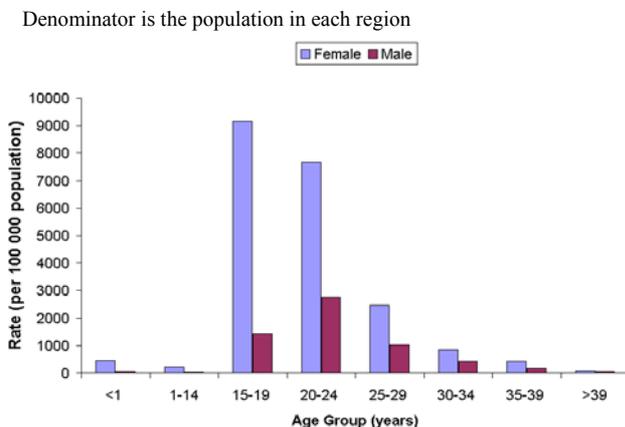
The overall rate for the region was 847 per 100 000. The rate in females (1 294 per 100 000) was nearly four times the rate in males (366 per 100 000).

The mean age of chlamydia cases was 22 years (median age 20 years, range 0 to 59 years). Seventy-six per cent of all chlamydia cases were aged less than 25 years.

The chlamydia rate for the less than one-year age group was 244 per 100 000 population (10 cases).

The highest female rate was observed in the 15 to 19 years age group, with 9 142 per 100 000 population. The highest male rate was observed in the 20 to 24 years age group with a rate of 2 761 per 100 000 population. Overall the highest rate was observed in the 20 to 24 years age group with a rate of 5 243 per 100 000 population

Figure 26. Rates of chlamydia in the BOP region by age group and sex, 2004



Other regions

In 2004, laboratories in other regions reported 1 726 test positive specimens for chlamydia from 1 459 patients.

The majority of chlamydia cases (70%) in these regions were in females.

The mean age of chlamydia cases was 22 years (median age 20 years, range 0 to 58 years). Sixty-seven per cent of all chlamydia cases were aged less than 25 years.

Eight chlamydia cases were reported for the less than one-year age group.

The highest chlamydia numbers were observed in the 15 to 19 years age group (539 cases), followed by the 20 to 24 years age group (404 cases). The highest male numbers were in the 20 to 24 years age group (142 cases) and the highest female numbers were in the 15 to 19 years age group (448 cases).

Figure 27. Case numbers of chlamydia in Other regions by age group and sex, 2004

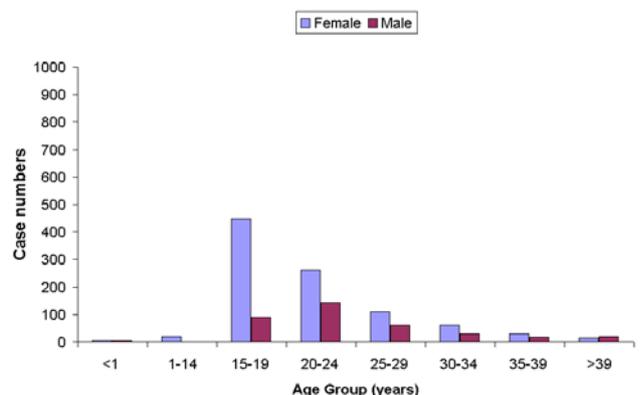


Table 14. Case numbers and rates of chlamydia by region, age group and sex, 2004

Age group (years)	Number of cases				Rate per 100 000 population		
	Female	Male	Unknown	Total	Female	Male	Total
Auckland Region							
<1	17	21	1	39	188	222	211
1-14	76	5	1	82	62	4	33
15-19	1 564	314	21	1 899	3 740	736	2 247
20-24	1 526	595	17	2 138	3 625	1 464	2 584
25-29	826	414	10	1 250	1 829	1 016	1 455
30-34	413	256	3	672	807	560	693
35-39	235	149	1	385	457	311	388
40+	161	187	1	349	67	87	77
Unknown	0	3	4	7	-	-	-
Total	4 818	1 944	59	6 821	799	341	581
Waikato region							
<1	10	4	0	14	422	163	290
1-14	27	4	0	31	77	11	43
15-19	690	190	2	882	5 937	1 542	3 684
20-24	507	268	0	775	5 000	2 608	3 796
25-29	206	105	0	311	2 000	1 079	1 552
30-34	70	46	0	116	591	434	517
35-39	46	35	0	81	373	305	340
40+	23	22	0	45	34	35	35
Unknown	3	0	4	7	-	-	-
Total	1 582	674	6	2 262	979	432	712
BOP region							
<1	9	1	0	10	450	47	244
1-14	66	4	0	70	215	12	111
15-19	814	133	1	948	9 142	1 415	5 179
20-24	540	190	0	730	7 669	2 761	5 243
25-29	207	76	0	283	2 454	1 015	1 778
30-34	86	36	0	122	858	414	652
35-39	46	17	0	63	419	175	305
40+	47	28	0	75	75	49	63
Unknown	6	4	11	21	-	-	-
Total	1 821	489	12	2 322	1 294	366	847
Other regions							
<1	4	4	0	8			
1-14	21	1	0	22			
15-19	448	90	1	539			
20-24	262	142	0	404			
25-29	110	61	0	171			
30-34	62	29	0	91			
35-39	31	18	0	49			
40+	16	21	0	37			
Unknown	66	70	2	138			
Total	1 020	436	3	1 459			

Trend data: Auckland, Waikato and Bay of Plenty regions

The overall rate of chlamydia diagnosed by participating laboratories across all regions had risen steadily from 2000 to 2003 but declined slightly (1.4%) between 2003 and 2004.

Figure 28 and 29 shows the chlamydia rates from 2000 to 2004. From 2003 to 2004, the rate of chlamydia for males decreased in all regions. From 2003 to 2004, the rate of chlamydia for females decreased in the Auckland and Waikato regions. In the BOP region chlamydia rates for females in 2004 (1 294 per 100 000 population) were significantly higher than the previous year (1 125 per 100 000 population).

Although there has been a slight decrease in incidence in 2004, chlamydia rates have increased by nearly 1.5 times more than 2001, in all regions. This trend can be explained, in part, by increasing test volumes and the introduction of more sensitive diagnostic techniques. However, the slight increase in the numbers of specimens tested cannot explain all the increases reported.

Figure 28. Male chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2000 to 2004

Denominator is the population in each region

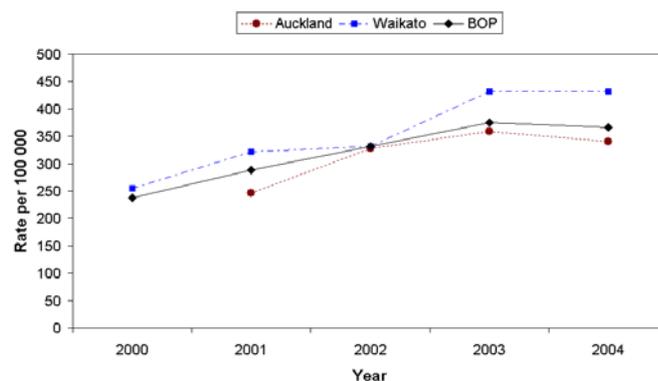
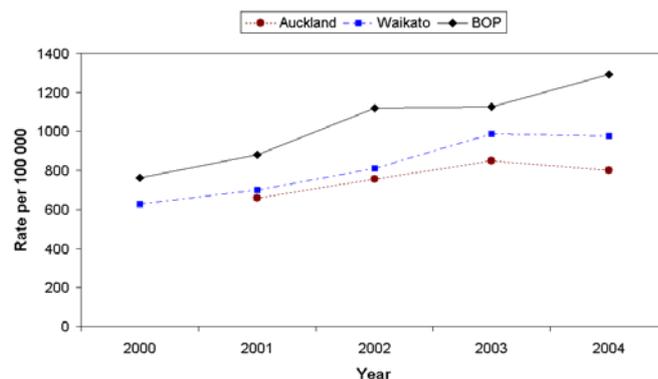


Figure 29. Female chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2000 to 2004

Denominator is the population in each region



Gonorrhoea

Auckland region

In 2004, laboratories in the Auckland region tested over 187 732 specimens for gonorrhoea, of which 1 120 (0.6%) specimens tested positive from 943 patients. The large number of specimens tested is largely due to routine cultures for gonorrhoea being performed on any genital swab regardless of the reason for the swab being taken.

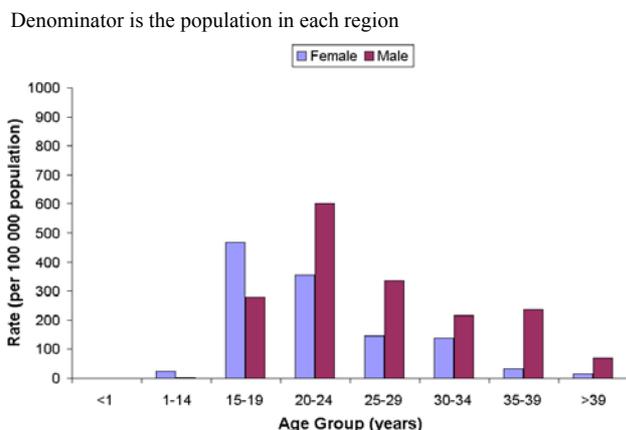
The overall rate in the region was 127 per 100 000. The rate in males (155 per 100 000) was higher than that in females (97 per 100 000).

The mean age of gonorrhoea cases was 27 years (median age 24 years, range 0 to 81 years). Fifty-two per cent of all gonorrhoea cases were aged less than 25 years.

The gonorrhoea rate for the less than one-year age group was 16 per 100 000 population (2 cases).

The highest gonorrhoea rates were observed in the 20 to 24 years age group with a rate of 479 per 100 000 population, followed by the 15 to 19 years age group, with a rate of 377 per 100 000 population. The highest male rate was in the 20 to 24 years age group (600 per 100 000 population) and the highest female rate was in the 15 to 19 years age group (468 per 100 000 population)

Figure 30. Rates of gonorrhoea in the Auckland region by age group and sex, 2004



Waikato region

In 2004, laboratories in the Waikato region tested 36 311 specimens for gonorrhoea, of which 185 (0.5%) specimens tested positive from 177 patients.

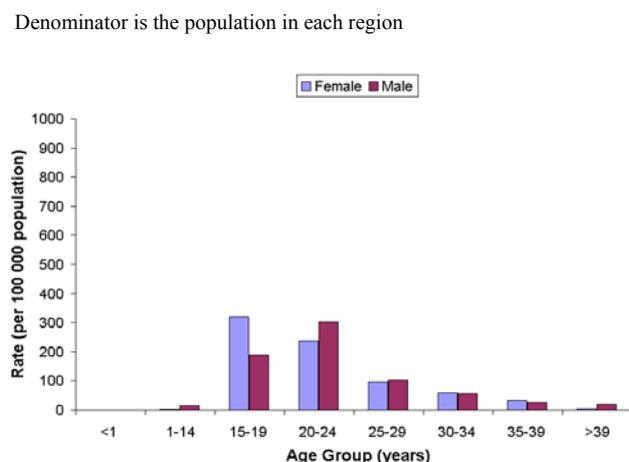
The overall rate in the region was 56 per 100 000. The male rate (58 per 100 000) was very similar to the female rate (53 per 100 000).

The mean age of gonorrhoea cases was 24 years (median age 21 years, range 12 to 82 years). Sixty-eight per cent of all gonorrhoea cases were aged less than 25 years.

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

The gonorrhoea rate in 15 to 19 year old females (318 per 100 000 population) was nearly six times higher than the regional gonorrhoea rate (56 per 100 000 population). The highest male rates were in the 20 to 24 years age group (302 per 100 000 population), followed by the 15 to 19 years age group (187 per 100 000 population).

Figure 31. Rates of gonorrhoea in the Waikato region by age group and sex, 2004



Bay of Plenty region

In 2004, laboratories in the BOP region tested 35 428 specimens for gonorrhoea, of which 294 (0.8%) specimens tested positive from 274 patients.

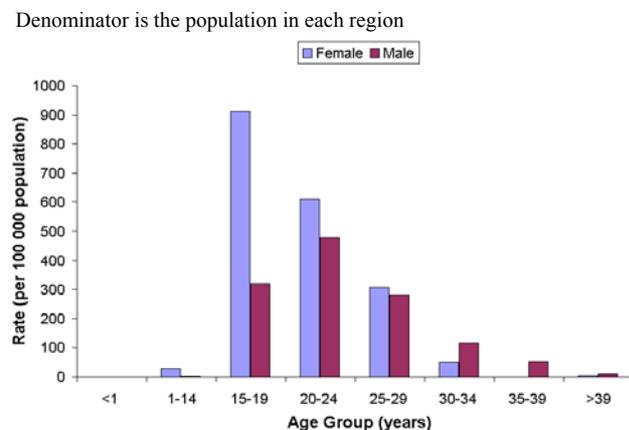
The overall rate for the region was 100 per 100 000. The female rate (119 per 100 000) was higher than the male rate (80 per 100 000).

The mean age of gonorrhoea cases was 22 years (median age 20 years, range 2 to 67 years). Seventy-two per cent of all gonorrhoea cases were aged less than 25 years.

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

The gonorrhoea rate in 15 to 19 year old females (910 per 100 000 population) was nearly nine times higher than the regional gonorrhoea rate (100 per 100 000 population). The highest male rates were in the 20 to 24 years age group (480 per 100 000 population), followed by the 15 to 19 years age group (319 per 100 000 population).

Figure 32. Rates of gonorrhoea in the BOP region by age group and sex, 2004



Other regions

In 2004, laboratories in other regions reported 221 test positive specimens for gonorrhoea from 178 patients.

The majority of gonorrhoea cases (60%) in these regions were male.

The mean age of gonorrhoea cases was 24 years (median age 22 years, range 13 to 57 years). Sixty-seven per cent of all gonorrhoea cases were aged less than 25 years.

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

The highest gonorrhoea numbers were observed in the 20 to 24 years age group (69 cases), followed by the 15 to 19 years age group (47 cases). The highest male numbers were in the 20 to 24 years age group (49 cases) and the highest female numbers were in the 15 to 19 years age group (31 cases).

Figure 33. Case number of gonorrhoea in Other regions by age group and sex, 2004

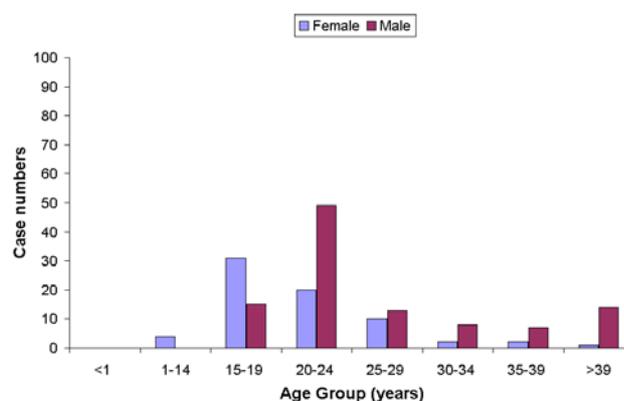


Table 15. Case numbers and rates of gonorrhoea by region, age group and sex, 2004

Age group (years)	Number of cases				Rate per 100 000 population		
	Female	Male	Unknown	Total	Female	Male	Total
Auckland Region							
<1	0	0	2	2	0	0	16
1-14	19	2	0	21	24	2	13
15-19	125	76	2	203	468	280	377
20-24	103	163	3	269	355	600	479
25-29	44	92	2	138	145	337	239
30-34	46	64	1	111	139	216	177
35-39	11	72	2	85	34	238	136
40+	22	92	0	114	15	70	41
Unknown	0	0	0	0	-	-	-
Total	370	561	12	943	97	155	127
Waikato region							
<1	0	0	0	0	0	0	0
1-14	1	5	0	6	3	14	8
15-19	37	23	0	60	318	187	251
20-24	24	31	0	55	237	302	269
25-29	10	10	0	20	97	103	100
30-34	7	6	0	13	59	57	58
35-39	4	3	0	7	32	26	29
40+	3	11	0	14	4	18	11
Unknown	0	1	1	2	-	-	-
Total	86	90	1	177	53	58	56
BOP region							
<1	0	0	0	0	0	0	0
1-14	9	1	0	10	29	3	16
15-19	81	30	0	111	910	319	606
20-24	43	33	0	76	611	480	546
25-29	26	21	0	47	308	281	295
30-34	5	10	0	15	50	115	80
35-39	0	5	0	5	0	52	24
40+	3	6	0	9	5	11	8
Unknown	0	1	0	1	-	-	-
Total	167	107	0	274	119	80	100
Other regions							
<1	0	0	0	0			
1-14	4	0	0	4			
15-19	31	15	1	47			
20-24	20	49	0	69			
25-29	10	13	0	23			
30-34	2	8	0	10			
35-39	2	7	0	9			
40+	1	14	0	15			
Unknown	0	1	0	1			
Total	70	107	1	178			

Trend data: Auckland, Waikato and Bay of Plenty regions

The rates of gonorrhoea diagnosed by participating laboratories across all regions have risen steadily over the past five years.

Figure 34 and 35 shows the gonorrhoea rates from 2000 to 2004. From 2003 to 2004, rate of gonorrhoea for males and females increased in all regions. The highest increase was observed in females from the BOP region.

Trends in gonorrhoea rates from 2000 to 2004 vary by geographical region. Gonorrhoea rates have been steadily increasing in the Auckland region, apart from the small drop from 2001 to 2002. In the Waikato and BOP regions gonorrhoea rates decreased from 2000 to 2001, followed by a steady increase, year on year, between 2001 and 2004.

The number of laboratories reporting in these regions has not changed from 2000 to 2004. Therefore the overall trends suggest a true increase in the rate of gonorrhoea.

Figure 34. Male rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2000 to 2004

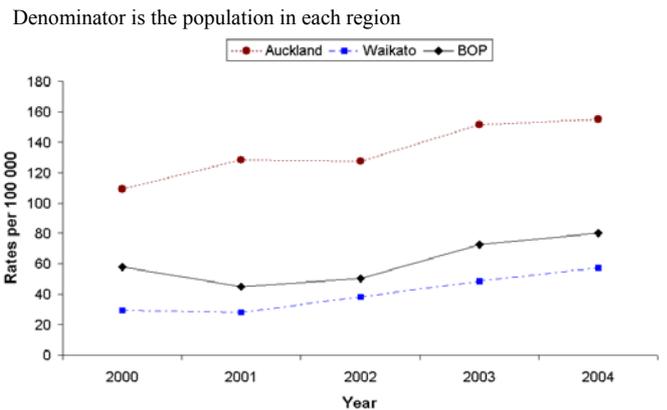
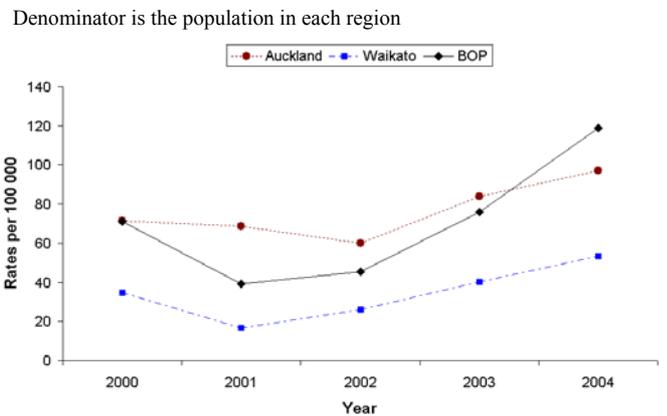


Figure 35. Female rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2000 to 2004



HIV / AIDS summary

HIV/AIDS surveillance is carried out in New Zealand by the AIDS Epidemiology Group. A more detailed account of HIV/AIDS in New Zealand in 2004 is available in the publication; AIDS – New Zealand. Issue 55. February 2005.

HIV

In 2004, 185 cases of HIV infection were notified. Of these 157 were positive on antibody testing. A further 28 cases were identified from viral load testing in people previously diagnosed overseas. This is the highest number of cases reported by antibody testing in any year since testing began in 1985. The previous highest was in 2003 (154 cases).

The majority of cases were in homosexual males, 84 (45.4%). The disease was acquired heterosexually in 35 males (18.9%) and 33 females (17.8%). Six cases were in the peri-natal age group, 4 cases were in homosexuals who were also intravenous drug users (IDU) and the exposure was unknown in 20 cases.

In men who have sex with men (MSM), 51 (71%), reported being infected in New Zealand with a further 9 (12%) in Australia. A much smaller proportion, 8%, of heterosexuals acquired the disease within New Zealand. Of the 6 perinatal cases, two were born in New Zealand to mothers who had not been diagnosed antenatally. In the last five years no infected children have been born to mothers with an antenatal diagnosis.

There was a wide range of ages, 0 to 60+ years, at the time of diagnosis. Of these 67 (43%) were in the 30 to 39 years age group. Of the 185 cases, 82 (44.3%) were European, 11 (6%) were Maori and 6 (3.2%) Pacific Islander. In Other categories were 72 (38.9%) cases, mainly of African and Asian ethnicity.

Based on previous HIV testing, out of the 51 MSM infected in New Zealand in 2004, 27 were definitely infected in the previous five years and 16 in the previous twelve months. When assessed for 2003, 14 were infected in the previous five years and 8 in the previous twelve months.

AIDS

In 2004 38 cases of AIDS were notified. Of these 26 were actually diagnosed in 2004. Of the 38 cases, 18 (47.4%) were homosexual/bisexual, 13 (34.2%) heterosexual, 4 (10.5%) perinatal, 1 (2.6%) IDU and 2 unknown. Age data was similar to HIV with a wide range and 18 cases (47.4%) aged 30 to 39 years. The distribution according to ethnicity was also similar. There were six deaths from AIDS during 2004, four males and two females

The time from infection with HIV to the onset of AIDS varies considerably with a mean of ten years in untreated cases. This is now being prolonged by Highly Active Anti-retroviral Therapy (HAART). Previously the time from the diagnosis of AIDS to death was about 18 months. This has also been changed with a sustained drop in the number of deaths since the introduction of HAART in 1995-6.

This illustrates the importance of an early diagnosis of HIV infection. Two thirds of the 127 people notified with AIDS in the five year period from 2000 to 2004 had their HIV infection diagnosed within one month of their AIDS diagnosis. With an early diagnosis of HIV and HAART most of these people would not have progressed to AIDS.

Given evidence of significant ongoing transmission of HIV in MSM, there is a need for early diagnosis, counselling and treatment with the aim of supporting change away from high risk behaviours.

Table 16 shows the most likely risk behaviour categories of people notified with AIDS or diagnosed with HIV in 2004.

Table 16. Risk behaviour category for AIDS notifications and HIV infections, 2004

Risk category	Sex	AIDS ¹		HIV Infection ²	
		New cases in 2004 (%)	Cases (%) - Total to 31 Dec 2004	New cases in 2004 (%)	Cases (%) - Total to 31 Dec 2004
Homosexual contact	Male	18 (47.4)	627 (74.4)	84 (45.4)	1 197 (53.0)
Homosexual & IDU	Male	0 (0.0)	11 (1.3)	4 (2.2)	30 (1.3)
Heterosexual contact	Male	4 (10.5)	62 (7.3)	35 (18.9)	243 (10.7)
	Female	9 (23.7)	54 (6.4)	33 (17.8)	264 (11.7)
Injecting drug user (IDU)	Male	1 (2.6)	14 (1.7)	2 (1.1)	53 (2.3)
	Female	0 (0.0)	5 (0.6)	0 (0.0)	11 (0.5)
Blood product recipient Transfusion related	Male	0 (0.0)	16 (1.9)	0 (0.0)	34 (1.5)
	Female	0 (0.0)	2 (0.2)	0 (0.0)	9 (0.4)
	Unknown	0 (0.0)	0 (0.0)	0 (0.0)	5 (0.2)
Perinatal	Male	3 (7.9)	6 (0.7)	3 (1.6)	16 (0.7)
	Female	1 (2.6)	6 (0.7)	3 (1.6)	14 (0.6)
Awaiting information/ Undetermined	Male	2 (5.3)	35 (4.1)	17 (9.2)	319 (14.1)
	Female	0 (0.0)	2 (0.2)	5 (1.6)	31 (1.4)
	Unknown	0 (0.0)	0 (0.0)	0 (0.0)	13 (0.6)
Other	Male	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.2)
	Female	0 (0.0)	1 (0.1)	0 (0.0)	7 (0.3)
Total		38 (100.0)	843 (100.0)	185 (100.0)	2 259 (100.0)

¹ Reported by date of notification.

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

Source: HIV/Aids in New Zealand – 2004. AIDS – New Zealand. Issue 55, February 2005.

Discussion

Almost all the STIs reported on in New Zealand have increased over the last five years.

Extrapolation of laboratory data from the Auckland, Waikato and BOP regions to the rest of the country indicates that chlamydia may now be the most common communicable disease in New Zealand after influenza-like illness. The influenza rate is actually a consultation rate and not a true disease incidence and almost certainly an overestimate. Table 17 shows a comparison of chlamydia rates with the other most commonly reported notifiable diseases.

Table 17. Common notifiable diseases and rates

Disease	Rate per 100 000
Influenza like illness*	941
Chlamydia	646
Campylobacter	327
Gonorrhoea	104
Pertussis	93
Giardiasis	41
Salmonellosis	29
Cryptosporidiosis	16

*Based on consultation rates from sentinel surveillance for influenza like illnesses.

Source: Notifiable and Other Diseases in New Zealand Annual Report 2004⁵

Most other common communicable diseases, such as campylobacter, have minor sequelae but STIs are a major cause of morbidity. Some STIs e.g. chlamydia, gonorrhoea and genital warts are associated with severe, long-term sequelae such as infertility, ectopic pregnancy and cancer. Others, including syphilis, genital herpes and gonorrhoea, can facilitate the spread of HIV infection^{8,9}.

STIs which, because of the natural history of the disease, have a very high prevalence as well as incidence include genital warts and genital herpes. Population based rates for these diseases are not available with the current surveillance system.

Most bacterial STIs are easy to diagnose and treat effectively. Prevention is also theoretically easy and the proposed methods are simple and effective. In spite of these assertions the rates of STIs in New Zealand continue to increase.

It is possible that this increase is not a true one. Trends in prevalence can be greatly influenced by screening practices, especially for those STIs in

which a high proportion of infected patients remain asymptomatic e.g. chlamydia or gonorrhoea.

Other factors affecting reported incidence could be the ease of urine testing leading to increased use and the increased sensitivity of new laboratory methods.

Opportunistic screening, consensual STI testing of an individual when that was not the primary reason for attending the health care setting, can identify previously undiagnosed infection leading to an increase in the reported prevalence of STIs in the population.

Pilot programmes promoting such opportunistic screening for STIs have recently been carried out in England. Innovative practices are included in these programmes including targeting of military bases and colleges, the use of self-taken vulval-vaginal swabs and the distribution of free chlamydia self-test kits through pharmacies. A further innovation has been the notification of negative results to patients via text messaging¹⁰.

New Zealand policy makers have been slower to respond to the increasing problem of chlamydia with no national screening guidelines or programmes in place¹.

What is not in doubt is that there is a significant incidence of STIs in New Zealand and that further investigations concerning knowledge, practices and attitudes are needed in order to develop innovative solutions with the goal of providing good sexual health for all New Zealanders.

Infant infections

Neonatal infections remain a problem in New Zealand. In 2004, laboratory surveillance reported a total of 71 infants diagnosed with chlamydia, and two infants diagnosed with gonorrhoea. Compared to 2003, this represents a 39.2% increase in chlamydia. All cases of neonatal gonorrhoea were reported in the Auckland region.

Infants would usually have contracted the infections from their mothers peri-natally. Undiagnosed and untreated infections can result in serious complications for the infant.

In the last three years there have been two cases of infectious syphilis in the central region. One case was untreated and an infected child was born¹¹.

These infections can be prevented by screening for STIs during pregnancy and ensuring the provision of adequate antenatal care. It is also important to have adequate protocols in place to investigate eye infections in neonates.

International comparisons

In previous reports, New Zealand rates of chlamydia and gonorrhoea have been reported as being considerably higher than those reported by other developed countries. Laboratory surveillance, which provides the most robust data, reported chlamydia rates nearly four times higher than in the UK (excluding Scotland)³ and nearly six times higher than in Australia¹². The rate of gonorrhoea is nearly double that in the UK (excluding Scotland) and Australia.

It is acknowledged that there are differences in the STI surveillance systems between countries. This makes true comparisons difficult.

Some recent evidence has suggested that this may be a more significant factor than previously thought. Data for New South Wales seems to show that for a population of six million people the number of chlamydia specimens tested and the number of chlamydia positive specimens was similar to that of the Waikato and BOP regions alone in New Zealand with a population of approximately 500 000 (Table 18).

Table 18. Data comparison to New South Wales

	BOP and Waikato (2003)	NSW (2001)
Notifications	4 371	4 418
Population	0.5 million	6.6 million
Rate / 100 000	739	<90
Chlamydia tests	42 916	52 790
Yield	10.1%	8.5%

Source: Davidson B. Personal communication¹³

In addition, rates vary enormously from state to state in Australia with a minimum of 87.7 per 100 000 in New South Wales to a maximum of 664.7 per 100 000 in the Northern Territories¹⁴.

Both these indicate that international comparisons need to be viewed with caution, particularly for chlamydia. Infection is often asymptomatic and requires specific testing.

The number of detected, and hence reported, chlamydia cases may be affected by testing patterns. It is possible that a great deal of the difference in relation to overseas data is because New Zealand is testing proportionately more people.

High Risk Groups

- *Young People*

In 2004 young people continued to be disproportionately affected by STIs. The best available data shows that chlamydia and gonorrhoea rates were highest in females aged 15 to 19 years. Using laboratory data the rate of chlamydia infection in the BOP region for this age group was 9 142 per 100 000. Rates in males were lower and the highest incidence was in the 20 to 24 years age group across all the regions.

In clinic surveillance the majority of STIs were in teenagers and young adults. SHC based data also showed the highest incidence of genital warts and NSU cases in people aged 15 to 19 years. Of most other STIs the highest rates were in the 25 to 29 years age group. Furthermore, 69.2% of those with concurrent infections were aged less than 25 years.

These figures are likely to be an underestimate of the true burden of infection due to the high levels of asymptomatic infections.

The disproportionate burden of disease in the young population may be due to both behavioural factors and the provision of, and access to, health care providers specifically suitable for the younger generation. Young people have more sexual partners, change partners more frequently and are at greater risk of re-infection¹⁵. Furthermore, a significant proportion of young people do not always perform safe sex¹⁶, putting themselves at risk of acquiring an STI.

One of the major Ministry of Health sexual health interventions of 2004 has been “No Rubba, No Hubba Hubba”. This programme is different in that it has been specifically targeted at the younger age groups using media images and techniques not usually employed. STI surveillance will be an important part of the evaluation of this intervention.

- *Ethnicity*

Ethnicity is difficult to evaluate because the data is only available from clinic-based surveillance. Differences may be due to variation in the catchment population of the clinics compared with those attending other primary care providers.

There are some indications from clinic data that Maori and Pacific People populations of New Zealand continue to have a higher incidence of chlamydia, gonorrhoea, genital warts and multiple infections. In SHC data, of the 10 321 patients diagnosed with an STI in 2004, 1 121 (10.9%) were diagnosed with a subsequent infection. Of these 49.8% were of European ethnicity. Higher rates of STIs have also been found among ethnic minorities in other countries³ and suggested reasons for this include differences in access to health care, in sexual behaviour and networks.

In New Zealand, difficulties in accessing services have been identified for Maori and Other ethnicities¹⁷. Variations in the burden of STIs among these groups may be influenced by socioeconomic status, for example low-income groups and Maori were found to be significantly less likely to attend a GP at least once in a year¹⁸. However, income alone does not explain fully the barriers for these populations to attend health care services.

Limitations of current surveillance systems

In the regions where both laboratory and clinical surveillance are in place the number of diagnoses reported by laboratory surveillance is considerably higher than that reported by clinic surveillance. This is almost certainly due to a large proportion of the general population attending health care settings other than SHCs, FPCs, and SYHCs for their sexual health. This demonstrates that reliable estimates of the burden of STIs in the New Zealand population

cannot be determined from current methods of STI surveillance.

Expansion of the laboratory surveillance system in New Zealand is in progress. New laboratories are being recruited from other parts of the country and some of these reports are included in this annual summary for the first time.

The number of new laboratories reporting is not yet adequate to enable robust population data to be derived for other regions of New Zealand.

As more laboratories are recruited it is planned to have a three-phased increase in laboratory surveillance. This includes an expansion in the dataset collected for each disease and an increase in the number of diseases under surveillance to include syphilis and genital herpes.

There is considerable centralisation of the processing of chlamydia specimens as PCR technologies are utilised more. This should present a good opportunity to get a large amount of data from a small number of sources. Gonorrhoea testing is still carried out in many of the smaller laboratories and it will still be difficult to get adequate data without a large increase in the number of laboratories reporting.

A significant boost to the surveillance of STIs in New Zealand could be provided by making the most important of these diseases notifiable under the Health Act.

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Appendices

Appendix A: Surveillance Data

Sexual Health Clinic Data

Table 19. Chlamydia - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2003</u>			<u>2004</u>		
<u>2003</u>	<u>2004</u>	<u>Clinic</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>
1380	1412	Whangarei	107	107	7.8%	94	94	6.7%
42	336	Kaikohe	3	3	7.1%	18	18	5.4%
22646	24626	Auckland	883	989	4.4%	966	1075	4.4%
24068	26374	North	993	1099	4.6%	1078	1187	4.5%
8935	8592	Hamilton	596	628	7.0%	566	582	6.8%
6384	8041	Tauranga	333	358	5.6%	411	424	5.3%
1515	1321	Rotorua	168	206	13.6	86	110	8.3%
885	867	Whakatane	71	74	8.4%	67	68	7.8%
887	815	Taupo	73	105	11.8	74	98	12.0
2154	2305	New Plymouth	240	318	14.8	261	319	13.8
2983	2911	Gisborne	132	132	4.4%	152	152	5.2%
23743	24852	Midland	1613	1821	7.7%	1617	1753	7.1%
1350	1224	Napier	132	148	11.0	128	128	10.5
429	309	Hastings	45	48	11.2	35	35	11.3
1163	972	Wanganui	71	79	6.8%	126	136	14.0
3776	3910	Palmerston North/Levin/Dannevirke	156	245	6.5%	186	269	6.9%
1057	454	Wairarapa	22	28	2.6%	19	26	5.7%
6447	9800	Wellington	104	125	1.9%	176	237	2.4%
927	908	Lower Hutt	22	31	3.3%	23	34	3.7%
733	637	Porirua	30	42	5.7%	26	43	6.8%
1392	1416	Nelson	58	59	4.2%	60	63	4.4%
336	330	Wairau (Blenheim)	15	20	6.0%	17	22	6.7%
17610	19960	Central	655	825	4.7%	796	993	5.0%
414	438	Greymouth	23	25	6.0%	9	23	5.3%
9188	8575	Christchurch	188	259	2.8%	222	311	3.6%
199	148	Ashburton	9	14	7.0%	7	9	6.1%
576	607	Timaru	43	45	7.8%	39	39	6.4%
3713	3242	Dunedin	125	149	4.0%	102	117	3.6%
1728	2440	Invercargill/Gore	151	189	10.9	190	251	10.3
15818	15450	South	539	681	4.3%	569	750	4.9%
81239	86636	Total	3800	4426	5.4%	4060[†]	4683[†]	5.4%

[†] One chlamydia case is missing

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

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

³ Total No. = no. confirmed cases + no. probable cases

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 20. Gonorrhoea - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2003</u>			<u>2004</u>		
<u>2003</u>	<u>2004</u>	<u>Clinic</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>	<u>No. Confirmed</u>	<u>Total No.²</u>	<u>Rate³</u>
1380	1412	Whangarei	12	12	0.9%	21	21	1.5%
42	336	Kaikohe	0	0	0.0%	0	0	0.0%
22646	24626	Auckland	298	317	1.4%	335	371	1.5%
24068	26374	North	310	329	1.4%	356	392	1.5%
8935	8592	Hamilton	67	74	0.8%	81	82	1.0%
6384	8041	Tauranga	26	30	0.5%	36	41	0.5%
1515	1321	Rotorua	14	16	1.1%	29	32	2.4%
885	867	Whakatane	12	13	1.5%	8	8	0.9%
887	815	Taupo	0	2	0.2%	6	7	0.9%
2154	2305	New Plymouth	9	9	0.4%	15	15	0.7%
2983	2911	Gisborne	30	30	1.0%	29	29	1.0%
23743	24852	Midland	158	174	0.7%	204	214	0.9%
1350	1224	Napier	21	25	1.9%	22	22	1.8%
429	309	Hastings	12	12	2.8%	11	11	3.6%
1163	972	Wanganui	3	5	0.4%	8	8	0.8%
3776	3910	Palmerston North/Levin/Dannevirke	19	31	0.8%	27	32	0.8%
1057	454	Wairarapa	1	1	0.1%	0	0	0.0%
6447	9800	Wellington	16	16	0.2%	35	56	0.6%
927	908	Lower Hutt	3	3	0.3%	5	8	0.9%
733	637	Porirua	6	6	0.8%	8	8	1.3%
1392	1416	Nelson	6	8	0.6%	8	10	0.7%
336	330	Wairau (Blenheim)	0	1	0.3%	2	4	1.2%
17610	19960	Central	87	108	0.6%	126	159	0.8%
414	438	Greymouth	0	0	0.0%	0	1	0.2%
9188	8575	Christchurch	33	41	0.4%	33	34	0.4%
199	148	Ashburton	0	0	0.0%	0	0	0.0%
576	607	Timaru	7	11	1.9%	3	3	0.5%
3713	3242	Dunedin	1	1	0.0%	7	7	0.2%
1728	2440	Invercargill/Gore	2	3	0.2%	6	9	0.4%
15818	15450	South	43	56	0.4%	49	54	0.3%
81239	86636	Total	598	667	0.8%	735	819	0.9%

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

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

³ Total No. = no. confirmed cases + no. probable cases

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

<u>Total Clinic Visits¹</u>			<u>2003</u>		<u>2004</u>	
<u>2003</u>	<u>2004</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
1380	1412	Whangarei	10	0.7%	7	0.5%
42	336	Kaikohe	0	0.0%	0	0.0%
22646	24626	Auckland	168	0.7%	210	0.9%
24068	26374	North	178	0.7%	217	0.8%
8935	8592	Hamilton	97	1.1%	81	0.9%
6384	8041	Tauranga	67	1.0%	63	0.8%
1515	1321	Rotorua	16	1.1%	11	0.8%
885	867	Whakatane	5	0.6%	6	0.7%
887	815	Taupo	3	0.3%	7	0.9%
2154	2305	New Plymouth	50	2.3%	35	1.5%
2983	2911	Gisborne	4	0.1%	3	0.1%
23743	24852	Midland	242	1.0%	206	0.8%
1350	1224	Napier	31	2.3%	17	1.4%
429	309	Hastings	8	1.9%	2	0.6%
1163	972	Wanganui	7	0.6%	17	1.7%
3776	3910	Palmerston North/Levin/Dannevirke	39	1.0%	52	1.3%
1057	454	Wairarapa	4	0.4%	1	0.2%
6447	9800	Wellington	46	0.7%	58	0.6%
927	908	Lower Hutt	5	0.5%	0	0.0%
733	637	Porirua	3	0.4%	6	0.9%
1392	1416	Nelson	19	1.4%	13	0.9%
336	330	Wairau (Blenheim)	5	1.5%	4	1.2%
17610	19960	Central	167	0.9%	170	0.9%
414	438	Greymouth	14	3.4%	7	1.6%
9188	8575	Christchurch	92	1.0%	86	1.0%
199	148	Ashburton	1	0.5%	1	0.7%
576	607	Timaru	8	1.4%	11	1.8%
3713	3242	Dunedin	22	0.6%	22	0.7%
1728	2440	Invercargill/Gore	22	1.3%	22	0.9%
15818	15450	South	159	1.0%	149	1.0%
81239	86636	Total	746	0.9%	742	0.9%

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

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

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

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

<u>Total Clinic Visits¹</u>			<u>2003</u>		<u>2004</u>	
<u>2003</u>	<u>2004</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
1380	1412	Whangarei	70	5.1%	57	4.0%
42	336	Kaikohe	0	0.0%	0	0.0%
22646	24626	Auckland	1062	4.7%	1100	4.5%
24068	26374	North	1132	4.7%	1157	4.4%
8935	8592	Hamilton	410	4.6%	411	4.8%
6384	8041	Tauranga	158	2.5%	273	3.4%
1515	1321	Rotorua	86	5.7%	96	7.3%
885	867	Whakatane	40	4.5%	37	4.3%
887	815	Taupo	22	2.5%	24	2.9%
2154	2305	New Plymouth	122	5.7%	134	5.8%
2983	2911	Gisborne	7	0.2%	5	0.2%
23743	24852	Midland	845	3.6%	980	3.9%
1350	1224	Napier	87	6.4%	74	6.0%
429	309	Hastings	30	7.0%	22	7.1%
1163	972	Wanganui	64	5.5%	54	5.6%
3776	3910	Palmerston North/Levin/Dannevirke	175	4.6%	147	3.8%
1057	454	Wairarapa	14	1.3%	8	1.8%
6447	9800	Wellington	201	3.1%	396	4.0%
927	908	Lower Hutt	53	5.7%	54	5.9%
733	637	Porirua	30	4.1%	34	5.3%
1392	1416	Nelson	115	8.3%	91	6.4%
336	330	Wairau (Blenheim)	20	6.0%	38	11.5
17610	19960	Central	789	4.5%	918	4.6%
414	438	Greymouth	30	7.2%	37	8.4%
9188	8575	Christchurch	348	3.8%	324	3.8%
199	148	Ashburton	13	6.5%	13	8.8%
576	607	Timaru	61	10.6	25	4.1%
3713	3242	Dunedin	168	4.5%	178	5.5%
1728	2440	Invercargill/Gore	102	5.9%	189	7.7%
15818	15450	South	722	4.6%	766	5.0%
81239	86636	Total	3488	4.3%	3821[†]	4.4%

[†] One genital warts case is missing

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

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

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

Table 23. Syphilis - number of cases and disease rates by SHCs

<u>Total Clinic Visits¹</u>			<u>2003</u>		<u>2004</u>	
<u>2003</u>	<u>2004</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
1380	1412	Whangarei	0	0.0%	0	0.0%
42	336	Kaikohe	0	0.0%	0	0.0%
22646	24626	Auckland	12	0.1%	20	0.1%
24068	26374	North	12	0.0%	20	0.1%
8935	8592	Hamilton	7	0.1%	9	0.1%
6384	8041	Tauranga	0	0.0%	1	0.0%
1515	1321	Rotorua	0	0.0%	0	0.0%
885	867	Whakatane	0	0.0%	0	0.0%
887	815	Taupo	0	0.0%	0	0.0%
2154	2305	New Plymouth	0	0.0%	2	0.1%
2983	2911	Gisborne	0	0.0%	0	0.0%
23743	24852	Midland	7	0.0%	12	0.0%
1350	1224	Napier	0	0.0%	1	0.1%
429	309	Hastings	0	0.0%	1	0.3%
1163	972	Wanganui	0	0.0%	0	0.0%
3776	3910	Palmerston North/Levin/Dannevirke	2	0.1%	4	0.1%
1057	454	Wairarapa	0	0.0%	0	0.0%
6447	9800	Wellington	5	0.1%	8	0.1%
927	908	Lower Hutt	1	0.1%	0	0.0%
733	637	Porirua	0	0.0%	0	0.0%
1392	1416	Nelson	0	0.0%	0	0.0%
336	330	Wairau (Blenheim)	0	0.0%	0	0.0%
17610	19960	Central	8	0.0%	14	0.1%
414	438	Greymouth	0	0.0%	0	0.0%
9188	8575	Christchurch	2	0.0%	0	0.0%
199	148	Ashburton	0	0.0%	0	0.0%
576	607	Timaru	0	0.0%	0	0.0%
3713	3242	Dunedin	0	0.0%	0	0.0%
1728	2440	Invercargill/Gore	1	0.1%	0	0.0%
15818	15450	South	3	0.0%	0	0.0%
81239	86636	Total	30	0.0%	46	0.1%

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

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

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

Table 24. NSU (males only) - number of cases and disease rates by SHCs

<u>Total Clinic Visits for males¹</u>			<u>2003</u>		<u>2004</u>	
<u>2003</u>	<u>2004</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate²</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
448	444	Whangarei	0	0.0%	0	0.0%
2	17	Kaikohe	0	0.0%	0	0.0%
11124	12396	Auckland	508	4.6%	480	3.9%
11574	12857	North	508	4.4%	480	3.7%
3389	3081	Hamilton	44	1.3%	52	1.7%
1352	1416	Tauranga	41	3.0%	72	5.1%
617	495	Rotorua	7	1.1%	6	1.2%
216	179	Whakatane	7	3.2%	11	6.1%
226	223	Taupo	0	0.0%	0	0.0%
910	1012	New Plymouth	54	5.9%	75	7.4%
220	269	Gisborne	0	0.0%	0	0.0%
6930	6675	Midland	153	2.2%	216	3.2%
456	318	Napier	2	0.4%	0	0.0%
163	80	Hastings	1	0.6%	0	0.0%
366	344	Wanganui	19	5.2%	7	2.0%
1661	1679	Palmerston North/Levin/Dannevirke	200	12.0	146	8.7%
79	34	Wairarapa	3	3.8%	0	0.0%
2964	4713	Wellington	47	1.6%	36	0.8%
382	398	Lower Hutt	1	0.3%	2	0.5%
209	282	Porirua	1	0.5%	4	1.4%
617	634	Nelson	20	3.2%	14	2.2%
151	164	Wairau (Blenheim)	1	0.7%	1	0.6%
7048	8646	Central	295	4.2%	210	2.4%
106	117	Greymouth	0	0.0%	0	0.0%
5107	4819	Christchurch	60	1.2%	48	1.0%
89	59	Ashburton	0	0.0%	0	0.0%
337	295	Timaru	2	0.6%	1	0.3%
1043	973	Dunedin	11	1.1%	6	0.6%
821	1107	Invercargill/Gore	28	3.4%	34	3.1%
7503	7370	South	101	1.3%	89	1.2%
33055	35548	Total	1057	3.2%	995	2.8%

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

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

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

Table 25. Number of cases¹ and disease rates² by age, sex and ethnicity, SHCs, 2004

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<u>Chlamydia</u>											
Males	European	4	222	508	234	127	61	39	52	0	1247
		10.3	10.6	7.5	4.6	3.2	2.4	1.9	1.7	0.0	4.8
	Maori	4	174	239	119	53	26	14	12	0	641
		10.3	21.6	18.9	13.4	9.7	7.9	7.4	5.4	-	14.9
	Pacific Peoples	0	28	67	38	25	12	1	2	0	173
		0.0	14.9	17.0	12.0	13.2	11.5	2.4	1.7	0.0	12.8
	Other	0	15	51	33	21	11	10	3	0	144
		0.0	7.9	6.5	4.5	3.4	2.5	3.2	0.7	0.0	4.1
	Unknown	0	9	6	5	1	3	0	0	0	24
		0.0	19.1	5.3	8.3	1.8	5.4	0.0	0.0	0.0	5.4
	Total	8	448	871	429	227	113	64	69	0	2229[†]
	9.0	13.5	9.3	6.0	4.2	3.2	2.5	1.7	0.0	6.3	
Females	European	25	607	376	116	46	26	17	16	0	1229
		5.0	5.6	4.1	2.3	1.5	1.3	1.3	1.0	0.0	3.7
	Maori	34	465	294	98	39	15	7	2	0	954
		8.1	10.9	9.3	6.5	3.8	2.6	1.8	0.9	-	8.3
	Pacific Peoples	2	57	53	22	6	5	2	2	0	149
		4.9	12.1	10.1	6.6	4.4	5.1	4.9	2.9	-	8.7
	Other	1	18	38	19	13	7	5	4	0	105
		7.7	4.4	3.5	2.2	2.3	1.7	2.1	1.5	-	2.7
	Unknown	1	7	3	3	0	1	1	1	0	17
		10.0	5.2	3.0	8.3	0.0	1.2	4.2	2.6	0.0	3.5
	Total	63	1154	764	258	104	54	32	25	0	2454
	6.4	7.2	5.4	3.4	2.1	1.7	1.6	1.1	0.0	4.8	
<u>Gonorrhoea</u>											
Males	European	0	16	59	40	22	29	20	42	0	228
		0.0	0.8	0.9	0.8	0.6	1.1	1.0	1.3	0.0	0.9
	Maori	2	34	50	27	17	9	7	3	0	149
		5.1	4.2	3.9	3.0	3.1	2.7	3.7	1.4	-	3.5
	Pacific Peoples	0	10	20	9	5	7	1	2	0	54
		0.0	5.3	5.1	2.8	2.6	6.7	2.4	1.7	0.0	4.0
	Other	0	3	17	11	8	2	3	4	0	48
		0.0	1.7	2.3	1.6	1.4	0.5	1.0	1.1	0.0	1.5
	Unknown	0	0	4	0	1	2	1	0	0	8
		0.0	0.0	4.7	0.0	2.4	5.1	7.7	0.0	0.0	2.3
	Total	2	63	150	87	53	49	32	51	0	487
	2.3	1.9	1.6	1.2	1.0	1.4	1.2	1.3	0.0	1.4	
Females	European	1	45	22	11	11	1	2	4	0	97
		0.2	0.4	0.2	0.2	0.4	0.1	0.2	0.2	0.0	0.3
	Maori	8	71	56	9	10	3	1	0	0	158
		1.9	1.7	1.8	0.6	1.0	0.5	0.3	0.0	-	1.4
	Pacific Peoples	1	19	11	12	4	2	2	0	0	51
		2.4	4.0	2.1	3.6	3.0	2.0	4.9	0.0	-	3.0
	Other	0	1	10	3	1	3	2	2	0	22
		0.0	0.3	1.1	0.4	0.2	0.8	0.9	0.9	-	0.7
	Unknown	0	0	4	0	0	0	0	0	0	4
		0.0	0.0	11.4	0.0	0.0	0.0	0.0	0.0	-	2.3
	Total	10	136	103	35	26	9	7	6	0	332
	1.0	0.9	0.7	0.5	0.5	0.3	0.4	0.3	0.0	0.7	

[†] One chlamydia case is missing

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

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

Table 25. Cont. number of cases¹ and disease rates² by age, sex and ethnicity, SHCs, 2004

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Genital Herpes (first presentation)</i>											
Males	European	1	17	53	65	44	26	23	39	0	268
		2.6	0.8	0.8	1.3	1.1	1.0	1.1	1.2	0.0	1.0
	Maori	1	4	12	8	9	6	3	4	0	47
		2.7	0.5	1.1	1.0	1.8	2.0	1.7	2.0	-	1.2
	Pacific Peoples	0	1	2	6	1	1	2	0	0	13
		0.0	1.2	1.1	3.4	1.0	1.7	7.1	0.0	0.0	1.9
	Other	1	0	7	3	3	2	1	2	0	19
		11.1	0.0	1.1	0.5	0.6	0.6	0.4	0.6	0.0	0.6
	Unknown	0	0	3	0	0	0	2	1	0	6
		0.0	0.0	4.2	0.0	0.0	0.0	10.5	1.6	0.0	1.8
Total		3	22	77	82	57	35	31	46	0	353
		3.5	0.7	0.9	1.2	1.1	1.0	1.2	1.2	0.0	1.1
Females	European	1	63	67	69	33	26	17	19	0	295
		0.2	0.6	0.7	1.4	1.1	1.3	1.3	1.2	0.0	0.9
	Maori	2	16	9	8	5	1	1	0	0	42
		0.5	0.4	0.3	0.5	0.5	0.2	0.3	0.0	-	0.4
	Pacific Peoples	0	1	5	1	0	0	0	0	0	7
		0.0	0.8	3.4	1.0	0.0	0.0	0.0	0.0	-	1.4
	Other	0	1	13	9	2	2	4	5	0	36
		0.0	0.3	1.3	1.1	0.4	0.5	1.9	2.0	-	1.0
	Unknown	1	2	3	0	0	2	1	0	0	9
		10.0	2.9	6.0	0.0	0.0	3.8	5.6	0.0	0.0	3.2
Total		4	83	97	87	40	31	23	24	0	389
		0.4	0.5	0.7	1.2	0.8	1.0	1.2	1.1	0.0	0.8
<i>Genital Warts (first presentation)</i>											
Males	European	3	173	502	271	155	87	71	66	0	1328
		7.7	8.3	7.4	5.3	3.9	3.4	3.5	2.1	0.0	5.2
	Maori	2	69	96	51	27	10	3	9	0	267
		5.1	8.6	7.6	5.7	4.9	3.0	1.6	4.1	-	6.2
	Pacific Peoples	0	14	28	14	6	3	0	1	0	66
		0.0	7.4	7.1	4.4	3.2	2.9	0.0	0.9	0.0	4.9
	Other	0	9	32	24	16	13	6	4	0	104
		0.0	4.7	4.1	3.2	2.6	2.9	1.9	1.0	0.0	3.0
	Unknown	0	4	8	6	4	3	1	1	0	27
		0.0	4.9	5.6	7.2	5.3	4.2	3.7	0.9	0.0	4.5
Total		5	269	666	366	208	116	81	81	0	1792 [†]
		5.6	8.0	7.1	5.1	3.8	3.3	3.1	2.0	0.0	5.0
Females	European	13	593	465	177	75	41	23	32	1	1420
		2.6	5.5	5.1	3.6	2.4	2.1	1.8	2.0	50.0	4.3
	Maori	11	197	127	29	19	7	13	3	0	406
		2.6	4.6	4.0	1.9	1.9	1.2	3.3	1.3	-	3.5
	Pacific Peoples	1	30	20	10	6	2	2	0	0	71
		2.4	6.4	3.8	3.0	4.4	2.0	4.9	0.0	-	4.1
	Other	0	27	47	21	6	3	1	1	0	106
		0.0	6.5	4.3	2.5	1.1	0.7	0.4	0.4	-	2.7
	Unknown	0	13	6	4	0	2	0	1	0	26
		0.0	10.6	7.1	9.8	0.0	2.5	0.0	2.9	0.0	5.8
Total		25	860	665	241	106	55	39	37	1	2029
		2.5	5.4	4.7	3.1	2.2	1.8	2.0	1.7	20.0	4.0

† One Genital Wart case is missing

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

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

Table 25. Cont. number of cases¹ and disease rates² by age, sex and ethnicity, SHCs, 2004

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Syphilis</i>											
Males	European	0	1	0	1	1	2	6	4	0	15
		0.0	0.1	0.0	0.0	0.0	0.1	0.4	0.2	0.0	0.1
	Maori	0	0	2	0	1	1	0	0	0	4
		0.0	0.0	0.6	0.0	0.7	1.2	0.0	0.0	-	0.4
	Pacific Peoples	0	0	0	1	0	0	0	2	0	3
		0.0	0.0	0.0	1.3	0.0	0.0	0.0	6.1	-	0.8
	Other	0	0	1	5	2	3	0	1	0	12
	0.0	0.0	0.2	1.1	0.6	1.1	0.0	0.4	0.0	0.6	
Total		0	1	3	7	4	6	6	7	0	34
		0.0	0.1	0.1	0.2	0.1	0.3	0.4	0.3	0.0	0.2
Females	European	0	0	1	1	0	0	1	0	0	3
		0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0	-	0.0
	Pacific Peoples	0	0	1	0	0	0	0	1	0	2
		0.0	0.0	1.4	0.0	0.0	0.0	0.0	6.7	-	0.7
	Other	0	0	1	4	0	0	0	1	0	6
		0.0	0.0	0.2	1.0	0.0	0.0	0.0	0.9	-	0.4
	Unknown	0	0	0	0	0	1	0	0	0	1
	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	0.0	4.8	
Total		0	0	3	5	0	1	1	2	0	12
		0.0	0.0	0.1	0.3	0.0	0.2	0.2	0.4	0.0	0.1
<i>NSU (males only)</i>											
Males	European	0	71	177	142	128	84	50	88	0	740
		0.0	3.4	2.6	2.8	3.2	3.3	2.5	2.8	0.0	2.9
	Maori	0	32	32	28	17	10	6	12	0	137
		0.0	4.0	2.5	3.1	3.1	3.0	3.2	5.4	-	3.2
	Pacific Peoples	0	5	15	17	10	2	0	2	0	51
		0.0	2.7	3.8	5.4	5.3	1.9	0.0	1.7	0.0	3.8
	Other	0	4	12	8	20	6	5	4	0	59
	0.0	2.1	1.5	1.1	3.3	1.4	1.6	1.0	0.0	1.7	
Unknown	0	1	0	2	1	1	0	2	1	8	
	0.0	3.6	0.0	6.5	3.6	3.2	0.0	4.7	100.0	3.8	
Total		0	113	236	197	176	103	61	108	1	995
		0.0	3.4	2.6	2.8	3.3	3.0	2.4	2.8	4.0	2.8

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

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

Family Planning Clinic Data

Table 26. Number of cases¹ and disease rates² by age, sex and ethnicity, FPCs, 2004

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Chlamydia</i>											
Males	European	0	69	80	26	7	2	1	1	0	186
		0.0	4.6	6.4	5.4	1.7	0.4	0.3	0.4	0.0	3.8
	Maori	2	20	18	8	4	1	0	0	0	53
		4.9	13.3	15.3	13.6	9.8	3.8	0.0	0.0	0.0	11.6
	Pacific Peoples	0	13	17	2	0	0	1	0	0	33
		0.0	20.0	27.0	7.7	0.0	0.0	50.0	0.0	0.0	16.0
	Other	0	20	16	6	4	1	1	0	0	48
		0.0	11.0	9.0	8.1	8.0	1.9	2.5	0.0	-	7.7
	Unknown	0	19	29	6	2	0	0	0	2	58
		0.0	4.8	17.1	10.2	3.6	0.0	0.0	0.0	8.3	6.5
Total		2	141	160	48	17	4	3	1	2	378
		1.0	6.2	9.0	6.8	3.0	0.6	0.6	0.3	5.3	5.4
Females	European	21	473	283	55	24	10	5	3	1	875
		0.9	1.2	0.8	0.4	0.2	0.2	0.1	0.1	1.3	0.8
	Maori	9	160	83	27	6	3	1	0	1	290
		1.2	3.2	2.7	1.6	0.6	0.5	0.3	0.0	4.8	2.3
	Pacific Peoples	2	36	23	17	4	4	0	0	0	86
		1.2	2.2	1.2	2.3	0.9	1.9	0.0	0.0	0.0	1.6
	Other	5	125	72	17	4	9	1	0	0	233
		0.8	1.9	1.1	0.6	0.2	0.6	0.1	0.0	0.0	1.1
	Unknown	4	66	38	20	4	3	1	0	1	137
		1.4	1.4	0.9	0.8	0.2	0.2	0.1	0.0	0.8	0.8
Total		41	860	499	136	42	29	8	3	3	1621
		1.0	1.5	1.0	0.6	0.3	0.3	0.1	0.0	1.2	0.9
<i>Gonorrhoea</i>											
Males	European	0	2	5	1	1	1	0	0	0	10
		0.0	0.2	0.7	0.4	0.4	0.4	0.0	0.0	0.0	0.4
	Maori	0	2	2	1	2	0	0	0	0	7
		0.0	2.4	2.7	3.2	8.0	0.0	0.0	0.0	0.0	2.6
	Pacific Peoples	0	4	3	0	0	0	0	0	0	7
		0.0	10.8	12.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5
	Other	0	2	4	0	0	0	0	0	0	6
		0.0	2.6	5.4	0.0	0.0	0.0	0.0	0.0	-	2.3
	Unknown	0	2	5	0	0	0	0	0	0	7
		0.0	1.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	1.8
Total		0	12	19	2	3	1	0	0	0	37
		0.0	1.0	2.0	0.5	1.0	0.3	0.0	0.0	0.0	1.0
Females	European	2	23	15	1	1	1	0	0	0	43
		0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maori	1	16	11	2	1	0	0	0	0	31
		0.1	0.4	0.4	0.1	0.1	0.0	0.0	0.0	0.0	0.3
	Pacific Peoples	0	9	4	2	0	1	0	0	0	16
		0.0	0.7	0.3	0.3	0.0	0.6	0.0	0.0	0.0	0.4
	Other	0	5	4	1	0	1	0	0	0	11
		0.0	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
	Unknown	2	10	6	0	2	0	0	1	0	21
		0.8	0.2	0.2	0.0	0.1	0.0	0.0	0.1	0.0	0.1
Total		5	63	40	6	4	3	0	1	0	122
		0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1

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

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

Table 26. cont. number of cases¹ and disease rates² by age, sex and ethnicity, FPCs, 2004

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44			>44
<u>Genital Herpes (first presentation)</u>											
Males	European	0	2	2	4	0	1	0	0	0	9
		0.0	0.3	0.3	1.7	0.0	0.5	0.0	0.0	0.0	0.4
	Maori	0	1	0	0	0	0	0	0	0	1
		0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
	Total	0	3	2	4	0	1	0	0	0	10
		0.0	0.4	0.3	1.7	0.0	0.4	0.0	0.0	0.0	0.4
Females	European	0	30	23	10	12	7	4	4	0	90
		0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1
	Maori	0	3	3	2	0	1	0	0	0	9
		0.0	0.1	0.1	0.2	0.0	0.3	0.0	0.0	0.0	0.1
	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	0.0	0.2
	Other	1	6	4	3	1	0	0	0	0	15
	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	
Unknown	0	3	4	1	1	2	0	1	0	12	
	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.2	0.0	0.1	
	Total	1	43	34	16	14	10	4	5	0	127
		0.0	0.1	0.0	0.1						
<u>Genital Warts (first presentation)</u>											
Males	European	0	25	46	14	1	0	0	0	0	86
		0.0	1.7	3.7	2.9	0.2	0.0	0.0	0.0	0.0	1.8
	Maori	0	4	2	1	0	0	0	0	0	7
		0.0	6.3	4.3	3.7	0.0	0.0	0.0	0.0	0.0	3.6
	Pacific Peoples	0	1	1	1	1	0	0	0	0	4
		0.0	4.3	5.6	11.1	14.3	0.0	0.0	0.0	0.0	5.9
	Other	0	3	3	1	0	0	0	1	0	8
	0.0	2.5	2.6	2.0	0.0	0.0	0.0	5.0	-	1.9	
Unknown	0	2	4	0	0	0	0	0	0	6	
	0.0	1.0	4.9	0.0	0.0	0.0	0.0	0.0	0.0	1.4	
	Total	0	35	56	17	2	0	0	1	0	111
		0.0	1.8	3.7	2.8	0.4	0.0	0.0	0.3	0.0	1.9
Females	European	1	124	91	21	4	7	4	2	0	254
		0.0	0.3	0.3	0.2	0.0	0.1	0.1	0.0	0.0	0.2
	Maori	2	18	6	1	0	1	0	0	0	28
		0.3	0.4	0.2	0.1	0.0	0.2	0.0	0.0	0.0	0.2
	Pacific Peoples	0	8	6	1	0	0	0	0	0	15
		0.0	0.6	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.3
	Other	1	17	16	1	0	1	0	0	0	36
	0.2	0.3	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.2	
Unknown	1	14	9	4	2	3	0	0	1	34	
	0.3	0.3	0.2	0.2	0.1	0.2	0.0	0.0	0.8	0.2	
	Total	5	181	128	28	6	12	4	2	1	367
		0.1	0.3	0.3	0.1	0.0	0.1	0.1	0.0	0.4	0.2
<u>NSU (males only)</u>											
Males	European	0	1	2	0	0	0	0	0	0	3
		0.0	0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Maori	0	0	0	0	0	0	1	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	33.3	0.0	-	3.2
	Pacific Peoples	0	1	1	0	0	0	0	0	0	2
		0.0	9.1	14.3	0.0	0.0	0.0	0.0	0.0	0.0	8.3
	Other	0	1	0	0	0	0	0	0	0	1
	0.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	-	2.0	
	Total	0	3	3	0	0	0	1	0	0	7
		0.0	0.7	0.8	0.0	0.0	0.0	1.1	0.0	0.0	0.5

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

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

Student & Youth Health Clinic Data

Table 27. Number of cases¹ and disease rates² by age, sex and ethnicity, SYHCs, 2004

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<i>Chlamydia</i>											
Males	European	0	20	29	3	0	1	0	1	0	54
		0.0	0.8	0.6	0.3	0.0	0.3	0.0	0.1	0.0	0.5
	Maori	0	9	13	3	0	0	0	0	0	25
		0.0	1.9	1.5	0.9	0.0	0.0	0.0	0.0	0.0	1.0
	Pacific Peoples	0	0	2	2	0	0	0	0	0	4
		0.0	0.0	2.4	8.0	0.0	0.0	0.0	0.0	-	2.2
	Other	0	1	2	2	0	0	0	0	0	5
		0.0	0.5	0.2	0.6	0.0	0.0	0.0	0.0	0.0	0.3
	Unknown	0	1	3	0	0	0	0	0	0	4
		0.0	1.2	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		0	31	49	10	0	1	0	1	0	92
		0.0	1.0	0.7	0.5	0.0	0.1	0.0	0.1	0.0	0.4
Females	European	0	92	88	7	1	0	0	1	0	189
		0.0	0.9	0.6	0.3	0.1	0.0	0.0	0.1	0.0	0.6
	Maori	0	61	43	10	2	2	0	0	0	118
		0.0	2.6	1.4	1.0	0.4	0.3	0.0	0.0	0.0	1.4
	Pacific Peoples	0	7	9	2	3	0	0	0	0	21
		0.0	3.4	1.9	1.1	4.1	0.0	0.0	0.0	0.0	1.9
	Other	0	7	14	2	1	0	0	0	0	24
		0.0	0.7	0.4	0.2	0.2	0.0	0.0	0.0	-	0.3
	Unknown	0	4	5	1	0	0	0	0	2	12
		0.0	1.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Total		0	171	159	22	7	2	0	1	2	364
		0.0	1.2	0.7	0.4	0.3	0.1	0.0	0.0	0.0	0.4
<i>Gonorrhoea</i>											
Males	European	0	1	0	0	1	0	0	0	0	2
		0.0	0.3	0.0	0.0	1.5	0.0	0.0	0.0	-	0.2
	Pacific Peoples	0	0	0	1	1	0	0	0	0	2
		0.0	0.0	0.0	6.7	5.0	0.0	0.0	0.0	-	1.4
	Other	0	0	1	0	1	0	0	0	0	2
	0.0	0.0	0.3	0.0	1.8	0.0	0.0	0.0	-	0.2	
Total		0	1	1	1	3	0	0	0	0	6
		0.0	0.2	0.1	0.3	2.1	0.0	0.0	0.0	0.0	0.3
Females	European	0	2	2	1	0	0	0	0	0	5
		0.0	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.1
	Maori	0	5	1	0	0	0	0	0	0	6
		0.0	0.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Pacific Peoples	0	1	0	0	1	0	0	0	0	2
	0.0	1.9	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.7	
Total		0	8	3	1	1	0	0	0	0	13
		0.0	0.3	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1
<i>Genital Herpes (first presentation)</i>											
Males	European	0	2	0	0	1	0	0	0	0	3
		0.0	0.3	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.1
	Unknown	0	0	0	1	1	0	0	0	0	2
	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	2	0	1	2	0	0	0	0	5
		0.0	0.3	0.0	0.3	1.6	0.0	0.0	0.0	0.0	0.1
Females	European	0	5	7	0	1	0	0	3	0	16
		0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.4	0.0	0.1
	Maori	0	1	0	0	0	0	0	0	0	1
		0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Other	0	1	2	0	0	0	1	0	0	4
		0.0	0.3	0.1	0.0	0.0	0.0	1.3	0.0	-	0.2
	Unknown	0	0	2	0	0	0	0	0	0	2
	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	7	11	0	1	0	1	3	0	23
		0.0	0.1	0.1	0.0	0.1	0.0	0.2	0.3	0.0	0.1

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

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

Table 27. cont. number of cases¹ and disease rates² by age, sex and ethnicity, SYHCs, 2004

		Age group (years)									
		<u><15</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30-34</u>	<u>35-39</u>	<u>40-44</u>	<u>>44</u>	<u>Unk</u>	<u>Total</u>
<u>Genital Warts (first presentation)</u>											
Males	European	0	3	15	6	1	0	0	0	0	25
		0.0	0.1	0.4	0.6	0.2	0.0	0.0	0.0	0.0	0.3
	Maori	0	4	2	0	0	0	0	0	0	6
		0.0	1.8	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.5
	Pacific Peoples	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0	-	3.0
	Other	0	1	2	1	0	0	0	0	0	4
	0.0	0.7	0.3	0.3	0.0	0.0	0.0	0.0	-	0.3	
Unknown	0	0	5	0	0	0	0	0	0	5	
	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1	
Total		0	8	25	7	1	0	0	0	0	41
		0.0	0.3	0.5	0.5	0.2	0.0	0.0	0.0	0.0	0.2
Females	European	1	25	33	1	1	0	0	0	0	61
		0.3	0.2	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.2
	Maori	0	10	6	0	0	0	0	0	0	16
		0.0	0.6	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Other	0	2	5	1	0	0	0	0	0	8
		0.0	0.4	0.3	0.2	0.0	0.0	0.0	0.0	-	0.2
	Unknown	0	1	2	1	0	0	0	0	1	5
	0.0	3.7	2.3	5.9	0.0	0.0	0.0	0.0	0.0	0.0	
Total		1	38	46	3	1	0	0	0	1	90
		0.2	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.2
<u>NSU (males only)</u>											
Males	European	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	-	0.1
	Maori	0	0	2	0	0	0	0	0	0	2
	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	-	0.4	
Total		0	0	3	0	0	0	0	0	0	3
		0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2

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

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

Appendix B: STI Surveillance Case definitions

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