

Sexually Transmitted Infections in New Zealand

Annual Surveillance Report 2003

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This report is also available at www.surv.esr.cri.nz

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Summary

Surveillance of sexually transmitted infections (STIs) in New Zealand continues to be based predominantly on voluntary data from specialist sexual health clinics (SHCs). 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. Since 1998, STI surveillance has been expanded to include data from family planning clinics (FPCs), student and youth health clinics (SYHCs), and laboratories in Waikato, Bay of Plenty (BOP) and Auckland regions.

Key points

- *Chlamydia trachomatis* infections are now the most commonly diagnosed STI in New Zealand.
- Over the past five years the number of confirmed chlamydia and gonorrhoea cases diagnosed at SHCs has increased by 65.5% and 57.0%, respectively.
- Young people remain at high risk of STIs; 65% of chlamydia, gonorrhoea, genital herpes and genital warts diagnosed at SHCs are in those aged less than 25 years. In females attending SHCs the rate of chlamydia in those aged less than 15 years was nearly double the overall clinic rate.
- In the Auckland, Waikato and Bay of Plenty regions, chlamydia rates in 2003 were six times higher than reported in Australia and four times higher than the UK (excluding Scotland). Gonorrhoea rates were double that reported in Australia and the UK (excluding Scotland).
- STI rates in infants remain high, reinforcing the need for effective STI screening during pregnancy.
- Young people and those of Maori and Pacific People ethnicity are at greater risk of concurrent infections.
- 12.1% of SHC patients presented with a subsequent STI infection in 2003.

In 2003, a total of 3 857 confirmed cases of chlamydia and 603 confirmed cases of gonorrhoea were reported to ESR from SHCs. FPCs reported 1 728 confirmed chlamydia and 205 confirmed gonorrhoea cases, and SYHCs 312 confirmed chlamydia cases and 24 confirmed gonorrhoea cases.

Laboratory surveillance reported 11 563 cases of chlamydia, a rate of 739 per 100 000 in Waikato/BOP region and 613 per 100 000 in the Auckland region. Laboratory surveillance of gonorrhoea reported 1 212 cases, a rate of 58 per 100 000 in the Waikato/BOP region and 117 per 100 000 in the Auckland region.

In 2003, the number of genital herpes (first presentation) infections continued to increase at SHCs. Cases were equally distributed between sexes and predominantly associated with European ethnicity.

A total of 4 109 cases of genital warts (first presentation) were reported through clinic surveillance. Rates were comparable across all ethnic groups and highest rates were found in those less than 25 years.

In 2003, 30 cases of syphilis were reported, a decrease from 47 in 2002.

Laboratory surveillance reported more than four times the number of chlamydia and double the number of gonorrhoea cases than that reported by clinic surveillance in the same regions. This illustrates that reliable estimates of the burden of STIs in the New Zealand population cannot be determined from current methods of STI surveillance. Extending laboratory surveillance to be more representative of the whole of New Zealand is under active consideration.

Introduction

This report summarises the epidemiology of sexually transmitted infections (STIs) in 2003, and examines trends since 1999. Using data from sexual health clinics (SHCs), family planning clinics (FPCs), student and youth health clinics (SYHCs) and diagnostic laboratories, this report covers the STIs of public health importance, including chlamydia, gonorrhoea, genital herpes, genital warts, and syphilis. Possible factors underlying the observed distribution and trends in STIs are discussed.

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 report is presented here.

As most STIs are not notifiable in New Zealand, 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 underestimate the true burden of disease in New Zealand as a substantial percentage of STIs are diagnosed by other health providers, particularly general practitioners (GPs). Laboratories receive specimens from all health providers, and so, provide a useful, complementary source of STI data.

Laboratory-based surveillance of chlamydia and gonorrhoea has been operating since 1998 in the Waikato and Bay of Plenty (BOP). In Auckland gonorrhoea surveillance began in 1998 and chlamydia surveillance in 2001.

This report presents the individual diseases under clinic surveillance, laboratory surveillance, an AIDS/HIV summary for 2003, and examines trends in STIs from 1999.

Methods

All results and analyses are based on data submitted prior to the 15th March 2004. 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 Waikato, BOP and Auckland 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. 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 sexually transmitted infections 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 8.2. 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.

STI Rates

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.

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	

Laboratory-specific rates: the total number of reported cases for chlamydia and gonorrhoea by participating laboratories in the Waikato District Health Board (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.

Calculation of rates

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

Population rates

Population rates can only be determined in the Waikato, BOP and Auckland area where laboratory surveillance collects data from the majority of the laboratories in these areas. Clinic data cannot be used to calculate population rates.

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.

Data Limitations

Data Completeness

Twenty-five SHCs, forty-two FPCs and fifteen SYHCs provided STI surveillance data to ESR for the period January to December 2003. FPCs included some outreach clinics based in schools or tertiary institutions and may have been closed during school holidays. One SHC, three SYHCs and eight FPCs provided less than 10 of the 12 months data requested for 2003.

For January to December 2003, seven laboratories in the Waikato and BOP and three laboratories in Auckland reported gonorrhoea and chlamydia data to ESR. This represents two thirds of the microbiology laboratories in these areas.

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 to only those students and staff who attend their institution.

While STIs are diagnosed and treated by a range of 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)

Clinic attendees

SHCs reported 78 953 clinic visits during 2003, 40.1% of which were by males. Compared to 2002, the number of clinic visits decreased by 2.9% in 2003. Age and ethnicity were not recorded for 0.2% and 1.4% of clinic attendees, respectively. Where age and ethnicity information were provided, 52.1% were aged less than 25 years, 70.6% were of European ethnic group, 18.7% were Maori, 3.2% were Pacific Peoples and 7.5% were Other ethnic groups.

STI diagnosis

In 2003, there were 3 857 confirmed cases of chlamydia and 603 confirmed cases of gonorrhoea diagnosed at SHCs. An additional 628 probable cases of chlamydia and 70 probable cases of gonorrhoea were reported in 2003. A total 10 530 STI cases were diagnosed, representing a rate of 13.0% in SHC attendees (see Table 2).

Chlamydia was the most commonly reported STI, followed by genital warts. No cases of chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2003. Figures 1 and 2 show the infection rates for the five main STIs reported by SHCs from 1999 to 2003. Over this period the rate

of chlamydia increased in both males and females. In males there have also been slight increases in gonorrhoea and NSU rates. In females there has been little change in the rates of the other STIs.

Figure 1. STI rates at SHCs in males: 1999-2003

Denominator is the number of male clinic visits

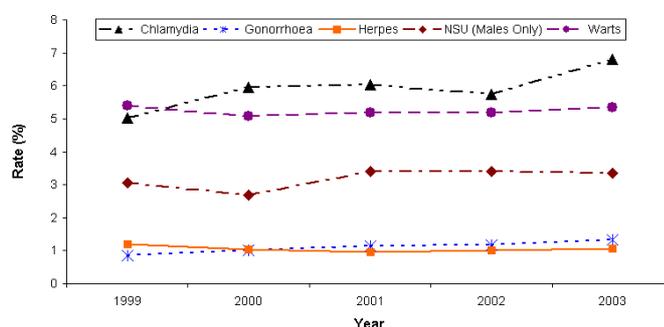


Figure 2. STI rates at SHCs in females: 1999-2003

Denominator is the number of female clinic visits

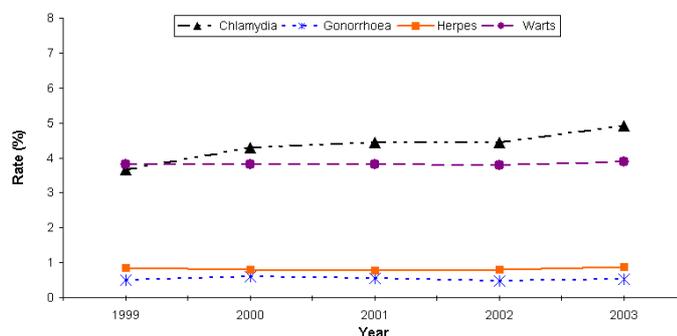


Table 2. Number of STI diagnoses, rates and age comparisons at SHCs, 2003

Infection	Confirmed cases	Total cases [†]	Rate [‡]	Mean age (years)	Age range (years)
Chlamydia	3 857	4485	5.6%	23	12-79
Gonorrhoea	603	673	0.8%	26	13-61
Genital herpes (first presentation)	-	756	0.9%	30	13-78
Genital warts (first presentation)	-	3 525	4.4%	24	0-79
Syphilis	-	30	0.0%	39	19-75
NSU (males only)	-	1 061	3.3%	31	14-74
Total STI cases	-	10 530	13.0%		
Total clinic visits		80 765			

[†]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)

Clinic attendees

FPCs reported 191 651 clinic visits during 2003, 96.1% of which were by females. Compared to 2002, the number of clinic visits decreased by 3.6% in 2003.

Age and ethnicity were not recorded for 0.2% and 11.5% of clinic attendees, respectively. Where age and ethnicity information were provided, 64.7% were aged less than 25 years, 74.7% were of European ethnic group, 8.0% were Maori, 3.6% were Pacific Peoples and 13.7% were Other ethnic groups.

STI diagnosis

In 2003, 1 728 confirmed chlamydia and 205 confirmed gonorrhoea cases were reported by FPCs. An additional 494 probable cases of chlamydia and 24 probable cases of gonorrhoea were reported in 2003. A total of 3 126 STI episodes were diagnosed, representing a rate of 1.6% 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 2003.

Figures 3 and 4 show the infection rates for the five main STIs reported by FPCs from 1999 to 2003. Between 1999 and 2000 the number of participating FPCs increased by ten-fold thus increasing the number of clinic visits from 2 839 in 1999 to 90 738 in 2000. As the number of clinic visits is used as the denominator rate calculations, this contributed to the sharp decrease in STI rates seen between 1999 and 2000.

Since 2001 the rates of chlamydia in males and females have been steadily increasing. Chlamydia infection is asymptomatic in a large proportion of cases and untreated infection can lead to severe sequelae. Given this, implementation of screening programmes for chlamydia should be considered as a matter of priority.

Figure 3. STI rates at FPCs in males: 1999-2003

Denominator is the number of male clinic visits

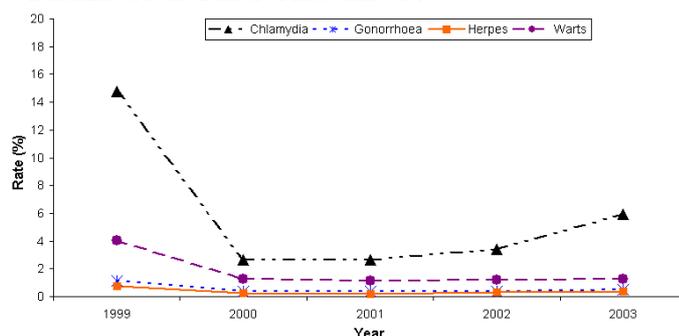


Figure 4. STI rates at FPCs in females: 1999-2003

Denominator is the number of female clinic visits

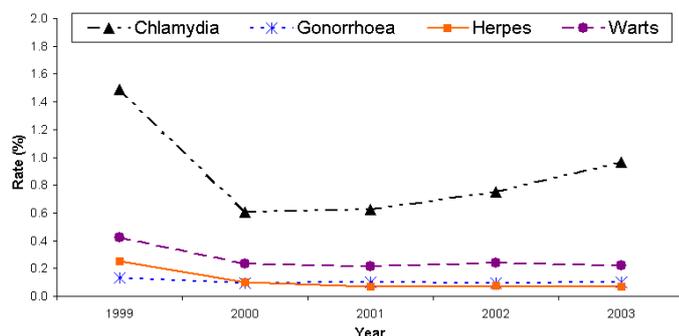


Table 3. Number of STI diagnoses, rates and age comparisons at FPCs, 2003

Infection	Confirmed cases	Total cases [†]	Rate [‡]	Mean age (years)	Age range (years)
Chlamydia	1 728	2 222	1.2%	21	13-54
Gonorrhoea	205	229	0.1%	21	14-47
Genital herpes (first presentation)	-	163	0.1%	24	15-65
Genital warts (first presentation)	-	503	0.3%	21	14-52
Syphilis	-	0	0.0%	-	-
NSU (males only)	-	9	0.1%	23	21-28
Total STI cases	-	3 126	1.6%		
Total clinic visits		191 651			

[†]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)

Clinic attendees

SYHCs reported 142 332 clinic visits during 2003, 29.9% of which were by males. Compared to 2002 the number of clinic attendances decreased by 0.9% in 2003.

Age and ethnicity were not reported for 55.3% and 58.5% 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, 70.1% were aged less than 25 years, 57.6% were of European ethnic group, 19.4% were Maori, 2.8% were Pacific Peoples and 20.2% were Other ethnic groups.

STI diagnosis

In 2003, 312 confirmed chlamydia cases and 24 confirmed gonorrhoea cases were reported by SYHCs. An additional nine probable cases of chlamydia and one probable case of gonorrhoea were reported in 2003. Therefore a total 458 STIs episodes were diagnosed representing a rate of 0.3% 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 2003.

Figures 5 and 6 show the infection rates for the five main STIs reported by SYHCs from 1999 to 2003.

Figure 5. STI rates at SYHCs in males: 1999-2003

Denominator is the number of male clinic visits

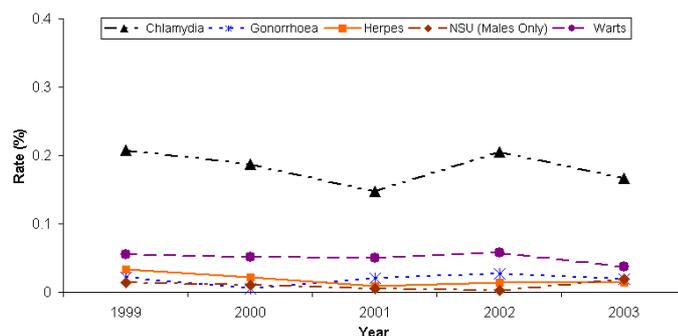


Figure 6. STI rates at SYHCs in females: 1999-2003

Denominator is the number of female clinic visits

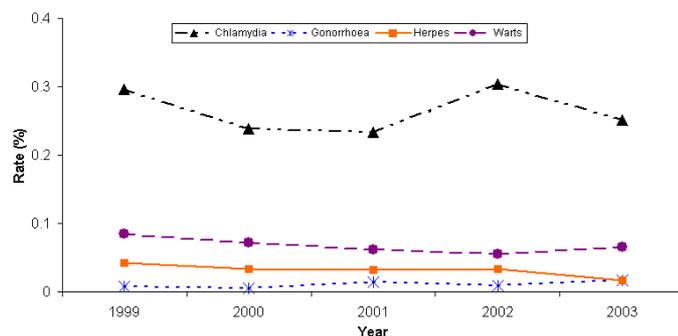


Table 4. Number of STI diagnoses, rates and age comparisons at SYHCs, 2003

Infection	Confirmed cases	Total cases [†]	Rate [‡]	Mean age (years)	Age range (years)
Chlamydia	312	321	0.2%	20	13-38
Gonorrhoea	24	25	0.0%	23	17-48
Genital herpes (first presentation)	-	23	0.0%	22	17-28
Genital warts (first presentation)	-	81	0.1%	20	15-43
Syphilis	-	0	0.0%	-	-
NSU (males only)	-	8	0.0%	22	17-25
Total STI cases		458	0.3%		
Total clinic visits		142 332			

[†]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 2003, genital *Chlamydia trachomatis* infection was the most commonly reported bacterial STI in New Zealand.

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, epididymitis and infertility in males. Infants born vaginally to infected mothers can be infected during delivery resulting in neonatal conjunctivitis or pneumonia.

Between 2002 and 2003 the number of confirmed chlamydia cases increased by 13.4% in SHCs (3 857 compared to 3 401), 25.9% in FPCs (1 728 compared to 1 373) and decreased by 20.0% in SYHCs (312 compared to 390). In 2003, the number of probable cases accounted for a further 628 cases in SHCs, 494 in FPCs and nine in SYHCs.

For the total number of cases (confirmed and probable) highest rates were reported in SHCs (5.6%) compared to FPCs (1.2%) and the SYHCs (0.2%). 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.

Chlamydia cases in 2003

In 2003 the majority, over 70%, 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, 21 years in FPCs and 20 years in SYHCs.

In FPCs the chlamydia rates were highest in females aged 15 to 19 years (1.5%) and in males aged 20 to 24 years (11.1%). In SHCs and SYHCs rates were highest in females aged less than 15 years (7.7% and 1.1% respectively) and in males aged 15 to 19 years (14.3% and 0.7% respectively) (see Figures 7 to 9).

Figure 7. Rates of chlamydia diagnosed at SHCs by age group and sex, 2003

Denominator is the number of clinic visits

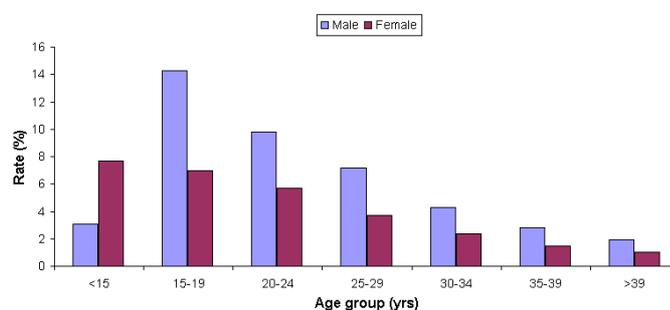


Figure 8. Rates of chlamydia diagnosed at FPCs by age group and sex, 2003

Denominator is the number of clinic visits

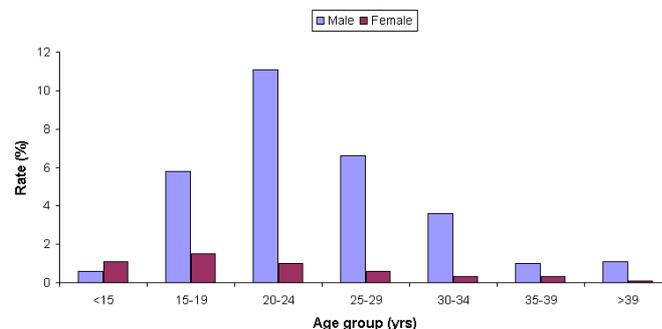


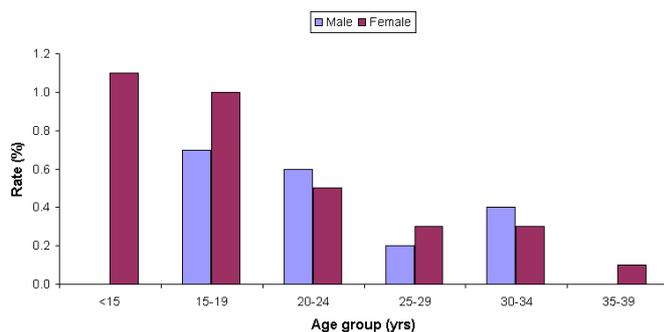
Table 5. Number and rates of chlamydia cases by sex and health care setting, 2003

Clinic type	No. of confirmed cases			Total number of cases [†]			Rate [‡] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
SHCs	2107	1750	3857	2327	2158	4485	4.9%	6.8%	5.6%
FPCs	1475	253	1728	1772	450	2222	1.0%	5.9%	1.2%
SYHCs	246	66	312	250	71	321	0.3%	0.2%	0.2%

[†]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, 2003

Denominator is the number of clinic visits



In FPCs and SHCs the rates of chlamydia varied by ethnic origin. In SHCs the rate of chlamydia in Maori (10.5%) was nearly three times higher than those of European ethnicity (4.4%). In FPCs chlamydia rates in male Maori (13.1%) and Pacific Peoples (12.8%) was three times higher than in males of European ethnicity (4.6%). This may reflect variation in the accessibility and sexual health care provision for different ethnic groups.

Complicated infections

In 2003, 2.7% of chlamydia cases in SHCs, 1.8% in FPCs and 1.2% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 131 females (91 in SHCs, 39 in FPCs and one in SYHCs) were diagnosed with PID, 82.4% of whom were aged less than 25 years. Of the female complicated chlamydia cases 47.3% were European, 36.6% Maori and 4.6% Pacific Peoples ethnicity.

A total of 33 males (28 in SHCs, two in FPCs and three in SYHCs) were diagnosed with epididymitis, 72.7% of whom were aged less than 25 years. Of the male complicated chlamydia cases 48.5% were European, 27.3% Maori and 12.1% Pacific Peoples ethnicity.

Recent trends

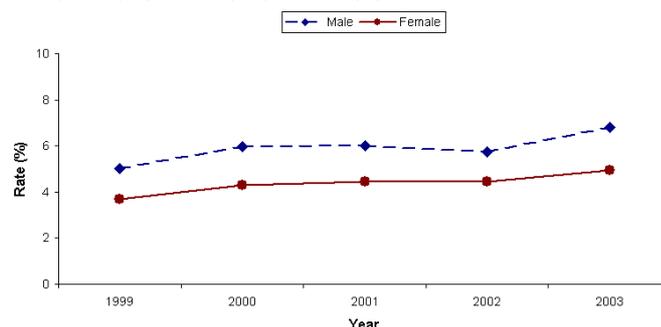
Over the past five years, the total number of chlamydia cases (confirmed and probable) has increased by 53.8% in SHCs and 27.4% in SYHCs. In the SHCs this represents a 35.8% and 34.2% increase in the rate of chlamydia diagnosed in males and females, respectively (see Figure 10).

From 2000 to 2003, when the number of participating FPCs has remained stable, the number of confirmed chlamydia cases has increased by 226.0%.

These trends may reflect changes in sexual behaviour, but may also be accounted for by advances in the sensitivity and specificity of new diagnostic techniques available and changes in clinic policy regarding partner notification.

Figure 10. Rates of chlamydia diagnosed at SHCs: 1999 to 2003

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 Zealand.

Gonorrhoea

Infections due to *Neisseria gonorrhoeae* can cause dysuria and vaginal discharge in females and urethral discharge in males. Asymptomatic infection can occur in up to 50% of females and 10% of males. Untreated gonococcal infection may be associated with long term serious sequelae, including pelvic inflammatory disease (PID) in females and epididymitis in males.

Between 2002 and 2003, the number of confirmed cases of gonorrhoea increased by 12.9% in SHCs (603 compared to 534), 11.4% in FPCs (205 compared to 184) and 33.3% in SYHCs (24 compared to 18). In 2003, the number of probable cases accounted for a further 70 cases in SHCs, 24 in FPCs and one in SYHCs.

Highest rates were reported in SHCs (0.8%) compared to FPCs (0.1%) 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.

Across health care settings the highest rates were reported in males (see Table 6).

Gonorrhoea cases in 2003

In 2003, over 55% of the gonorrhoea cases (confirmed and probable) diagnosed at SHCs were in those aged less than 25 years, this increased to over 80% of cases diagnosed at FPCs and SYHCs. The mean age of gonorrhoea cases was 26 years in SHCs, 21 years in FPCs and 23 years in SYHCs.

Rates of gonorrhoea were highest in females aged 15 to 19 years attending FPCs and SHCs, and in males aged 15 to 19 years in SHCs and those aged 20 to 24 years in FPCs (see Figures 11 and 12).

Figure 11. Rates of gonorrhoea diagnosed at SHCs by age group and sex, 2003

Denominator is the number of clinic visits

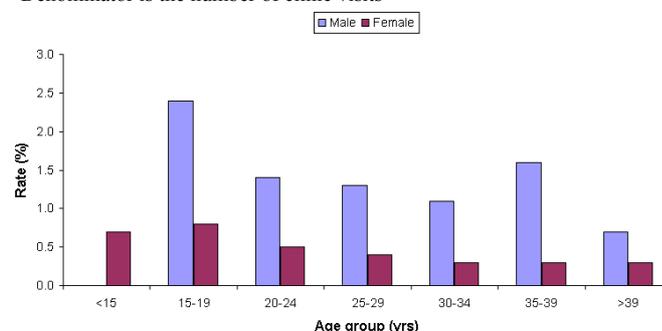
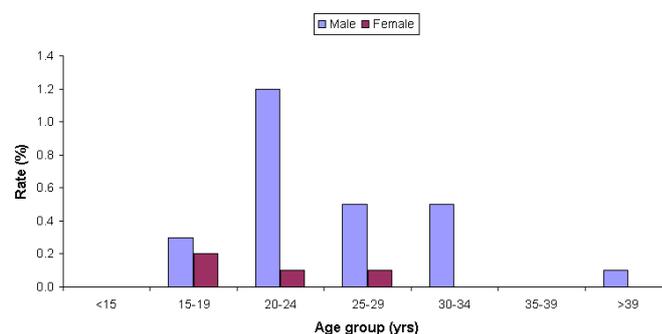


Figure 12. Rates of gonorrhoea diagnosed at FPCs by age group and sex, 2003

Denominator is the number of clinic visits



In all health care settings the rates of gonorrhoea varied by ethnic origin. High rates were found in males and females of Maori or Pacific Peoples ethnicity compared to European. For example, in the SHCs, the rate of gonorrhoea in Pacific Peoples was nine times higher than those of European origin (3.5% compared to 0.4%).

Table 6. Number and rates of gonorrhoea cases by sex and health care setting, 2003

Clinic type	No. of confirmed cases			Total number of cases [†]			Rate [‡] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total	Female	Male	Total
SHCs	228	375	603	252	421	673	0.5%	1.3%	0.8%
FPCs	179	26	205	191	38	229	0.1%	0.5%	0.1%
SYHCs	16	8	24	17	8	25	<0.1%	<0.1%	<0.1%

[†]total number of confirmed and probable cases

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

Complicated infections

In 2003, 3.0% of gonorrhoea cases in SHCs, 2.2% in FPCs and 4.0% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 18 females (13 at SHCs, five at FPCs) were diagnosed with PID, 66.7% of whom were aged less than 25 years. Of the female complicated gonorrhoea cases 33.3% were European ethnic origin and 44.4% of Maori ethnicity.

A total of eight males (seven at SHCs, one at a SYHC) were diagnosed with epididymitis, 62.5% of whom were aged less than 25 years. Of the male complicated gonorrhoea cases 37.5% were of Maori ethnicity, 37.5% of Pacific Peoples and 25.0% of European ethnic origin.

Recent trends

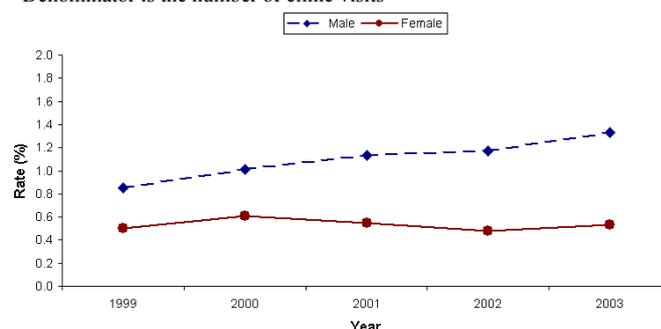
Over the past five years, the total number of gonorrhoea cases reported in SHCs has increased by 50.6% and 127.3% in SYHCs. From 2000 to 2003, when the number of participating FPCs has

remained stable, the number of confirmed gonorrhoea cases diagnosed at FPCs has increased by 115.8%.

Between 1999 and 2003, the rate of gonorrhoea diagnosed in males and females at SHCs has increased by 55.6% and 6.3%, respectively (see Figure 13).

Figure 13. Rates of gonorrhoea diagnosed at SHCs: 1999 to 2003

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. The ulcerative lesions of HSV can also facilitate the transmission of HIV infection.

Between 2002 and 2003, the number of cases of genital herpes increased by 5.4% in SHCs (756 compared to 717). Over the same period the number of cases has decreased in both FPCs by 4.1% (163 compared to 170) and SYHCs by 42.5% (23 compared to 40).

Highest rates were reported in SHCs (0.9%) compared to FPCs (0.1%) 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 7).

Genital herpes cases in 2003

In 2003, 40% of the genital herpes cases diagnosed at SHCs were in those aged less than 25 years, this increased to 70% of cases diagnosed at FPCs and SYHCs. However, in SHCs, the most

complete dataset, highest rates of genital herpes were found in those over 30 years old (see Figures 14 and 15). The mean age of genital herpes cases was 22 years in SHCs, 24 years in FPCs and 30 years in SYHCs.

Figure 14. Rates of genital herpes (first presentation) diagnosed at SHCs by age group and sex, 2003

Denominator is the number of clinic visits

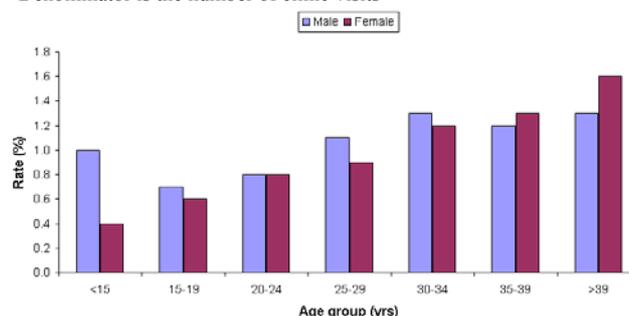
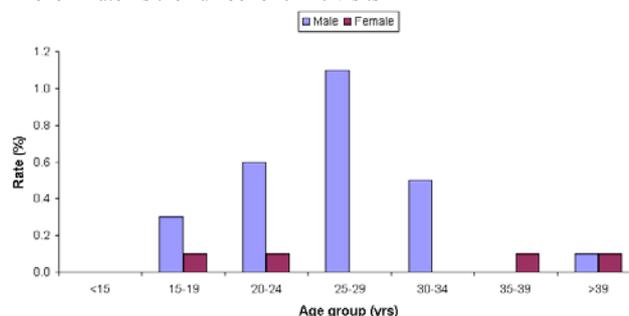


Figure 15. Rates of genital herpes (first presentation) diagnosed at FPCs by age group and sex, 2003

Denominator is the number of clinic visits



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

Table 7. Number and rates of genital herpes (first presentation) cases by sex and health care setting, 2003

Clinic type	Total number of cases			Rate [†] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total
SHCs	416	340	756	0.9%	1.1%	0.9%
FPCs	132	31	163	0.1%	0.4%	0.1%
SYHCs	17	6	23	<0.1%	<0.1%	<0.1%

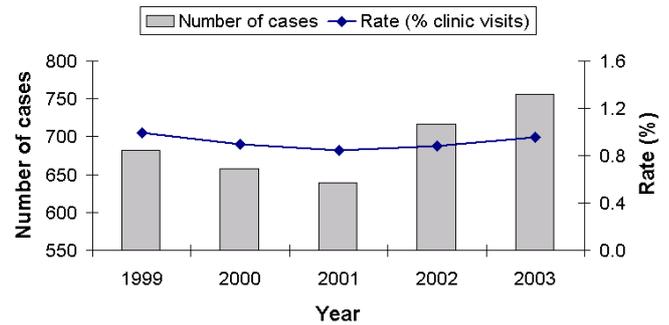
[†]number of cases/number of clinic visits

Recent trends

Over the past five years, the total number of genital herpes cases reported has fluctuated at SHCs, increasing dramatically over the last two years (see Figure 16). From 2001 to 2003 the rate has increased from 0.8% to 1.0%. Though 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.

Figure 16. Number of cases and rates of genital herpes (first presentation) diagnosed at SHCs: 1999 to 2003

Denominator is the number of clinic visits



Genital Warts (first presentation)

Genital warts, the clinical visible, manifestation of human papillomavirus (HPV) infection, is the most commonly reported 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.

Between 2002 and 2003, the number of cases of genital warts decreased by 0.6% in SHCs (3 545 compared to 3 525), 7.9% in FPCs (546 compared to 503). Over the same period, there was no change in the number of cases reported by SYHCs (81 cases).

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).

Genital warts cases in 2003

In 2003, the majority of genital warts cases at all clinics were aged less than 25 years (SHCs, 64% of cases; FPCs, 84% of cases; SYHCs, 96% 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 and FPCs the rates of genital warts were highest in the 15 to 19 years and 20 to 24 years age groups (see Figures 17 and 18).

In all health care settings the rates of genital warts were similar in European, Maori or Pacific Peoples ethnic groups.

Figure 17. Rates of genital warts (first presentation) diagnosed at SHCs by age group and sex, 2003

Denominator is the number of clinic visits

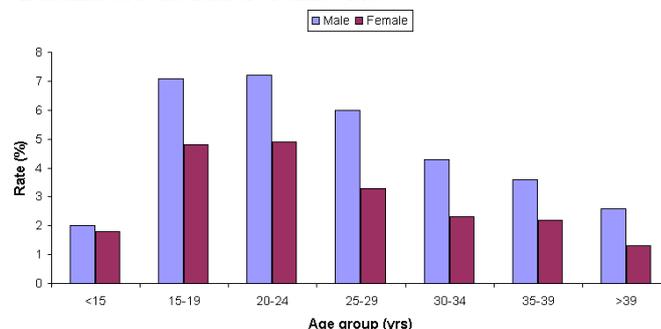


Figure 18. Rates of genital warts (first presentation) diagnosed at FPCs by age group and sex, 2003

Denominator is the number of clinic visits

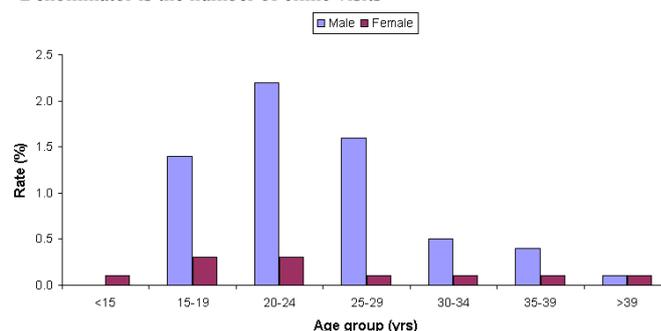


Table 8. Number and rates of genital warts (first presentation) cases by sex and health care setting, 2003

Clinic type	Total number of cases			Rate [†] (% of clinic visits)		
	Female	Male	Total	Female	Male	Total
SHCs	1835	1690	3525	3.9%	5.3%	4.4%
FPCs	407	96	503	0.2%	1.3%	0.3%
SYHCs	65	16	81	0.1%	<0.1%	0.1%

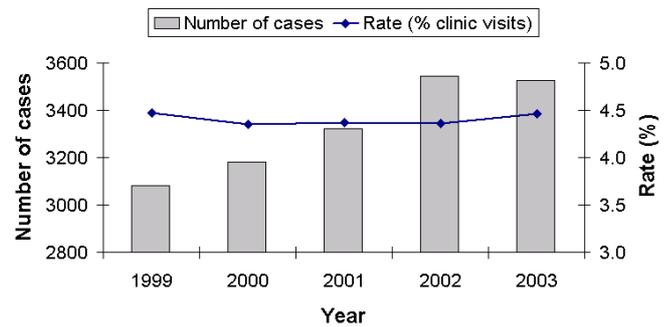
[†]number of cases/number of clinic visits

Recent trends

From 1999 to 2002 the number of genital warts cases reported by SHCs had increased. This trend did not continue into 2003 (see Figure 19). Between 1999 and 2003 the rate has varied between 4.3% and 4.5%. Though 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).

Figure 19. Number of cases and rates of genital warts (first presentation) diagnosed at SHCs: 1999 to 2003

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 spontaneously heals. 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 may result in perinatal death, congenital infections and complications. Only cases of infectious syphilis (primary, secondary and early latent) are reported by clinics for surveillance purposes.

In 2003, a total of 30 syphilis cases were reported at SHCs, representing a decrease of 36.2% compared to 2002. In 2003, the rate of syphilis at SHCs was 0.04%.

In 2003, no cases of syphilis were reported at FPCs or SYHCs.

The mean age of syphilis cases was 39 years (range 19 to 75 years). Of the 30 syphilis cases reported in 2002, 19 (63.3%) were male and 11 (36.7%) were female.

Of the 19 male SHCs attendees with syphilis 42.1% were European, and 47.4% were of Other ethnicity. Of the 11 females the majority (72.7%) were of Other ethnicity.

Over the past five years the number of cases diagnosed at SHCs has varied, but the numbers remain low: 23 (in 1999), 13 (in 2000), 18 (in 2001), 47 (in 2002), 30 (in 2003).

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 2003, there were nine reported cases of NSU in FPCs, eight cases in SYHCs and 1061 cases in SHCs.

In SHCs over the past five years the number of cases reported has fluctuated: 874 (in 1999), 825 (in 2000), 1 056 (in 2001), 1 125 (in 2002), 1 061 (in 2003).

In 2003 the number of cases decreased by 5.7% compared to 2002, but the rate remained the same (3.4%).

The mean age for NSU cases was 31 years in SHCs (range 14 to 74 years), 22 years in SYHCs (range 17 to 25 years), and 23 years in FPCs (range 21 to 28 years). Rates of NSU were highest in the 20 to 24 years age group in FPCs (0.4%) and SYHCs (0.3%). In SHCs rates were highest in the 35 to 39 years age group (3.7%).

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 (ie, in the same month) or at different times (ie, 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 2003, 692 SHC attendees were diagnosed with concurrent infections. Of these 665 (96.1%) were diagnosed with two infections and 27 (3.9%) were diagnosed with three 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.

A significantly higher proportion of male SHC attendees compare to females 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, 2003

Sex	One STI (%)	Two or more STIs (%)
Male	4902 (53.8)	386 (55.8)
Female	4207 (46.2)	306 (44.2)
Total	9109	692

A significantly higher proportion of those with multiple STIs were in young people. Seventy

percent 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, 2003

Age group (years)	One STI (%)	Two or more STIs (%)
<15	90 (1.0)	9 (1.3)
15-19	2373 (26.1)	243 (35.1)
20-24	3022 (33.2)	233 (33.7)
25-29	1577 (17.3)	108 (15.6)
30-34	870 (9.5)	45 (6.5)
35-39	523 (5.7)	24 (3.5)
>39	646 (7.1)	30 (4.3)
Unknown	8 (0.1)	0 (0.0)
Total	9109	692

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, 2003

Ethnicity	Number of patients	% with one STI	% with two or more STIs
European	6310	95.0	5.0
Maori	2374	88.8	11.2
Pacific Peoples	463	86.2	13.8
Other	568	92.8	7.2
Unknown	86	94.2	5.8
Total	9801		

The following percentages of those diagnosed with a particular STI were diagnosed with more than one infection; 14.6% of confirmed chlamydia cases, 48.8% of confirmed gonorrhoea cases, 9.2% of genital warts cases, 8.2% of genital herpes cases, 8.5% of NSU and 6.7% of syphilis cases. The greatest proportion of patients diagnosed with more than two infections was found in those with gonorrhoea (3.4%).

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

Table 12. Number of patients with two STI diagnoses at SHC, 2003

STIs	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	273				
Genital herpes	26	6			
Genital warts	241	11	22		
Syphilis	0	2	0	0	
Non-specific urethritis (NSU)	22	2	8	52	0

Table 13. Number of patients with three STI diagnoses at SHC, 2003

First STI	Second STI	Third STI	Numbers of patients
Chlamydia	Gonorrhoea	Genital warts	21
Chlamydia	Genital herpes	Genital warts	3
Chlamydia	Gonorrhoea	Genital herpes	2
Chlamydia	Genital herpes	Non-specific urethritis (NSU)	1

In SHC attendees with two STIs the combination of chlamydia and gonorrhoea accounted for 39.5% of concurrent infections. Chlamydia and genital warts accounted for a further 34.8% of concurrent infections.

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

Subsequent infections

Of the 9 801 SHC patients diagnosed with an STI in 2003, 1 189 patients (12.1%) were diagnosed with subsequent infections. Of these, 1 060 SHC patients were diagnosed with an STI twice in 2003, and a further 129 patients were diagnosed with an STI on three separate occasions in 2003.

Subsequent infections were more common among males, young people and people of Maori or Pacific Peoples ethnicity.

Subsequent infections were diagnosed in 12.7% of male patients, compared to 11.4% of female patients. The greatest proportion of males and females who suffered subsequent infections were those initially diagnosed with gonorrhoea.

Subsequent infections were diagnosed in 12.1% of STI patients aged less than 15 years and 13.6% of patients aged 15 to 19 years, compared with 9.8% of patients aged 30 years and older. Subsequent infections were diagnosed in 16.9% of Maori, 16.6% of Pacific Peoples and 10.1% 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

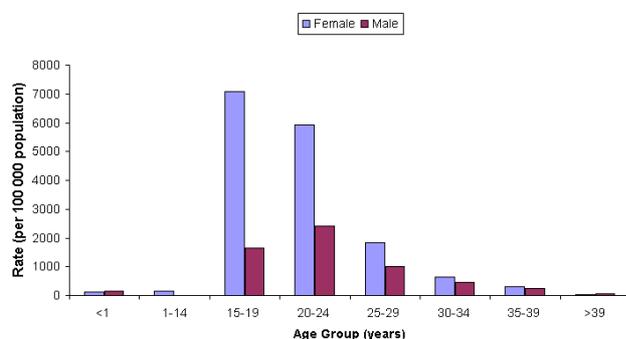
Waikato and Bay of Plenty (BOP) region

In 2003, laboratories in Waikato and BOP tested 42 916 specimens for chlamydia, and reported 4 371 (10.1%) positive cases. Rates of chlamydia in females were almost three times higher than rates in males.

The mean age of chlamydia cases was 22 years (median age 20 years, range 0 to 84 years). Seventy-seven per cent of all chlamydia cases were aged less than 25 years. In females rates were highest in the 15 to 19 years age group, with a rate of 7 069 per 100 000 population, nearly ten times higher than the regional rate. Comparatively, in males rates were highest in the 20 to 24 years age group with a rate of 2 425 per 100 000 population, followed by the 15 to 19 years age group, with a rate of 1 648 per 100 000 population.

Figure 20. Rates of chlamydia in the Waikato and BOP region by age group and sex, 2003

Denominator is the population in each region



Auckland region

In 2003, laboratories in Auckland tested 114 760 specimens for chlamydia, and reported 7 192 (6.3%) positive cases. The male to female case ratio was 1:2.5.

The mean age of chlamydia cases was 24 years (median age 22 years, range 0 to 87 years). Over half (62.3%) of all chlamydia cases occurred in people aged less than 25 years. The highest female rates were observed in the 15 to 19 years age group, with a rate of 4 144 per 100 000 population, which equates to nearly seven times the regional rate. Comparatively, in males rates were highest in the 20 to 24 years age group with a rate of 1 535 per 100 000 population, followed by the 25 to 29 years age group, with a rate of 1 004 per 100 000 population.

Figure 21. Rates of chlamydia in the Auckland region by age group and sex, 2003

Denominator is the population in each region

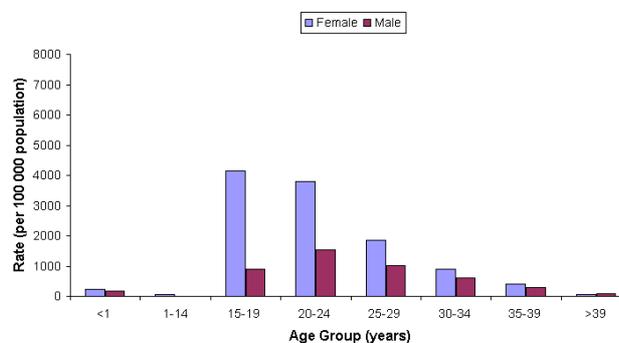


Table 14. Case numbers and rates[†] of chlamydia in the Waikato/BOP region by age group and sex, 2003

Age group (years)	Number of cases				Rate per 100 000 population		
	Female	Male	Unknown	Total	Female	Male	Total
<1	6	7	1	14	137	154	157
1-14	95	10	1	106	144	14	78
15-19	1451	358	3	1812	7069	1648	4289
20-24	1017	416	2	1435	5919	2425	4179
25-29	343	173	0	516	1831	1005	1435
30-34	143	88	0	231	654	456	561
35-39	69	52	0	121	296	245	272
40+	50	63	0	113	38	53	45
Unknown	5	8	10	23			
Total	3179	1175	17	4371	1051	406	739

[†] Laboratory rates tend to reflect screening practises rather than true disease incidence as the majority of chlamydia infections are asymptomatic.

Table 15. Case numbers and rates[†] of chlamydia in the Auckland region by age group and sex, 2003

Age group (years)	Number of cases				Rate per 100 000 population		
	Female	Male	Unknown	Total	Female	Male	Total
<1	20	17	0	37	221	180	200
1-14	83	8	0	91	68	6	36
15-19	1733	382	5	2120	4144	895	2509
20-24	1601	624	8	2233	3803	1535	2699
25-29	844	409	0	1253	1869	1004	1459
30-34	459	276	3	738	897	603	761
35-39	205	137	0	342	399	286	345
40+	168	185	2	355	70	86	78
Unknown	13	6	4	23			
Total	5126	2044	22	7192	850	358	613

[†]Laboratory rates tend to reflect screening practises rather than true disease incidence as the majority of chlamydia infections are asymptomatic.

Trend data: Waikato, Bay of Plenty and Auckland regions

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

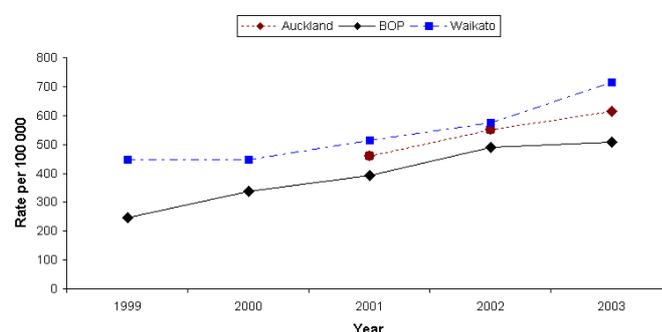
In 2003, chlamydia rates were significantly higher than 2002 in both the Waikato (in 2003, 716 per 100 000 population; in 2002, to 576 per 100 000 population) and Auckland regions (in 2003, 613 per 100 000 population; in 2002, 550 per 100 000 population). Whereas, in the BOP region chlamydia rates in 2003 (507 per 100 000 population) were similar to the previous year (489 per 100 000 population). Chlamydia rates in Waikato were significantly higher than the Auckland and BOP regions, and the rates in Auckland were significantly higher than in the BOP.

Increasing trends in chlamydia can, in part, be explained by increasing testing volumes and the introduction of more sensitive diagnostic techniques, for example nucleic acid amplification tests. From 2001 to 2003, chlamydia rates have increased by over 25% in all regions. Although there has been a slight increase in the number of specimens tested

over the three years, this alone cannot explain the increases reported.

Figure 22. Rates of chlamydia diagnosed in the Auckland, Waikato and BOP regions: 1998- 2003

Denominator is the population in each region



Gonorrhoea

Waikato and Bay of Plenty (BOP) region

In 2003, laboratories in Waikato and BOP tested 64 474 specimens for gonorrhoea, and reported 345 gonorrhoea cases. The male to female ratio was 1:1.

The mean age of gonorrhoea cases was 22 years (median age 20 years, range 5 to 66 years). Seventy five per cent of all gonorrhoea cases were aged less than 25 years. The highest gonorrhoea rates were observed in the 15 to 19 years age group with a rate of 343 per 100 000 population, followed by the 20 to 24 years age group, with a rate of 309 per 100 000 population.

Auckland region

In 2003, laboratories in Auckland tested over 160 000 specimens for gonorrhoea, and reported 867 gonorrhoea cases. The large number of specimens tested may be due to cervical screening practices or routine cultures of genital swabs. The majority (63.1%) of gonorrhoea cases in Auckland were male.

The mean age of gonorrhoea cases was 26 years (median age 23 years, range 0 to 66 years). Over half (54.3%) of all gonorrhoea cases occurred in people aged less than 25 years. The gonorrhoea rate in 15 to 19 year old females (502 per 100 000 population) was nearly four times higher than the regional gonorrhoea rate (117 per 100 000 population). The highest male rates were in the 20 to 24 years age group (508 per 100 000 population) and the 25 to 30 years age group (377 per 100 000 population).

Figure 23. Rates of gonorrhoea in the Waikato and BOP region by age group and sex, 2003

Denominator is the population in each region

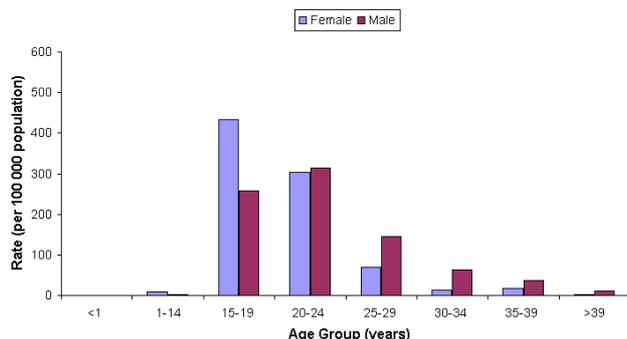


Figure 24. Rates of gonorrhoea in the Auckland region by age group and sex, 2003

Denominator is the population in each region

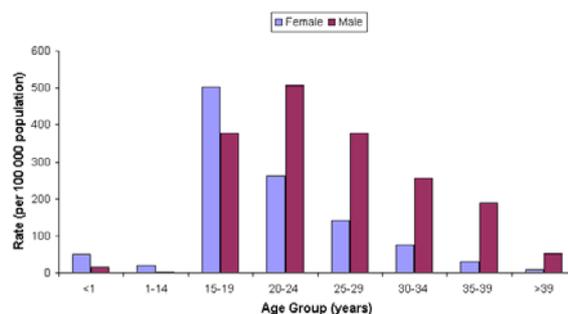


Table 16. Case numbers and rates of gonorrhoea in the Waikato/BOP region by age group and sex, 2003

Age group (years)	Number of cases			Rate per 100 000 population		
	Female	Male	Total	Female	Male	Total
<1	0	0	0	0	0	0
1-14	6	2	8	9	3	6
15-19	89	56	145	434	258	343
20-24	52	54	106	303	315	309
25-29	13	25	38	69	145	106
30-34	3	12	15	14	62	36
35-39	4	8	12	17	38	27
40+	2	14	16	2	12	6
Unknown	3	2	5			
Total	172	173	345	57	60	58

Table 17. Case numbers and rates of gonorrhoea in the Auckland region by age group and sex, 2003

Age group (years)	Number of cases			Rate per 100 000 population		
	Female	Male	Total	Female	Male	Total
<1	3	1	4	50	16	33
1-14	16	1	17	21	1	11
15-19	134	102	236	502	376	438
20-24	76	138	214	262	508	381
25-29	43	103	146	142	377	253
30-34	25	76	101	76	256	161
35-39	10	57	67	31	188	107
40+	12	69	81	8	53	29
Unknown	1	0	1			
Total	320	547	867	84	151	117

Trend data: Waikato, Bay of Plenty and Auckland regions

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

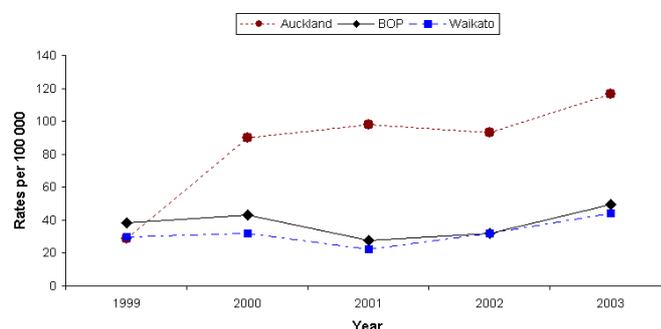
In 2003, gonorrhoea rates were significantly higher than in 2002 across all regions; Waikato 44 per 100 000 compared to 32 per 100 000, BOP 49 per 100 000 compared to 32 per 100 000, and Auckland 117 per 100 000 compared to 93 per 100 000. Gonorrhoea rates in Auckland were significantly higher than the Waikato and BOP regions, and the rates in the BOP were significantly higher than in Waikato.

Trends in gonorrhoea rates from 1999 to 2003 vary by geographical region. In Auckland, the dramatic increase in rates between 1999 and 2001 may be due to increases in the number of laboratories reporting to the surveillance system over this period. From 2001 to 2003 the number of laboratories reporting has remained constant but there has still been a significant increase in rates. In Waikato and BOP regions, the number of laboratories reporting has not

changed from 1999 to 2003. The trend in data suggests a true increase in the rate of gonorrhoea in these regions.

Figure 25. Rates of gonorrhoea in the Auckland, Waikato and BOP regions: 1999 – 2003

Denominator is the population in each region



HIV / AIDS summary

HIV/AIDS surveillance is carried out in New Zealand by the AIDS Epidemiology Group. A more detailed account of AIDS/HIV in New Zealand in 2003 is available in the publication; AIDS – New Zealand. Issue 53. February 2004.

In 2003, 188 new cases of HIV infection were notified. Of these, 154 cases were diagnosed through antibody testing which is more than in any previous single year. The other 34 were reported through viral load testing. These are cases that were previously diagnosed overseas.

The trend of increasing incidence of HIV in men who have sex with men continued with 93 cases (71 by antibody testing and 22 by viral load testing). This was the largest number since 1991. Forty-six (65%) of these were reported to have been infected in New Zealand, six in Australia and 19 elsewhere.

There has been a steady rise over the last 15 years in the number of people reported as being infected through heterosexual contact. In 2003 out of 60 heterosexually acquired cases 31 were male and 29 female. In this group the proportion of those contracting the infection overseas increased. Over the last five years out of a total of 197 cases of heterosexually acquired HIV 161 (82%) acquired their infection overseas.

There were five cases of children acquiring their infection from their mothers around the time of birth in 2003. This is the largest number ever recorded in any one year. From

1999 to 2003, 13 children were diagnosed with perinatally acquired HIV.

There is no clear explanation for the increase in the number of HIV cases. It is possible that there is more testing carried out now than previously. However, examination of the data shows that this is not the case. Among men who have sex with men it is likely that there has been a real increase. Several other countries have reported increasing unprotected anal sex in this group¹. This is thought to be due to the perception of a decreased risk of HIV/AIDS as a disease because of the impact of combination antiretroviral therapy. Given that infectiousness is particularly high soon after infection, men recently infected and as yet asymptomatic and undiagnosed, can spread HIV more readily.

In 2003, 33 AIDS cases were notified representing an annual incidence rate of 0.87 per 100 000 population. This compares to 17 cases and a rate of 0.45 per 100 000 population in 2002. The reasons for this increase are not clear. It may simply be a result of normal variation in small numbers of reported cases or late diagnosis of HIV infection. A total of 805 cases of AIDS has been notified in New Zealand since surveillance began in 1983. Six deaths from AIDS were reported in 2003.

The table below shows the most likely risk behaviour categories of people notified with AIDS or diagnosed with HIV in 2003.

Table 18. Risk behaviour category for AIDS notifications and HIV infections, 2003

Risk category	Sex	AIDS ¹		HIV Infection ²	
		New cases in 2003 (%)	Cases (%) - Total to 31 Dec 2003	New cases in 2003 (%)	Cases (%) - Total to 31 Dec 2003
Homosexual contact	Male	17 (51.5)	609 (75.6)	93 (49.5)	1112 (53.6)
Homosexual & IDU	Male	1 (3.0)	11 (1.4)	3 (1.6)	26 (1.2)
Heterosexual contact	Male	7 (21.2)	58 (7.2)	31 (16.5)	204 (9.8)
	Female	3 (9.1)	45 (5.6)	29 (15.4)	229 (11.0)
Injecting drug user (IDU)	Male	0 (0.0)	13 (1.6)	5 (2.7)	51 (2.5)
	Female	0 (0.0)	5 (0.6)	0 (0.0)	11 (0.5)
Blood product recipient Transfusion related	Male	0 (0.0)	16 (2.0)	0 (0.0)	34 (1.6)
	Female	0 (0.0)	2 ³ (0.2)	0 (0.0)	9 (0.4)
Perinatal	Unknown	0 (0.0)	0 (0.0)	1 (0.5)	8 (0.4)
	Male	0 (0.0)	3 (0.4)	0 (0.0)	5 (0.2)
	Female	1 (3.0)	5 (0.6)	3 (1.6)	12 (0.6)
Awaiting information/ Undetermined	Male	3 (9.1)	33 (4.1)	2 (1.0)	11 (0.5)
	Female	0 (0.0)	2 (0.2)	17 (9.0)	309 (14.9)
	Unknown	0 (0.0)	0 (0.0)	4 (2.1)	30 (1.5)
Other	Male	0 (0.0)	0 (0.0)	0 (0.0)	13 (0.6)
	Female	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.2)
Total		33 (100.0)	805 (100.0)	188 (100.0)	2075 (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.

³ Acquired overseas

Source: Sue McAllister, Aids Epidemiology Group 27 Feb 2004

Discussion and Recommendations

Sexually transmitted infections (STIs) are a major cause of morbidity and infertility with significant consequences. Some STIs eg chlamydia, gonorrhoea and genital warts are associated with long term sequelae such as infertility, ectopic pregnancy and cancer. Others including syphilis and gonorrhoea can facilitate the spread of HIV infection^{2,3}. Many STIs are easy to diagnose and treat effectively, and yet the rates of STIs in New Zealand continue to increase. Further investigation to develop innovative solutions with an aim of providing good sexual health for all New Zealanders is required.

The prevalence of a specific STI in a community depends upon three factors: the duration of infectivity, the probability of sexual transmission occurring and the rate of sexual partner change. The duration of infectivity varies greatly depending on the individual organism's period of infectivity and the patients access to medical care⁴. Bacterial STIs, when treated, tend to have a much shorter period of infectivity than viral STIs and one key factor to sustain a bacterial infection is the frequency of partner change. For this reason trends in bacterial STIs such as gonorrhoea can be an indicator of changes in sexual behaviour of a population. By contrast, viral STIs more often produce lifelong infections with prolonged periods of infectivity^{5,6}.

Trends in prevalence can be greatly influenced by screening practices, especially for those STIs in which a high proportion of infected patients remain asymptomatic eg chlamydia or gonorrhoea. 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. Therefore increasing the reported prevalence of STIs in the population.

Chlamydia

In 2003, genital chlamydia infection became the most commonly diagnosed STI in New Zealand, with higher rates than genital warts. Over the past five years the total number of chlamydia diagnoses has increased steadily across all health care settings (by 242.9% in FPCs, 53.8% in SHCs, 27.4% in SYHCs).

In 2003, the rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions was 607 per 100 000 population, an increase of 33.4% since 2001.

Increases in chlamydia rates are reported in both males and females. In SHCs the rate of chlamydia was nearly three times higher in Maori compared to European ethnic groups. Highest rates are found in young people, in particular those in the 15 to 19 years and 20 to 24 years age groups.

SHCs and FPCs report higher rates in males than females, partly because males are more likely to be symptomatic and seek treatment at SHCs, and because of the emphasis on contact tracing to diagnose and treat infected partners. In contrast laboratory surveillance, which reports diagnoses made in all health care settings including general practitioners (GPs), reports higher rates in females than males. This may be explained by females attending health care professionals on a more regular basis eg to obtain contraception, for cervical smears and antenatal check-ups, thus providing an opportunity to screen for asymptomatic infection.

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.

Gonorrhoea

Over the past five years the total number of gonorrhoea diagnoses has increased by 50.6% in SHCs and 127.3% in SYHCs. In FPCs the number of gonorrhoea diagnoses has fluctuated with a sharp increase of 123.5% between 2000 and 2001, and since then there has been little change.

Over the same period, laboratory gonorrhoea surveillance in the Auckland, Waikato and BOP regions increased by 156.3% from 32 per 100 000 in 1999, to 82 per 100 000 in 2003.

Increases in gonorrhoea are reported in both males and females. Highest rates are found in those of Maori or Pacific People ethnic origin and young people, in particular those in the 15 to 19 years and 20 to 24 years age groups. Over 80% of cases diagnosed in FPCs were in people aged less than 25 years. SHC surveillance also reports high rates in males of greater than 34 years. Laboratory surveillance reported highest rates greater than 400

per 100 000 in females aged 15 to 19 years, and greater than 300 per 100 000 in males aged 20 to 24 years.

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 men⁷. Similar findings have also been documented in other countries⁸.

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 may also become a more prominent problem, as in 2001, the prevalence of ciprofloxacin and penicillin resistance (ciprofloxacin 6.8% resistance and penicillin 9.0% resistance) surpassed that acceptable for first line therapy⁹.

Infectious Syphilis

In 2003, 30 cases of syphilis were reported in SHCs, representing a decrease of 36.2% compared to 2002. The majority of cases (63.3%) occurred in the Auckland and Waikato Health Districts. In Auckland, the number of cases reported by SHCs had remained constant (12 in 2002, 13 in 2003) with the majority of cases thought to be in the men who have sex with men population⁷.

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.

Genital Herpes

In 2003, the number of cases of genital herpes simplex virus (HSV) reported from SHCs increased by 5.4% compared to 2002.

In SHCs the male to female ratio of cases was 1:1.2, compared to 1:1 in 1999, and were predominantly in those of European ethnicity. In SHCs rates increased with increasing age group with the highest rate in females of greater than 39 years (1.6% of clinic visits).

The reason for higher rates of genital herpes amongst Europeans may lie in socio-economic factors. It is postulated that people in lower socio-economic groups are more likely to be exposed to oral HSV1 infection as children. People exposed at a young age may be less susceptible to genital HSV1, and possibly less susceptible to symptomatic genital HSV2 infection as adults. Differences may simply reflect sexual behaviour patterns, as people tend to choose partners of the same and/or or health care seeking behaviour.

STI surveillance report 2003

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.

Genital herpes can cause severe systemic disease in neonates and immunosuppressed hosts and may facilitate HIV transmission and is therefore a disease of public health importance.

Genital Warts

In 2003, genital warts was the most commonly diagnosed viral STI in SHCs. Highest rates are found in the 20 to 24 years age group, in all ethnic groups.

From 1999 to 2002 the total number of genital warts diagnosed in SHCs steadily increased, but this did not continue into 2003. This trend may reflect changes in populations attending different health care providers and the service provision to different population groups.

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 cancer¹⁰.

Infant infections

Neonatal infections remain a problem in New Zealand. In 2003, laboratory surveillance reported a total of 51 infants diagnosed with chlamydia, and four infants diagnosed with gonorrhoea. Compared to 2002, this represents a 46.9% decrease in chlamydia. All cases of neonatal gonorrhoea were reported from the Auckland region.

Infants would have contracted the infections from their mothers peri-natally and infection could result in serious complications for the infant. Acquiring the infection can be prevented by screening for STIs during pregnancy and ensuring the provision of adequate antenatal care.

International comparisons

In New Zealand, rates of chlamydia and gonorrhoea are considerably higher than those reported by other developed countries. Laboratory surveillance in the Auckland, Waikato and BOP regions reported chlamydia rates four times higher than in the UK (excluding Scotland)⁸ and six times higher than in

Australia¹¹. The rate of gonorrhoea is double that in the UK (excluding Scotland) and Australia.

Although there are differences in the STI surveillance systems between countries this alone does not explain the considerable higher rates found in northern New Zealand. In addition, the current laboratory surveillance only operates in certain areas of New Zealand and so it is not possible to determine if the same high rates are present throughout New Zealand.

High Risk Groups

- ***Young People***

In New Zealand, young people continue to be disproportionately affected by STIs. In 2003, chlamydia and gonorrhoea rates were highest in those of 15 to 19 years and 20 to 24 years age groups. In clinic surveillance the majority of STIs were in teenagers and young adults. In females 48.0% of gonorrhoea, 48.8% of chlamydia and 41.6% of genital warts cases were in people aged 15 to 19 years. A further 2.7% of chlamydia cases were in females aged less than 15 years. In males 31.0% of gonorrhoea, 41.7% of chlamydia and 42.7% of genital warts cases were in people aged 20 to 24 years. Furthermore, 70% 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 and because surveillance does not include diagnoses made at other health care settings such as general practitioners.

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-infection¹². Furthermore, a significant proportion of young people do not always perform safe sex¹³, putting themselves at risk of acquiring an STI.

One aim of the Ministry of Health's "Youth Health: A guide to Action"¹⁴ document was to provide accessible health services for young people.

Targeted intervention directed at reducing risky sexual behaviour are also needed. These measures along with programmes to improve young peoples skills and confidence to implement behavioural changes, should be considered.

- ***Ethnicity***

The Maori and Pacific People populations of New Zealand continue to be effected by poor sexual health. Higher rates of STIs have also been found among ethnic minorities in other countries⁸ and suggested reasons for this may include access to health care, difference in sexual behaviour and networks.

In New Zealand, difficulties in accessing services have been identified for Maori and Other ethnicities¹⁵. 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 the year¹⁶. However, income alone does not fully explain the barriers for these populations to attend health care services.

The need to address the underlying issues surrounding inequalities in health is recognised. Further development of appropriate and effective education programmes and the ability to improve the provision of sexual health care services accessible to these population groups, requires partnerships between health service providers and community leaders.

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 may be 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 under consideration.

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Appendices

Appendix A: Surveillance Data

Sexual Health Clinic Data

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

Total Clinic Visits ¹			2002			2003		
2002	2003	Clinic	No. Confirmed	Total No. ³	Rate ²	No. Confirmed	Total No. ³	Rate ²
1,266	1,145	Whangarei	94	96	7.6%	90	90	7.9%
22,370	22,646	Auckland	701	787	3.5%	883	989	4.4%
23,636	23,791	North	795	883	3.7%	973	1,079	4.5%
9,213	8,935	Hamilton	495	546	5.9%	596	628	7.0%
6,414	6,906	Tauranga	353	367	5.7%	404	431	6.2%
1,377	1,290	Rotorua	142	192	13.9%	168	206	16.0%
853	885	Whakatane	95	96	11.3%	80	83	9.4%
977	749	Taupo	98	142	14.5%	73	105	14.0%
2,251	2,154	New Plymouth	208	251	11.2%	240	318	14.8%
3,151	2,983	Gisborne	135	135	4.3%	132	132	4.4%
24,236	23,902	Midland	1,526	1,729	7.1%	1,693	1,903	8.0%
1,167	1,350	Napier	92	107	9.2%	132	148	11.0%
553	429	Hastings	50	64	11.6%	45	48	11.2%
964	1,163	Wanganui	65	80	8.3%	71	79	6.8%
3,592	3,776	Palmerston North/Levin	153	232	6.5%	156	245	6.5%
1,105	1,057	Wairarapa	36	41	3.7%	22	28	2.6%
8,150	6,447	Wellington	159	220	2.7%	104	125	1.9%
937	773	Lower Hutt	27	39	4.2%	22	31	4.0%
624	654	Porirua	17	29	4.6%	30	42	6.4%
1,079	1,269	Nelson	73	73	6.8%	55	56	4.4%
515	336	Blenheim	14	19	3.7%	15	20	6.0%
18,686	17,254	Central	686	904	4.8%	652	822	4.8%
380	414	Greymouth	19	21	5.5%	23	25	6.0%
8,742	9,188	Christchurch	151	214	2.4%	188	259	2.8%
195	199	Ashburton	7	8	4.1%	9	14	7.0%
490	576	Timaru	27	36	7.3%	43	45	7.8%
3,371	3,713	Dunedin	75	89	2.6%	125	149	4.0%
1,612	1,728	Invercargill/Gore	115	152	9.4%	151	189	10.9%
14,790	15,818	South	394	520	3.5%	539	681	4.3%
81,348	80,765	Total	3,401	4,036	5.0%	3,857	4,485	5.6%

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

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

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

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

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

Total Clinic Visits ¹			2002			2003		
2002	2003	Clinic	No. Confirmed	Total No. ³	Rate ²	No. Confirmed	Total No. ³	Rate ²
1,266	1,145	Whangarei	4	4	0.3%	8	8	0.7%
22,370	22,646	Auckland	233	248	1.1%	298	317	1.4%
23,636	23,791	North	237	252	1.1%	306	325	1.4%
9,213	8,935	Hamilton	48	54	0.6%	67	74	0.8%
6,414	6,906	Tauranga	14	14	0.2%	36	41	0.6%
1,377	1,290	Rotorua	19	33	2.4%	14	16	1.2%
853	885	Whakatane	14	14	1.6%	13	14	1.6%
977	749	Taupo	4	15	1.5%	0	2	0.3%
2,251	2,154	New Plymouth	19	21	0.9%	9	9	0.4%
3,151	2,983	Gisborne	39	39	1.2%	30	30	1.0%
24,236	23,902	Midland	157	190	0.8%	169	186	0.8%
1,167	1,350	Napier	9	9	0.8%	21	25	1.9%
553	429	Hastings	11	12	2.2%	12	12	2.8%
964	1,163	Wanganui	7	11	1.1%	3	5	0.4%
3,592	3,776	Palmerston North/Levin	24	39	1.1%	19	31	0.8%
1,105	1,057	Wairarapa	1	1	0.1%	1	1	0.1%
8,150	6,447	Wellington	41	44	0.5%	16	16	0.2%
937	773	Lower Hutt	2	2	0.2%	2	2	0.3%
624	654	Porirua	5	6	1.0%	6	6	0.9%
1,079	1,269	Nelson	4	5	0.5%	5	7	0.6%
515	336	Blenheim	1	1	0.2%	0	1	0.3%
18,686	17,254	Central	105	130	0.7%	85	106	0.6%
380	414	Greymouth	0	0	0.0%	0	0	0.0%
8,742	9,188	Christchurch	24	32	0.4%	33	41	0.4%
195	199	Ashburton	0	0	0.0%	0	0	0.0%
490	576	Timaru	4	5	1.0%	7	11	1.9%
3,371	3,713	Dunedin	3	3	0.1%	1	1	0.0%
1,612	1,728	Invercargill/Gore	4	6	0.4%	2	3	0.2%
14,790	15,818	South	35	46	0.3%	43	56	0.4%
81,348	80,765	Total	534	618	0.8%	603	673	0.8%

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

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

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

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

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

Total Clinic Visits ¹			2002		2003	
2002	2003		Total No.	Rate ²	Total No.	Rate ²
1,266	1,145	Whangarei	10	0.8%	9	0.8%
22,370	22,646	Auckland	157	0.7%	168	0.7%
23,636	23,791	North	167	0.7%	177	0.7%
9,213	8,935	Hamilton	112	1.2%	97	1.1%
6,414	6,906	Tauranga	52	0.8%	78	1.1%
1,377	1,290	Rotorua	12	0.9%	16	1.2%
853	885	Whakatane	5	0.6%	5	0.6%
977	749	Taupo	11	1.1%	3	0.4%
2,251	2,154	New Plymouth	53	2.4%	50	2.3%
3,151	2,983	Gisborne	3	0.1%	4	0.1%
24,236	23,902	Midland	248	1.0%	253	1.1%
1,167	1,350	Napier	25	2.1%	31	2.3%
553	429	Hastings	11	2.0%	8	1.9%
964	1,163	Wanganui	6	0.6%	7	0.6%
3,592	3,776	Palmerston North/Levin	36	1.0%	39	1.0%
1,105	1,057	Wairarapa	0	0.0%	4	0.4%
8,150	6,447	Wellington	67	0.8%	46	0.7%
937	773	Lower Hutt	7	0.7%	5	0.6%
624	654	Porirua	11	1.8%	3	0.5%
1,079	1,269	Nelson	24	2.2%	19	1.5%
515	336	Blenheim	3	0.6%	5	1.5%
18,686	17,254	Central	190	1.0%	167	1.0%
380	414	Greymouth	9	2.4%	14	3.4%
8,742	9,188	Christchurch	53	0.6%	92	1.0%
195	199	Ashburton	4	2.1%	1	0.5%
490	576	Timaru	9	1.8%	8	1.4%
3,371	3,713	Dunedin	12	0.4%	22	0.6%
1,612	1,728	Invercargill/Gore	25	1.6%	22	1.3%
14,790	15,818	South	112	0.8%	159	1.0%
81,348	80,765	Total	717	0.9%	756	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 STDs from a variety of sources, including sexual health clinics, family planning clinics, student and youth health clinics, and general practitioners. The rates in the table above are for the type of clinic indicated; these rates may not be representative of other types of clinics or the general population.

Table 22. Warts - number of cases and disease rates by SHCs

Total Clinic Visits ¹			2002		2003	
2002	2003		Total No.	Rate ²	Total No.	Rate ²
1,266	1,145	Whangarei	68	5.4%	60	5.2%
22,370	22,646	Auckland	1,100	4.9%	1,062	4.7%
23,636	23,791	North	1,168	4.9%	1,122	4.7%
9,213	8,935	Hamilton	381	4.1%	410	4.6%
6,414	6,906	Tauranga	222	3.5%	209	3.0%
1,377	1,290	Rotorua	85	6.2%	86	6.7%
853	885	Whakatane	30	3.5%	45	5.1%
977	749	Taupo	26	2.7%	22	2.9%
2,251	2,154	New Plymouth	99	4.4%	122	5.7%
3,151	2,983	Gisborne	0	0.0%	7	0.2%
24,236	23,902	Midland	843	3.5%	901	3.8%
1,167	1,350	Napier	69	5.9%	87	6.4%
553	429	Hastings	36	6.5%	30	7.0%
964	1,163	Wanganui	55	5.7%	64	5.5%
3,592	3,776	Palmerston North/Levin	153	4.3%	175	4.6%
1,105	1,057	Wairarapa	18	1.6%	14	1.3%
8,150	6,447	Wellington	365	4.5%	201	3.1%
937	773	Lower Hutt	68	7.3%	53	6.9%
624	654	Porirua	28	4.5%	30	4.6%
1,079	1,269	Nelson	84	7.8%	106	8.4%
515	336	Blenheim	31	6.0%	20	6.0%
18,686	17,254	Central	907	4.9%	780	4.5%
380	414	Greymouth	29	7.6%	30	7.2%
8,742	9,188	Christchurch	276	3.2%	348	3.8%
195	199	Ashburton	11	5.6%	13	6.5%
490	576	Timaru	29	5.9%	61	10.6%
3,371	3,713	Dunedin	176	5.2%	168	4.5%
1,612	1,728	Invercargill/Gore	106	6.6%	102	5.9%
14,790	15,818	South	627	4.2%	722	4.6%
81,348	80,765	Total	3,545	4.4%	3,525	4.4%

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

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

Total Clinic Visits ¹			2002		2003	
2002	2003		Total No.	Rate ²	Total No.	Rate ²
1,266	1,145	Whangarei	0	0.0%	0	0.0%
22,370	22,646	Auckland	13	0.1%	12	0.1%
23,636	23,791	North	13	0.1%	12	0.1%
9,213	8,935	Hamilton	12	0.1%	7	0.1%
6,414	6,906	Tauranga	2	0.0%	0	0.0%
1,377	1,290	Rotorua	0	0.0%	0	0.0%
853	885	Whakatane	0	0.0%	0	0.0%
977	749	Taupo	0	0.0%	0	0.0%
2,251	2,154	New Plymouth	0	0.0%	0	0.0%
3,151	2,983	Gisborne	0	0.0%	0	0.0%
24,236	23,902	Midland	14	0.1%	7	0.0%
1,167	1,350	Napier	0	0.0%	0	0.0%
553	429	Hastings	0	0.0%	0	0.0%
964	1,163	Wanganui	2	0.2%	0	0.0%
3,592	3,776	Palmerston North/Levin	2	0.1%	2	0.1%
1,105	1,057	Wairarapa	0	0.0%	0	0.0%
8,150	6,447	Wellington	11	0.1%	5	0.1%
937	773	Lower Hutt	0	0.0%	1	0.1%
624	654	Porirua	0	0.0%	0	0.0%
1,079	1,269	Nelson	4	0.4%	0	0.0%
515	336	Blenheim	0	0.0%	0	0.0%
18,686	17,254	Central	19	0.1%	8	0.0%
380	414	Greymouth	0	0.0%	0	0.0%
8,742	9,188	Christchurch	0	0.0%	2	0.0%
195	199	Ashburton	0	0.0%	0	0.0%
490	576	Timaru	0	0.0%	0	0.0%
3,371	3,713	Dunedin	1	0.0%	0	0.0%
1,612	1,728	Invercargill/Gore	0	0.0%	1	0.1%
14,790	15,818	South	1	0.0%	3	0.0%
81,348	80,765	Total	47	0.1%	30	0.0%

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

Table 24. NSU (Males Only) - number of cases and disease rates by SHCs

Total Clinic Visits ¹			2002		2003	
2002	2003		Total No.	Rate ²	Total No.	Rate ²
372	369	Whangarei	0	0.0%	0	0.0%
10,919	11,124	Auckland	456	4.2%	508	4.6%
11,291	11,493	North	456	4.0%	508	4.4%
3,373	3,389	Hamilton	56	1.7%	44	1.3%
1,324	1,359	Tauranga	41	3.1%	46	3.4%
538	510	Rotorua	3	0.6%	7	1.4%
188	216	Whakatane	9	4.8%	7	3.2%
256	193	Taupo	2	0.8%	0	0.0%
890	910	New Plymouth	70	7.9%	54	5.9%
246	220	Gisborne	0	0.0%	0	0.0%
6,815	6,797	Midland	181	2.7%	158	2.3%
414	456	Napier	25	6.0%	2	0.4%
204	163	Hastings	10	4.9%	1	0.6%
378	366	Wanganui	17	4.5%	19	5.2%
1,551	1,661	Palmerston North/Levin	219	14.1%	200	12.0%
115	79	Wairarapa	0	0.0%	3	3.8%
4,007	2,964	Wellington	71	1.8%	47	1.6%
399	279	Lower Hutt	5	1.3%	1	0.4%
156	130	Porirua	0	0.0%	1	0.8%
447	564	Nelson	23	5.1%	19	3.4%
226	151	Blenheim	0	0.0%	1	0.7%
7,897	6,813	Central	370	4.7%	294	4.3%
103	106	Greymouth	3	2.9%	0	0.0%
4,843	5,107	Christchurch	55	1.1%	60	1.2%
91	89	Ashburton	2	2.2%	0	0.0%
300	337	Timaru	11	3.7%	2	0.6%
889	1,043	Dunedin	2	0.2%	11	1.1%
896	821	Invercargill/Gore	45	5.0%	28	3.4%
7,122	7,503	South	118	1.7%	101	1.3%
33,125	32,606	Total	1,125	3.4%	1,061	3.3%

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

Table 25. Number of cases and disease rates by age, sex and ethnicity, SHCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Chlamydia (total confirmed and probable cases, rate)</i>										
Males	European	0	242	512	256	126	54	79	4	1273
		0.0	11.6	8.0	5.6	3.5	2.2	1.8	-	5.4
	Maori	2	159	250	119	40	30	14	1	615
		3.6	21.9	18.5	15.4	8.5	9.4	3.9	-	15.2
	Pacific Peoples	1	28	57	44	18	5	2	0	155
		50.0	30.4	21.6	16.5	13.4	6.8	1.6	-	16.2
	Other	0	11	33	30	18	3	6	0	101
		0.0	6.8	5.4	5.7	3.8	0.8	1.1	-	3.8
	Unknown	0	5	4	1	2	1	1	0	14
		0.0	12.2	3.7	1.2	3.2	1.3	1.1	0.0	2.7
	Total	3	445	856	450	204	93	102	5	2158
		3.1	14.3	9.8	7.2	4.3	2.8	1.9	8.3	6.8
Females	European	41	563	362	122	52	12	18	1	1171
		8.0	5.5	4.1	2.6	1.8	0.7	0.7	-	3.7
	Maori	30	434	281	98	38	20	11	0	912
		8.0	11.3	9.8	6.6	4.5	3.9	2.0	-	8.7
	Pacific Peoples	3	38	52	22	8	5	2	0	130
		5.9	8.3	11.1	9.1	5.5	5.4	2.3	-	8.4
	Other	0	23	43	19	6	4	6	0	101
		0.0	5.1	4.9	3.1	1.2	1.3	1.5	0.0	3.2
	Unknown	0	5	4	3	0	0	1	0	13
		0.0	3.7	2.9	4.7	0.0	0.0	2.6	0.0	2.3
	Total	74	1063	742	264	104	41	38	1	2327
		7.7	7.0	5.7	3.7	2.4	1.5	1.0	0.8	4.9
<i>Gonorrhoea (total confirmed and probable cases, rate)</i>										
Males	European	0	8	34	42	23	33	30	0	170
		0.0	0.4	0.5	0.9	0.6	1.4	0.7	-	0.7
	Maori	0	47	49	19	17	13	2	0	147
		0.0	6.5	3.6	2.5	3.6	4.1	0.6	-	3.6
	Pacific Peoples	0	14	22	13	4	4	1	0	58
		0.0	15.2	8.3	4.9	3.0	5.4	0.8	-	6.0
	Other	0	3	12	10	7	2	5	0	39
		0.0	1.9	2.0	1.9	1.5	0.5	0.9	-	1.4
	Unknown	0	2	2	0	0	1	1	1	7
		0.0	4.9	1.9	0.0	0.0	1.3	1.1	1.7	1.3
	Total	0	74	119	84	51	53	39	1	421
		0.0	2.4	1.4	1.3	1.1	1.6	0.7	1.7	1.3
Females	European	2	31	21	7	6	3	7	0	77
		0.4	0.3	0.2	0.1	0.2	0.2	0.3	-	0.2
	Maori	4	69	34	11	5	5	2	0	130
		1.1	1.8	1.2	0.7	0.6	1.0	0.4	-	1.2
	Pacific Peoples	1	14	8	6	0	0	0	0	29
		2.0	3.1	1.7	2.5	0.0	0.0	0.0	-	1.9
	Other	0	1	3	5	3	0	2	0	14
		0.0	0.2	0.3	0.8	0.6	0.0	0.5	0.0	0.4
	Unknown	0	0	1	0	0	1	0	0	2
		0.0	0.0	0.7	0.0	0.0	4.8	0.0	0.0	0.3
	Total	7	115	67	29	14	9	11	0	252
		0.7	0.8	0.5	0.4	0.3	0.3	0.3	0.0	0.5

Table 25. Cont. number of cases and disease rates by age, sex and ethnicity, SHCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
Genital herpes first presentation (total cases, rate)										
Males	European	0	15	59	52	47	33	61	0	267
		0.0	0.7	0.9	1.1	1.3	1.4	1.4	-	1.1
	Maori	1	5	9	10	10	4	5	0	44
		1.8	0.7	0.7	1.3	2.1	1.3	1.4	-	1.1
	Pacific Peoples	0	0	2	2	0	0	1	0	5
		0.0	0.0	0.8	0.7	0.0	0.0	0.8	-	0.5
	Other	0	1	4	7	5	3	3	0	23
		0.0	0.6	0.7	1.3	1.0	0.8	0.6	-	0.9
	Unknown	0	0	0	0	1	0	0	0	1
		0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.2
Total	1	21	74	71	63	40	70	0	340	
	1.0	0.7	0.8	1.1	1.3	1.2	1.3	0.0	1.1	
Females	European	1	66	85	46	34	24	51	0	307
		0.2	0.6	1.0	1.0	1.2	1.4	1.9	-	1.0
	Maori	3	22	13	5	9	5	5	0	62
		0.8	0.6	0.5	0.3	1.1	1.0	0.9	-	0.6
	Pacific Peoples	0	1	1	3	2	0	1	0	8
		0.0	0.2	0.2	1.2	1.4	0.0	1.1	-	0.5
	Other	0	5	7	7	6	4	3	0	32
		0.0	1.1	0.8	1.1	1.2	1.3	0.7	0.0	1.0
	Unknown	0	1	1	1	2	1	1	0	7
		0.0	0.7	0.7	1.6	4.5	4.8	2.6	0.0	1.2
Total	4	95	107	62	53	34	61	0	416	
	0.4	0.6	0.8	0.9	1.2	1.3	1.6	0.0	0.9	
Genital warts first presentation (total cases, rate)										
Males	European	1	148	479	302	163	86	111	0	1290
		3.4	7.1	7.5	6.6	4.5	3.5	2.6	-	5.5
	Maori	0	56	100	37	18	16	16	0	243
		0.0	7.7	7.4	4.8	3.8	5.0	4.5	-	6.0
	Pacific Peoples	0	3	15	11	10	5	2	0	46
		0.0	3.3	5.7	4.1	7.5	6.8	1.6	-	4.8
	Other	1	8	32	22	14	9	8	0	94
		10.0	5.0	5.3	4.2	2.9	2.4	1.5	-	3.5
	Unknown	0	4	4	3	2	2	2	0	17
		0.0	9.8	3.7	3.5	3.2	2.6	2.2	0.0	3.2
Total	2	219	630	375	207	118	139	0	1690	
	2.0	7.1	7.2	6.0	4.3	3.6	2.6	0.0	5.3	
Females	European	8	499	459	164	68	35	38	0	1271
		1.6	4.8	5.3	3.5	2.4	2.0	1.4	-	4.0
	Maori	8	177	112	43	14	13	6	0	373
		2.1	4.6	3.9	2.9	1.7	2.5	1.1	-	3.6
	Pacific Peoples	1	22	26	7	5	2	0	0	63
		2.0	4.8	5.5	2.9	3.4	2.2	0.0	-	4.1
	Other	0	26	43	17	12	7	3	0	108
		0.0	5.8	4.9	2.8	2.4	2.2	0.7	0.0	3.4
	Unknown	0	8	5	1	3	2	0	1	20
		0.0	6.0	3.6	1.6	6.8	9.5	0.0	0.8	3.5
Total	17	732	645	232	102	59	47	1	1835	
	1.8	4.8	4.9	3.3	2.3	2.2	1.3	0.8	3.9	

Table 25. Cont. number of cases and disease rates by age, sex and ethnicity, SHCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Syphilis (total cases, rate)</i>										
Males	All ethnicities	0	0	1	4	2	5	7	0	19
		0.0	0.0	0.0	0.1	0.0	0.2	0.1	-	0.1
Females	All ethnicities	0	1	0	4	1	1	4	0	11
		0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0
<i>NSU (total cases, rate)</i>										
Males	All ethnicities	2	111	256	223	161	120	188	0	1061
		2.0	3.6	2.9	3.6	3.4	3.7	3.5	0.0	3.3

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Table 26. Number of cases and disease rates by age, sex and ethnicity, FPCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Chlamydia (total confirmed and probable cases, rate)</i>										
Males	European	1	78	117	29	15	4	4	0	248
		1.5	4.5	8.8	5.6	3.5	0.8	0.6	0.0	4.6
	Maori	0	22	28	7	5	0	0	0	62
		0.0	13.8	21.9	15.9	11.4	0.0	0.0	0.0	13.1
	Pacific Peoples	0	12	8	4	1	0	3	0	28
		0.0	14.5	11.1	22.2	7.7	0.0	25.0	0.0	12.8
	Other	0	14	30	4	0	2	2	0	52
		0.0	7.9	12.8	5.3	0.0	3.7	4.2	0.0	7.7
	Unknown	0	16	35	5	1	1	1	1	60
	0.0	6.0	17.9	6.3	1.7	1.0	0.8	6.7	6.9	
Total		1	142	218	49	22	7	10	1	450
		0.6	5.8	11.1	6.6	3.6	1.0	1.1	3.3	5.9
Females	European	19	482	304	62	26	9	9	1	912
		1.0	1.2	0.9	0.4	0.2	0.1	0.1	0.8	0.8
	Maori	9	178	72	23	4	1	0	0	287
		1.3	3.4	2.1	1.3	0.4	0.2	0.0	0.0	2.2
	Pacific Peoples	2	42	41	17	7	3	0	0	112
		1.9	2.6	1.8	1.9	1.5	1.1	0.0	0.0	1.9
	Other	5	168	79	19	9	8	4	0	292
		1.2	2.3	1.2	0.6	0.4	0.5	0.3	0.0	1.3
	Unknown	3	77	60	15	6	5	3	0	169
	1.0	1.3	1.0	0.5	0.3	0.3	0.1	0.0	0.8	
Total		38	947	556	136	52	26	16	1	1772
		1.1	1.5	1.0	0.6	0.3	0.3	0.1	0.3	1.0
<i>Gonorrhoea (total confirmed and probable cases, rate)</i>										
Males	European	0	1	11	3	1	0	1	0	17
		0.0	0.1	0.8	0.6	0.2	0.0	0.1	0.0	0.3
	Maori	0	3	3	0	1	0	0	0	7
		0.0	1.9	2.3	0.0	2.3	0.0	0.0	0.0	1.5
	Pacific Peoples	0	1	2	0	0	0	0	0	3
		0.0	1.2	2.8	0.0	0.0	0.0	0.0	0.0	1.4
	Other	0	0	2	0	0	0	0	0	2
		0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.3
	Unknown	0	2	5	1	1	0	0	0	9
	0.0	0.8	2.6	1.3	1.7	0.0	0.0	0.0	1.0	
Total		0	7	23	4	3	0	1	0	38
		0.0	0.3	1.2	0.5	0.5	0.0	0.1	0.0	0.5
Females	European	0	4	8	7	3	0	1	0	23
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1
	Maori	0	0	1	1	0	0	0	0	2
		0.1	0.3	0.3	0.1	0.1	0.0	0.0	0.0	0.2
	Pacific Peoples	0	2	1	0	0	0	0	0	3
		0.0	0.3	0.3	0.2	0.0	0.4	0.4	0.0	0.3
	Other	0	1	2	0	0	0	0	0	3
		0.0	0.3	0.2	0.1	0.1	0.0	0.0	0.0	0.2
	Unknown	0	0	0	0	0	0	0	0	0
	0.0	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.1	
Total		1	98	66	17	4	3	2	0	191
		0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1

Table 26. cont. number of cases and disease rates by age, sex and ethnicity, FPCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Genital herpes first presentation (total cases, rate)</i>										
Males	European	0	4	8	7	3	0	1	0	23
		0.0	0.2	0.6	1.3	0.7	0.0	0.1	0.0	0.4
	Maori	0	0	1	1	0	0	0	0	2
		0.0	0.0	0.8	2.3	0.0	0.0	0.0	0.0	0.4
	Pacific Peoples	0	2	1	0	0	0	0	0	3
		0.0	2.4	1.4	0.0	0.0	0.0	0.0	0.0	1.4
	Other	0	1	2	0	0	0	0	0	3
		0.0	0.6	0.9	0.0	0.0	0.0	0.0	0.0	0.4
	Unknown	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	7	12	8	3	0	1	0	31	
	0.0	0.3	0.6	1.1	0.5	0.0	0.1	0.0	0.4	
Females	European	0	37	31	8	3	5	14	0	98
		0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.1
	Maori	0	2	5	0	0	1	0	0	8
		0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.1
	Pacific Peoples	0	1	1	0	1	0	0	0	3
		0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1
	Other	0	6	5	1	2	0	0	0	14
		0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.1
	Unknown	0	3	3	2	0	1	0	0	9
		0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0
Total	0	49	45	11	6	7	14	0	132	
	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.1	
<i>Genital warts first presentation (total cases, rate)</i>										
Males	European	0	28	37	9	2	1	1	0	78
		0.0	1.6	2.8	1.7	0.5	0.2	0.1	0.0	1.5
	Maori	0	2	1	1	0	0	0	0	4
		0.0	1.3	0.8	2.3	0.0	0.0	0.0	0.0	0.8
	Pacific Peoples	0	2	2	0	0	0	0	0	4
		0.0	2.4	2.8	0.0	0.0	0.0	0.0	0.0	1.8
	Other	0	2	1	0	0	1	0	0	4
		0.0	1.1	0.4	0.0	0.0	1.9	0.0	0.0	0.6
	Unknown	0	0	2	2	1	1	0	0	6
		0.0	0.0	1.0	2.5	1.7	1.0	0.0	0.0	0.7
Total	0	34	43	12	3	3	1	0	96	
	0.0	1.4	2.2	1.6	0.5	0.4	0.1	0.0	1.3	
Females	European	3	136	91	26	7	6	6	0	275
		0.2	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.2
	Maori	0	21	13	0	2	0	1	0	37
		0.0	0.4	0.4	0.0	0.2	0.0	0.2	0.0	0.3
	Pacific Peoples	0	6	4	1	0	0	0	0	11
		0.0	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.2
	Other	1	26	12	2	0	1	0	0	42
		0.2	0.4	0.2	0.1	0.0	0.1	0.0	0.0	0.2
	Unknown	1	13	19	4	5	0	0	0	42
		0.3	0.2	0.3	0.1	0.2	0.0	0.0	0.0	0.2
Total	5	202	139	33	14	7	7	0	407	
	0.1	0.3	0.3	0.1	0.1	0.1	0.1	0.0	0.2	

Table 26. cont. number of cases and disease rates by age, sex and ethnicity, FPCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Syphilis (total cases, rate)</i>										
Males	All ethnicities	0	0	0	0	0	0	0	0	0
Females	All ethnicities	0	0	0	0	0	0	0	0	0
<i>NSU (total cases, rate)</i>										
Males	All ethnicities	0	0	7	2	0	0	0	0	9
		0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.1

Student & Youth Health Clinic Data

Table 27. Number of cases and disease rates by age, sex and ethnicity, SYHCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Chlamydia (total confirmed and probable cases, rate)</i>										
Males	European	0	15	23	2	3	0	0	1	44
		0.0	0.8	0.6	0.2	0.9	0.0	0.0	0.9	0.5
	Maori	0	2	6	2	0	0	0	0	10
		0.0	0.7	0.6	0.5	0.0	0.0	0.0	0.0	0.4
	Pacific Peoples	0	0	2	1	0	0	0	0	3
		0.0	0.0	1.1	0.8	0.0	0.0	0.0	0.0	0.5
	Other	0	0	6	0	1	0	0	0	7
		0.0	0.0	0.4	0.0	0.3	0.0	0.0	0.0	0.2
Unknown	0	1	6	0	0	0	0	0	7	
	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	18	43	5	4	0	0	1	71
		0.0	0.7	0.6	0.2	0.4	0.0	0.0	0.0	0.2
Females	European	4	69	78	5	1	0	0	1	158
		1.5	0.9	0.6	0.2	0.1	0.0	0.0	0.4	0.6
	Maori	1	27	20	5	4	0	0	0	57
		1.4	1.5	0.6	0.5	0.7	0.0	0.0	0.0	0.6
	Pacific Peoples	0	2	3	0	0	0	0	0	5
		0.0	1.1	0.7	0.0	0.0	0.0	0.0	0.0	0.5
	Other	0	9	6	3	2	1	0	0	21
		0.0	0.8	0.2	0.3	0.3	0.2	0.0	0.0	0.3
Unknown	0	6	3	0	0	0	0	0	9	
	0.0	1.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Total		5	113	110	13	7	1	0	1	250
		1.1	1.0	0.5	0.3	0.3	0.1	0.0	0.0	0.3
<i>Gonorrhoea (total confirmed and probable cases, rate)</i>										
Males	European	0	0	0	0	0	0	1	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	Maori	0	1	1	1	0	0	0	0	3
		0.0	0.4	0.1	0.2	0.0	0.0	0.0	0.0	0.1
	Pacific Peoples	0	1	0	0	0	0	0	0	1
		0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Other	0	0	2	0	0	1	0	0	3
		0.0	0.0	0.1	0.0	0.0	0.4	0.0	0.0	0.1
Unknown	0	0	0	0	0	0	0	0	0	
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	2	3	1	0	1	1	0	8
		0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.0
Females	European	0	2	4	0	0	0	0	0	6
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Maori	0	6	1	0	0	0	0	0	7
		0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Pacific Peoples	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other	0	0	0	0	2	0	0	0	2
		0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Unknown	0	0	2	0	0	0	0	0	2	
	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Total		0	8	7	0	2	0	0	0	17
		0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0

Table 27. cont. number of cases and disease rates by age, sex and ethnicity, SYHCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
Genital herpes first presentation (total cases, rate)										
Males	European	0	3	1	1	0	0	0	0	5
		0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0	0.1
	Maori	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pacific Peoples	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unknown	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	3	2	1	0	0	0	0	0	6
	0.0	0.1	0.0							
Females	European	0	2	5	3	0	0	0	0	10
		0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	Maori	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pacific Peoples	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unknown	0	2	3	1	0	0	0	0	6
		0.0	0.4	0.1	0.3	0.0	0.0	0.0	0.0	0.0
Total	0	4	9	4	0	0	0	0	0	17
	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Genital warts first presentation (total cases, rate)										
Males	European	0	4	10	0	0	0	0	0	14
		0.0	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.2
	Maori	0	1	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
	Pacific Peoples	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Other	0	0	0	0	0	0	0	0	0
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unknown	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	5	11	0	0	0	0	0	0	16
	0.0	0.2	0.1	0.0						
Females	European	0	14	30	0	0	0	1	1	46
		0.0	0.2	0.2	0.0	0.0	0.0	0.1	0.4	0.2
	Maori	0	4	3	0	0	1	0	0	8
		0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.0	0.1
	Pacific Peoples	0	2	0	0	0	0	0	0	2
		0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
	Other	0	1	1	0	0	0	0	0	2
		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unknown	0	5	2	0	0	0	0	0	7
		0.0	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	0	26	36	0	0	1	1	1	1	65
	0.0	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.1

Table 27. cont. number of cases and disease rates by age, sex and ethnicity, SYHCs, 2003

		Age group (years)							Unk	Total
		<15	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	>39		
<i>Syphilis (total cases, rate)</i>										
Males	All ethnicities	0	0	0	0	0	0	0	0	0
Females	All ethnicities	0	0	0	0	0	0	0	0	0
<i>NSU (total cases, rate)</i>										
Males	All ethnicities	0	1	6	1	0	0	0	0	8
		0.0	0.1	0.2	0.1	0.0	0.0	0.0	0.0	0.1

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>