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Sexually Transmitted Infections in New Zealand

Annual Surveillance Report 2005

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By

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This report is also available at www.surv.esr.cri.nz
Ad Hoc STI requests may be emailed to survqueries@esr.cri.nz

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Summary

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

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

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

Clinical Surveillance Key points

- *Chlamydia trachomatis* infection is the most commonly diagnosed STI in New Zealand.
- From 2000 to 2005 the number of confirmed chlamydia and gonorrhoea cases diagnosed at SHCs has increased by 38.9% and 32.2% respectively. Over the same time period clinic visits increased by 19.8%.
- Genital warts remains the most common viral infection diagnosed and in SHCs the rate was highest in the 15 –19 years age group.
- From 2004 to 2005 the number of genital herpes (first presentation) infections increased by 2.7% at SHCs. Cases were equally distributed between sexes and predominantly associated with European ethnicity.
- SHCs reported 47 cases of syphilis in 2005, an increase of 6.8% from 2004.
- The total number of NSU cases reported in 2005 was 858; the rate of NSU has steadily decreased since 2001.
- Young people remain at high risk of STIs with those aged less than 25 years having the highest rates of consultation for chlamydia, gonorrhoea, genital herpes and genital warts at SHCs.
- In 2005, 666 SHC attendees were diagnosed with concurrent infections. Young people, Maori and Pacific Peoples are at greater risk of concurrent infections.
- Of the 10 398 SHC patients diagnosed with an STI in 2005, 12.1% presented with a subsequent STI infection.

Laboratory Surveillance Key points

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

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

Introduction

The report summarises the epidemiology of sexually transmitted infections (STIs) in 2005, and examines trends since 2000. It covers the STIs of public health importance, including chlamydia, gonorrhoea, genital herpes, genital warts, syphilis, non-specific urethritis, chancroid, granuloma inguinale and lymphogranuloma venereum.

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

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

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

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

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

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

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

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

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

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

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

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

Individual diseases are presented separately under clinic surveillance and laboratory surveillance. An HIV/AIDS summary for 2005 is included together with some discussion of trends in all STIs from 2000. Possible factors underlying the observed distribution and trends are discussed.

Methods

All results and analyses are based on data submitted prior to the 8th March 2006. Any data submitted after this date is not included in this report due to time constraints.

Data Collection

Clinics

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

Laboratories

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

With current laboratory data and reporting practice it is not possible to determine the total number of positive 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 clinic-based STI surveillance

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

Analysis methods

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

Table 1. STIs under clinic-based surveillance

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

STI Rates

Calculation of rates

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

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

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

Numerator data

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

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

Denominator data

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

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

Population rates

Population rates can only be determined in the Auckland, Waikato and BOP regions where laboratory surveillance collects data from the majority of the laboratories. Because a majority of laboratories within the new regions are not routinely reporting STI data, population rates cannot be calculated accurately yet for any additional areas.

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

Comparison with previous years

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

There have also been significant variations in the number of clinics and laboratories reporting up until 2000. From 2001 to 2005 the number of clinic data sources and laboratory data sources from the Auckland, Waikato and BOP regions have been relatively stable therefore year-on-year comparisons for this period are reasonably valid.

Data Limitations

Data Completeness

Twenty-seven SHCs, thirty-eight FPCs and fifteen SYHCs provided STI surveillance data to ESR for the period, January to December 2005. FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods. Two SHC, two FPCs and two SYHCs provided less than 10 of the 12 months data requested for 2005.

In the Auckland, Waikato and BOP regions chlamydia data was provided for 15/16 (94%) of laboratories and gonorrhoea data for 11/16 (69%) of laboratories.

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

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

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

Generalisability

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

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

Valid comparisons between infection rates at different clinic types are not possible due to differences in the range of services provided and therefore differences in the denominator (total clinic visits) used to calculate infection rates. SHCs provide mainly STI-related sexual health services, FPCs provide mainly non-STI sexual and reproductive health services and SYHCs provide mainly general health services. Therefore, SHCs will see fewer people than FPCs and student and youth clinics but diagnose more STIs, and as a result STI rates at SHCs are higher than STI rates at other clinic types.

Clinical Surveillance

Clinic Overview

Sexual Health Clinics (SHCs)

SHC attendees

SHCs reported 87 015 clinic visits during 2005, 58.9% of which were by females. Compared to 2004, the number of clinic visits increased by 4.0% in 2005. Age and ethnicity were not recorded for 0.04% and 1.4% of clinic attendees, respectively. Where age and ethnicity information were provided, 57.9% were aged less than 25 years, 68.9% were of European ethnic group, 18.7% were Maori, 3.5% were Pacific Peoples and 8.9% were Other ethnic groups.

STI diagnosis at SHCs

In 2005, a total of 11 136 STI cases were diagnosed, representing a rate of 12.8% in SHC attendees with chlamydia being the most commonly reported STI (see Table 2).

There were 4312 confirmed and 690 probable cases of chlamydia and 692 confirmed and 56 probable cases of gonorrhoea diagnosed at SHCs. No cases of chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2005.

Figures 1 and 2 show the infection rates for the five main STIs reported by SHCs from 2000 to 2005 by sex. Male chlamydia rates increased by 8.6% from 2004 to 2005. NSU rates steadily decreased from 2001. There was little change in the other STI rates.

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

Figure 1. STI rates at SHCs in males: 2000 to 2005

Denominator is the number of male clinic visits

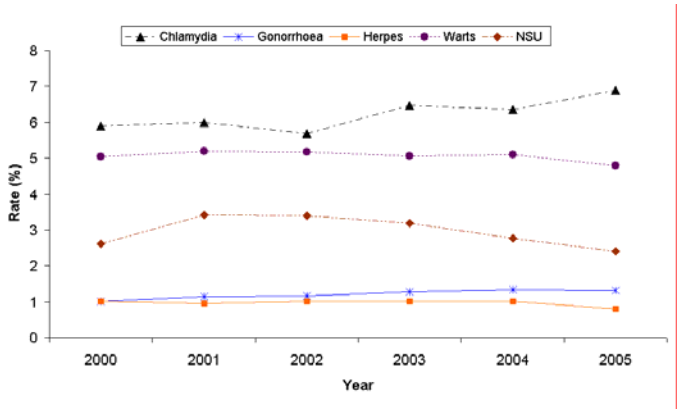


Figure 2. STI rates at SHCs in females: 2000 to 2005

Denominator is the number of female clinic visits

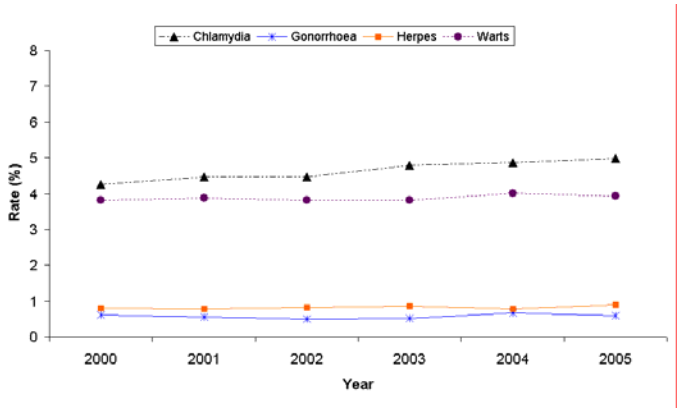


Table 2. Number of STI diagnoses, rates and age comparisons at SHCs, 2005

Infection	Confirmed cases	Total cases†	Rate‡	Mean age (years)	Age range (years)
Chlamydia	4 312	5 002	5.7%	23	12-69
Gonorrhoea	692	748	0.9%	26	13-68
Genital herpes (first presentation)	-	748	0.9%	29	13-88
Genital warts (first presentation)	-	3 733	4.3%	25	13-82
Syphilis	-	47	0.1%	34	17-71
NSU (males only)	-	858	2.4%	31	14-68
Total STI cases	-	**11 136**	**12.8%**		
Total clinic visits	-	87 015			

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

Family Planning Clinics (FPCs)

FPC attendees

FPCs reported 180 588 clinic visits during 2005, 95.5% of which were by females. Compared to 2004, the number of clinic visits increased by 1.1% in 2005.

Age and ethnicity were not recorded for 0.2% and 5.6% of clinic attendees, respectively. Where age and ethnicity information were provided, 70.0% were aged less than 25 years, 73.7% were of European ethnic group, 8.6% were Maori, 3.8% were Pacific Peoples and 13.9% were Other ethnic groups.

STI diagnosis at FPCs

In 2005, a total of 3 502 STI cases were diagnosed, representing a rate of 1.9% in FPC attendees with chlamydia being the most commonly reported STI (see Table 3).

There were 2 303 confirmed and 317 probable cases of chlamydia and 151 confirmed and 20 probable cases of gonorrhoea diagnosed at FPCs. No cases of chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2005.

Figures 3 and 4 show the infection rates for the five main STIs reported by FPCs from 2000 to 2005 by sex. From 2000 to 2005 rates of chlamydia doubled for both males and females. However, there was only a little change in the other STI rates for either sex.

Figure 3. STI rates at FPCs in males: 2000 to 2005

Denominator is the number of male clinic visits

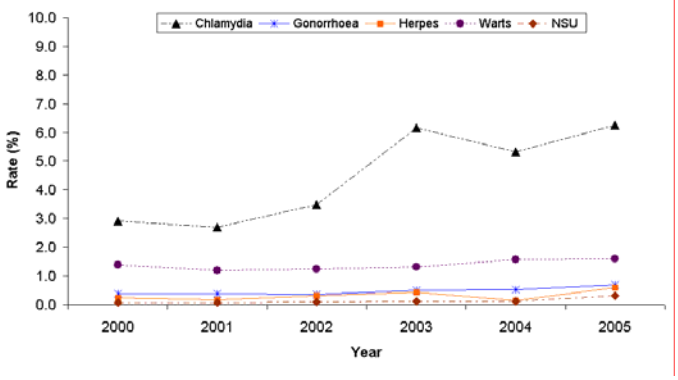


Figure 4. STI rates at FPCs in females: 2000 to 2005

Denominator is the number of female clinic visits

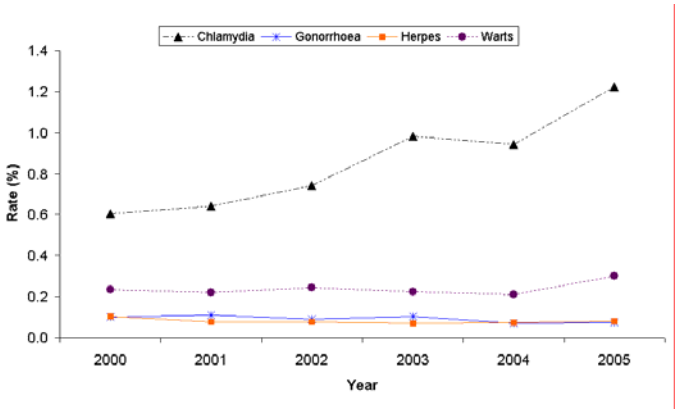


Table 3. Number of STI diagnoses, rates and age comparisons at FPCs, 2005

Infection	Confirmed cases	Total cases†	Rate‡	Mean age (years)	Age range (years)
Chlamydia	2 303	2 620	1.5%	21	13-57
Gonorrhoea	151	171	0.1%	20	14-42
Genital herpes (first presentation)	-	163	0.1%	24	14-50
Genital warts (first presentation)	-	533	0.3%	21	14-51
Syphilis	-	2	0.0%	23	22-24
NSU (males only)	-	13	0.2%	24	18-54
Total STI cases	**-**	**3 502**	**1.9%**		
Total clinic visits	-	180 588			

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

Student and Youth Health Clinics (SYHCs)

SYHC attendees

SYHCs reported 155 515 clinic visits during 2005, 70.2% of which were by females. Compared to 2004 the number of clinic attendances increased by 4.9% in 2005.

Age and ethnicity were not reported for 48.0% and 49.5% 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, 78.0% were aged less than 25 years, 63.8% were of European ethnic group, 13.5% were Maori, 2.6% were Pacific Peoples and 20.1% were Other ethnic groups.

STI diagnosis at SYHCs

In 2005, a total 729 STIs cases were diagnosed, representing a rate of 0.5% in SYHC attendees with Chlamydia being the most commonly reported STI (see Table 4).

There were 557 confirmed and 9 probable cases of chlamydia and 21 confirmed cases of gonorrhoea diagnosed at SYHCs. No cases of syphilis, chancroid, granuloma inguinale or lymphogranuloma venereum were reported during 2005.

Figures 5 and 6 show the infection rates for the five main STIs reported by SYHCs from 2000 to 2005.

From 2004 to 2005 there have been increases in the rates of chlamydia, gonorrhoea, and genital herpes in both males and females, and NSU in males.

Figure 5. STI rates at SYHCs in males: 2000 to 2005

Denominator is the number of male clinic visits

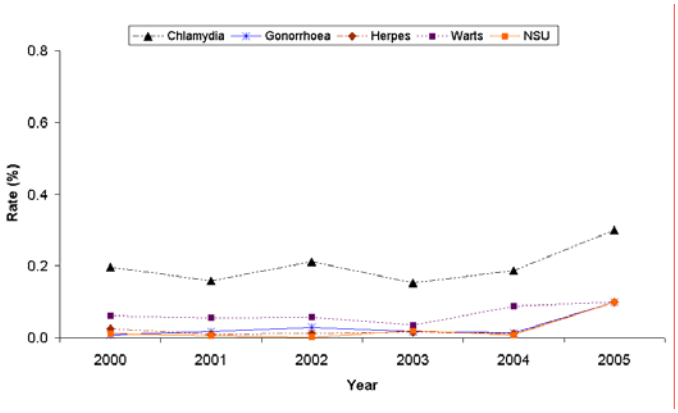


Figure 6. STI rates at SYHCs in females: 2000 to 2005

Denominator is the number of female clinic visits

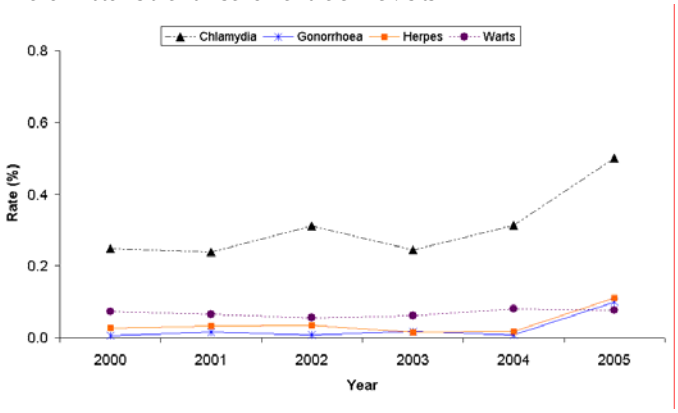


Table 4. Number of STI diagnoses, rates and age comparisons at SYHCs, 2005

Infection	Confirmed cases	Total cases†	Rate‡	Mean age (years)	Age range (years)
Chlamydia	557	566	0.4%	20	13-50
Gonorrhoea	21	21	0.0%	21	17-29
Genital herpes (first presentation)	-	33	0.0%	22	15-39
Genital warts (first presentation)	-	103	0.1%	21	14-42
Syphilis	-	0	0.0%	-	-
NSU (males only)	-	6	0.0%	21	17-24
Total STI cases	-	**729**	**0.5%**		
Total clinic visits		155 515			

†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 2005, genital chlamydia infection was the most commonly diagnosed STI in New Zealand.

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

Chlamydia cases in 2005

Between 2004 and 2005 the number of confirmed chlamydia cases increased by 8.7% in SHCs (4312 compared to 3968), 43.7% in FPCs (2303 compared to 1603) and 38.2% in SYHCs (557 compared to 403). In 2005, the number of probable cases accounted for a further 690 cases in SHCs, 317 in FPCs and 9 in SYHCs.

Higher rates were reported in males attending SHCs compared to females. In FPC attendees the rate in males was nearly five times higher than the overall clinic rate (see Table 5) but this reflects that the males attending are partners of chlamydia positive patients contacted through partner notification in FPCs.

In 2005 over 75% of chlamydia cases (confirmed and probable) at all clinics were aged less than 25 years. The mean age of chlamydia cases was 23 years in SHCs and 21 years in FPCs and 20 years in SYHCs.

In SHCs the chlamydia rates were highest for both males and females aged 15 to 19 years (males – 13.3%; females – 7.7%). In FPCs the rates were highest in males aged 20 to 24 years (10.0%) and in females aged 15 to 19 years (1.8%). In SYHCs the rates were highest in males aged 15 to 19 years (1.0%) and in females aged less than 15 years (2.9%) (see Figures 7 to 9).

Figure 7. Rates of chlamydia diagnosed at SHCs by age group and sex, 2005

Denominator is the number of clinic visits

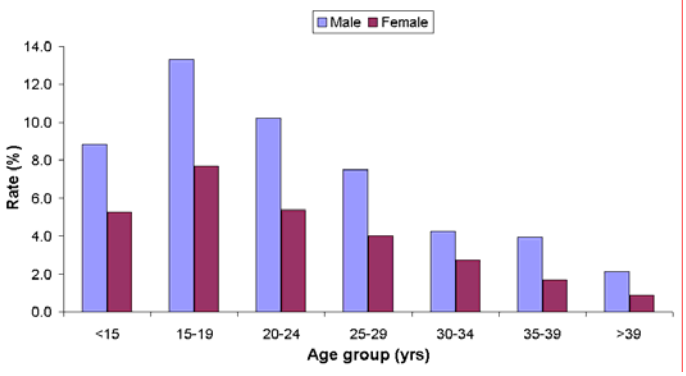
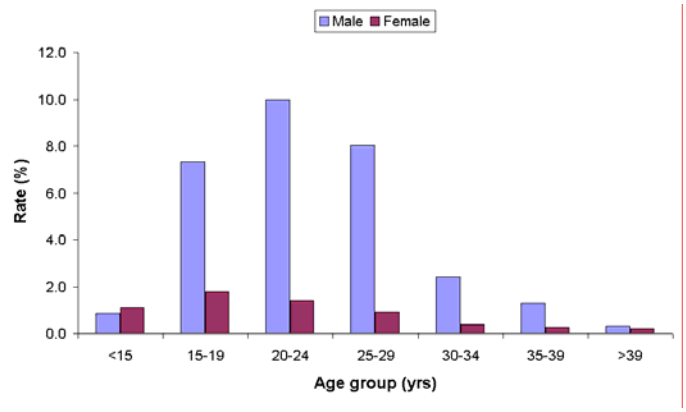


Figure 8. Rates of chlamydia diagnosed at FPCs by age group and sex, 2005

Denominator is the number of clinic visits



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

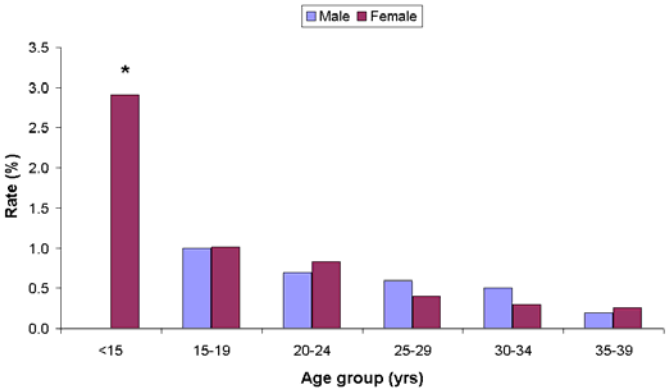
Table 5. Number and rates of chlamydia cases by sex and health care setting, 2005

	No. of confirmed cases			*Total number of cases*[†]			*Rate*[‡] *(% of clinic visits)*		
Clinic type	Female	Male	Total	Female	Male	Total	Female	Male	Total
SHCs	2 336	1 976	4 312	2 556	2 446	5 002	5.0	6.9	5.7
FPCs	1 957	346	2 303	2 109	511	2 620	1.2	6.3	1.5
SYHCs	452	105	557	456	110	566	0.5	0.3	0.4

[†]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, 2005

Denominator is the number of clinic visits



* For those aged less than 15 years chlamydia rates are distorted due to small number of cases and visits (see Table 36).

In all health care settings the rates of chlamydia varied by ethnic group. In SHCs the rates of chlamydia in Maori (10.2%) and Pacific Peoples (9.9%) was double that of those of European ethnicity (4.6%). In FPCs the chlamydia rate in Maori (3.5%) was over three times higher than those of European ethnicity (1.1%), the rate in Pacific Peoples (2.5%) were over double that of those of European ethnicity. In SYHCs the highest rates were found in those of Maori (1.4%) and Pacific Peoples (1.4%). This may reflect variation in the accessibility and sexual health care provision for different ethnic groups.

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

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

Complicated infections

In 2005, 14.4% of chlamydia cases in SHCs, 2.9% in FPCs and 4.6% in SYHCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 197 females (96 in SHCs, 48 in FPCs and 53 in SYHCs) were diagnosed with PID, 81.2% of whom were aged less than 25 years. Of the female complicated chlamydia cases, 47.7% were European, 38.1% Maori and 4.6% Pacific Peoples.

A total of 52 males (29 in SHCs, 5 in FPCs and 18 in SYHCs) were diagnosed with epididymitis, 75.0% of whom were aged less than 25 years. Of the male complicated chlamydia cases 46.2% were European, 34.6% Maori and 9.6% Pacific Peoples.

Recent trends

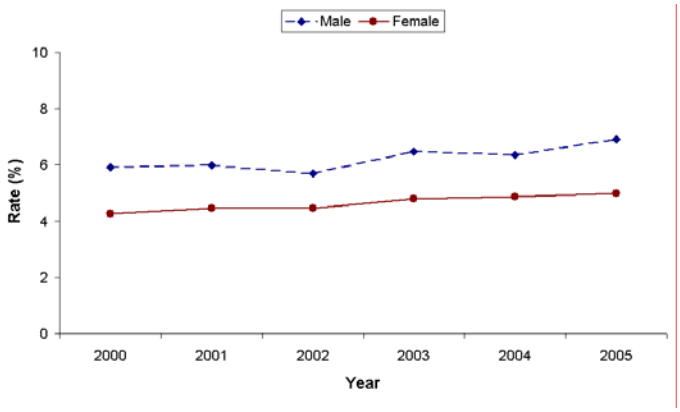
From 2000 to 2005, the total number of chlamydia cases (confirmed and probable) has increased by 38.9% in SHCs and almost doubled in FPCs and SYHCs. The rate of chlamydia diagnosed in both males and females at SHCs has increased by 16.8% (see Figure 10).

These trends are supported by the rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions which was 744 per 100 000 population, an increase of 51.6% since 2001.

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

Figure 10. Rates of chlamydia diagnosed at SHCs: 2000 to 2005

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 national chlamydia screening guidelines, at present, in New Zealand[3].

Gonorrhoea

Infections due to *Neisseria gonorrhoeae* can cause dysuria and vaginal discharge in females and urethral discharge in males. Asymptomatic infection can occur in up to 50% of females and 5% of males[4]. Untreated gonococcal infection may be associated with long-term serious sequelae, including pelvic inflammatory disease (PID) in females, epididymo-orchitis in males and severe conjunctivitis in neonates[2].

Gonorrhoea cases in 2005

Between 2004 and 2005, the number of confirmed cases of gonorrhoea increased by 14.4% in FPCs (151 compared to 132) and 50% in SYHCs (21 compared to 14). In contrast there was a decrease of 2.0% in SHCs (692 compared to 706). In 2005, the number of probable cases accounted for a further 56 cases in SHCs and 20 in FPCs.

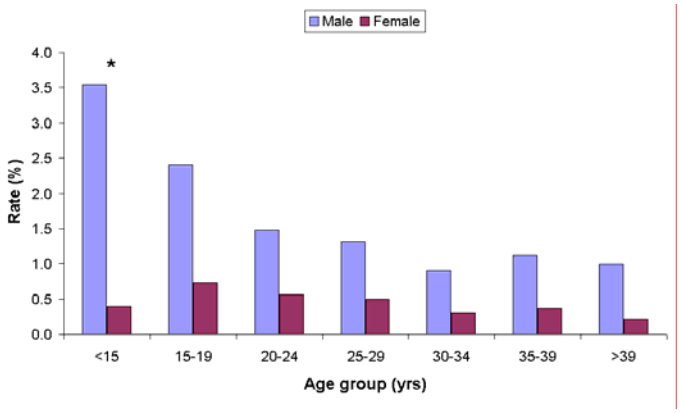
Across health care settings the highest rates were reported in males (see Table 6). Males are more likely to be symptomatic and to seek treatment than females.

In 2005, over 55% at SHCs, over 80% at FPCs and over 90% at SHYCs of the gonorrhoea cases (confirmed and probable) diagnosed were in those aged less than 25 years. The mean age of gonorrhoea cases was 26 years in SHCs, 20 years in FPCs and 21 years in SYHCs. In SHCs gonorrhoea rates were highest in males aged less than 15 years (3.5%, 4 cases). However, rates are distorted for this age group due to small number of cases and visits (Table 23). For females rates were highest in those aged 15 to 19 years (0.7%). In FPCs rates were highest in males aged 20 to 24 years (1.1%) and in females aged less than 15 years (0.2%, 6 cases) (see Figures 11 and 12). The under 15 years female rate is unreliable due to small numbers (Table 24) similarly to the SHC rate in the youngest male age group.

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

Figure 11. Rates of gonorrhoea diagnosed at SHCs by age group and sex, 2005

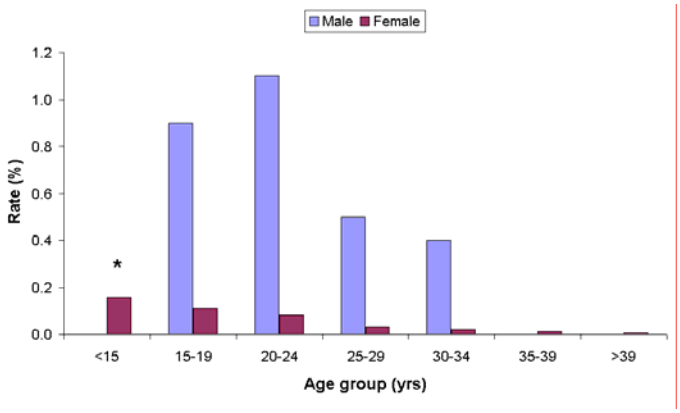
Denominator is the number of clinic visits



* For those aged less than 15 years gonorrhoea rates are distorted due to small number of cases and visits (see Table 23).

Figure 12. Rates of gonorrhoea diagnosed at FPCs by age group and sex, 2005

Denominator is the number of clinic visits



* For those aged less than 15 years gonorrhoea rates are distorted due to small number of cases and visits (see Table 30).
Note: In FPCs the male to female ratio of attendees is 1:21.

Table 6. Number and rates of gonorrhoea cases by sex and health care setting, 2005

	No. of confirmed cases			*Total number of cases*[†]			*Rate*[‡] *(% of clinic visits)*		
Clinic type	Female	Male	Total	Female	Male	Total	Female	Male	Total
SHCs	250	442	692	274	474	748	0.6	1.3	0.9
FPCs	115	36	151	129	42	171	0.1	0.7	0.1
SYHCs	12	9	21	12	9	21	0.1	0.1	0.01

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

Complicated infections

In 2005, 2.4% of gonorrhoea cases in SHCs and 0.4% in FPCs were diagnosed with complicated infections (PID in females and epididymitis in males).

A total of 22 females (15 at SHCs and 7 at FPCs) were diagnosed with PID, 81.8% of whom were aged less than 25 years. Of the female complicated gonorrhoea cases 27.3% were of European ethnicity, 45.5% of Maori ethnicity and 13.6% of Pacific Peoples.

A total of 7 males (6 at SHCs and 1 at FPCs) were diagnosed with epididymitis, 57.1% of whom were aged less than 25 years.

Of the male complicated gonorrhoea cases 57.1% were of European ethnic origin and 28.6% of Maori ethnicity.

Recent trends

From 2000 to 2005, the total number of gonorrhoea cases reported increased by 32.2% in SHCs, 87.9% in FPCs and almost doubled in SYHCs. The rate of gonorrhoea diagnosed in males at SHCs has increased by 31.5% and was unchanged in females (see Figure 13).

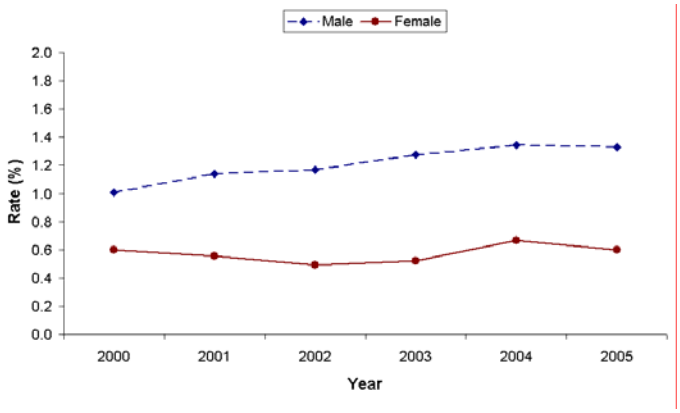
Over the same period, laboratory gonorrhoea surveillance in the Auckland, Waikato and BOP regions increased by 57.0% from 71 per 100 000 in 2000, to 112 per 100 000 in 2005.

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 is also becoming a more prominent problem. In 2004, data collected from the majority of New Zealand hospital and community laboratories, showed that ciprofloxacin resistance had reached 16.0%[5], up from 8.1% in 2003, and well above the 5% threshold acceptable for first line therapy[6]. From 2000 to 2003 penicillin resistance ranged between 5.1 and 7.3%, and in 2004 was 6.6%. However, there are wide geographical differences in rates of ciprofloxacin and penicillin resistance. Gonococci remain universally susceptible to ceftriaxone.

Figure 13. Rates of gonorrhoea diagnosed at SHCs: 2000 to 2005

Denominator is the number of clinic visits



Genital Herpes (first presentation)

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

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

Genital herpes cases in 2005

Between 2004 and 2005, the number of cases of genital herpes increased by 2.7% in SHCs (748 compared to 728), 19.0% in FPCs (163 compared to 137) and 50.0% in SYHCs (33 compared to 22).

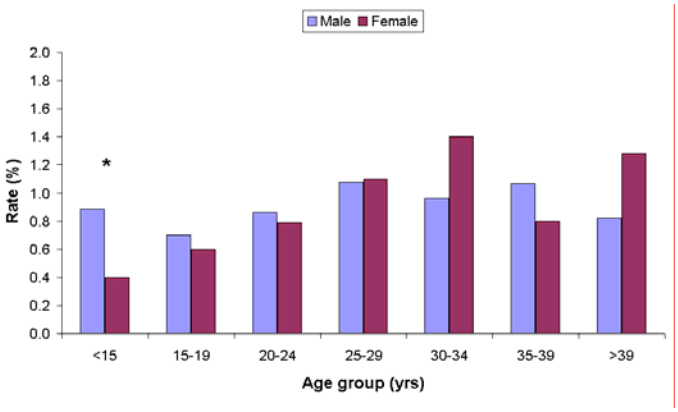
Across all health care settings the highest rates were reported in males (see Table 7).

In 2005, over 40% at SHCs, over 60% at FPCs and over 80% at SHYCs of the genital herpes cases diagnosed were in those aged less than 25 years. In SHCs genital herpes rates were highest in males aged 25 to 29 years (1.1% with 77 cases) and 35 to 39 years (1.1% with 39 cases) and in females aged 30 to 34 years (1.4% with 65 cases). In FPCs rates were highest in males aged 20 to 24 years (1.0% with 11 cases) (see Figures 14 and 15).

The mean age of genital herpes cases was 29 years in SHCs and 24 years in FPCs and 22 years in SYHCs. In all health care settings the majority of genital herpes cases were in those of European ethnicity.

Figure 14. Rates of genital herpes (first presentation) diagnosed at SHCs by age group and sex, 2005

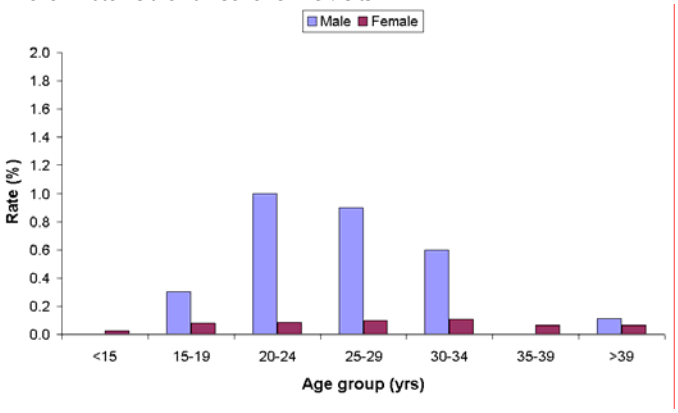
Denominator is the number of clinic visits



* For males aged less than 15 years genital herpes rates are distorted due to small number of cases and visits (see Table 23).

Figure 15. Rates of genital herpes (first presentation) diagnosed at FPCs by age group and sex, 2005

Denominator is the number of clinic visits



Note: In FPCs the male to female ratio is 1:21. Therefore the rates for males may overestimate the true incidence.

Table 7. Number and rates of genital herpes (first presentation) cases by sex and health care setting, 2005

	Total number of cases			*Rate[†] (% of clinic visits)*		
Clinic type	Female	Male	Total	Female	Male	Total
SHCs	423	325	748	0.9	1.0	0.9
FPCs	140	23	163	0.1	0.6	0.1
SYHCs	30	3	33	0.1	0.1	0.01

[†]number of cases/number of clinic visits

Recent trends

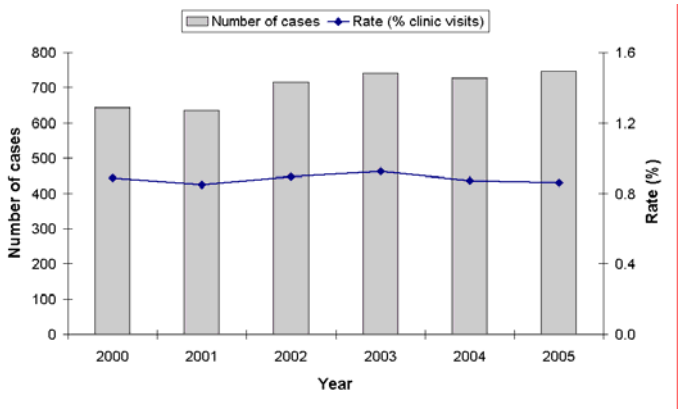
From 2000 to 2005, the total number of genital herpes cases reported by SHCs has fluctuated. However the rate has remained around 0.9% (see Figure 16). Although this appears insignificant the effect of the increasing number of cases is masked by the very large number of clinic visits used as the denominator (see Table 19).

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

Surveillance as reported here covers only the initial presentation of genital herpes. Prevalence in the population is much higher. At age 26, the prevalence of HSV-2 antibodies in males from the Dunedin birth cohort was just over 7%[7].

Figure 16. Number of cases and rates of genital herpes (first presentation) diagnosed at SHCs: 2000 to 2005

Denominator is the number of clinic visits



Genital Warts (first presentation)

In 2005, genital warts, a visible manifestation of human papillomavirus (HPV) infection, was the most commonly reported viral STI in New Zealand. Genital warts are typically caused by two types of HPV, types 6 and 11. But infected patients may also be infected with oncogenic "high risk" HPV types (namely 16 and 18), which are associated with cervical cancer.

Genital warts cases in 2005

Between 2004 and 2005, the number of cases of genital warts increased by 0.03% in SHCs (3733 compared to 3732), 12.2% in FPCs (533 compared to 475). In contrast there was a decrease of 15.6% in SYHCs (103 compared to 122).

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

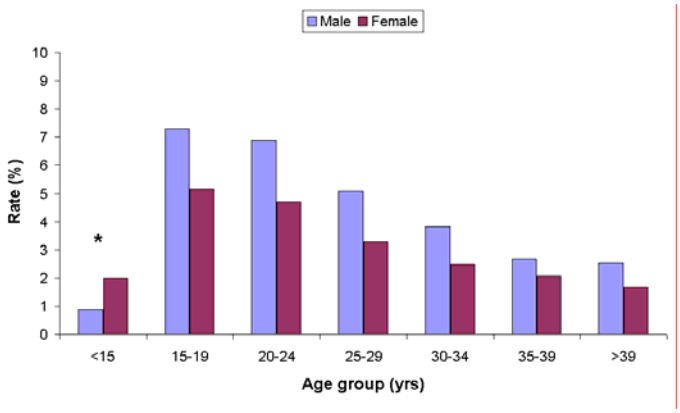
In 2005, the majority of genital warts cases at all clinics were aged less than 25 years (SHCs, 64% of cases; FPCs, 86% of cases; SYHCs 89% of cases). The mean age of genital warts cases was 25 years in SHCs, 21 years in both FPCs and SYHCs.

In SHCs genital warts rates were highest in the 15 to 19 years age group (male – 7.3% and female – 5.2%). In FPCs rates were highest in males aged 20 to 24 years (3.2%) and in females aged 15 to 19 years (0.4%) (see Figures 17 and 18).

In SHCs the rates of genital warts varied by ethnic origin. The highest rates of genital warts were in Maori (1.8%) and Pacific Peoples (2.7%).

Figure 17. Rates of genital warts (first presentation) diagnosed at SHCs by age group and sex, 2005

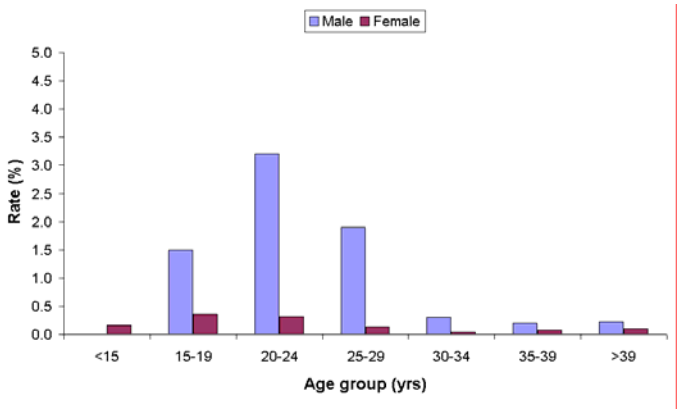
Denominator is the number of clinic visits



* For males aged less than 15 years genital warts rates are distorted due to small number of cases and visits (see Table 23).

Figure 18. Rates of genital warts (first presentation) diagnosed at FPCs by age group and sex, 2005

Denominator is the number of clinic visits



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

Table 8. Number and rates of genital warts (first presentation) cases by sex and health care setting, 2005

	Total number of cases			*Rate† (% of clinic visits)*		
Clinic type	Female	Male	Total	Female	Male	Total
SHCs	2 019	1 714	3 733	3.9	4.8	4.3
FPCs	424	109	533	0.3	1.6	0.3
SYHCs	84	19	103	0.1	0.1	0.1

†number of cases/number of clinic visits

Recent trends

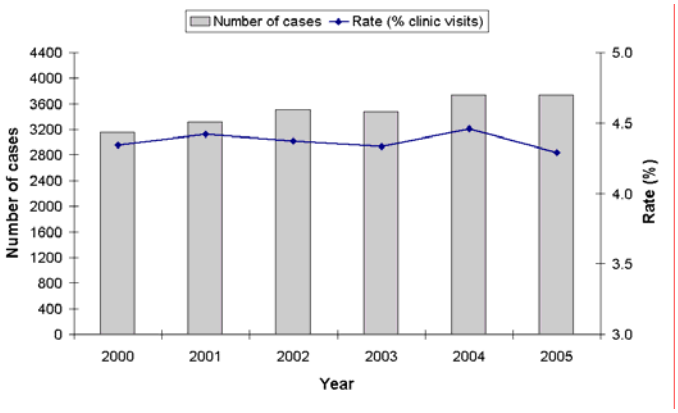
From 2000 to 2005 the number of genital warts cases reported by SHCs had increased by 18.4% (see Figure 19).

Between 2000 and 2005 the rate has varied between 4.3% and 4.5%. Although this appears insignificant the effect of the increasing number of cases is masked by the very large number of clinic visits, used as the denominator (see Table 20).

Genital warts are of particular public health importance because of the association between some types of human papillomavirus (HPV, mainly types 16 and 18) and cervical, penile and anal cancers. However, approximately 90% of genital warts are caused by HPV types 6 or 11, which are not associated with cervical cancer[8].

Figure 19. Number of cases and rates of genital warts (first presentation) diagnosed at SHCs: 2000 to 2005

Denominator is the number of clinic visits



Infectious Syphilis

Infectious syphilis (primary, secondary or early latent) is caused by *Treponema pallidium*. The first stage of the disease presents as an ulcerative infection that heals spontaneously. If untreated, secondary syphilis will develop in two to eight weeks, and one-third of cases will progress to tertiary syphilis some years later. Untreated early syphilis during pregnancy almost always results in perinatal death or congenital infections and complications. In untreated cases, vertical transmission of syphilis can occur for up to five years whereas sexual transmission is usually only for one year[9]. Only cases of infectious syphilis (primary, secondary and early latent) are reported by clinics for surveillance purposes.

Syphilis cases in 2005

Between 2004 and 2005, the number of cases of syphilis increased by 6.8% in SHCs (47 compared to 44). FPCs reported 2 cases of syphilis and no cases were reported in SYHCs. In 2005, the rate of syphilis at SHCs was 0.1%.

The mean age of syphilis cases at SHCs was 34 years (range 17 to 71 years). Of the 49 syphilis cases reported in 2005, 34 (69%) were male and 15 (31%) were female.

In SHCs the highest rate of syphilis for females was in the 35 to 39 years age group (0.2% with 2 cases) and for males was in 15 to 19 years age group (0.3% with 5 cases).

Of the 34 males with syphilis 47.1% were European, 32.4% were of Other ethnicity, 8.8% were Maori, 2.9% were Pacific peoples and 8.8% were of unknown ethnicity. Of the 15 females with syphilis 40% were European and 33.3% were of Other ethnicity, 20.0% were Pacific peoples and 6.7% were of unknown ethnicity (see Table 23).

Recent trends

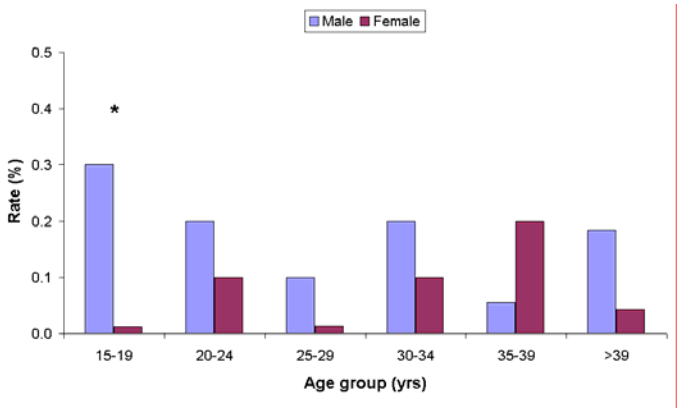
In 2005 the majority of cases (63%) occurred in the Auckland and Waikato Health Districts. In Auckland, the number of cases reported by SHCs has increased from 18 (in 2004) to 20 (in 2005) with the majority of cases thought to be in men who have sex with men[10].

Between 2000 and 2005 the number of cases diagnosed at SHCs has varied, but the numbers remain low: 13 (in 2000), 18 (in 2001), 47 (in 2002), 30 (in 2003), 44 (in 2004) and 47 (in 2005 (see Figure 21).

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

Figure 20. Rates of syphilis diagnosed at SHCs by age group and sex, 2005

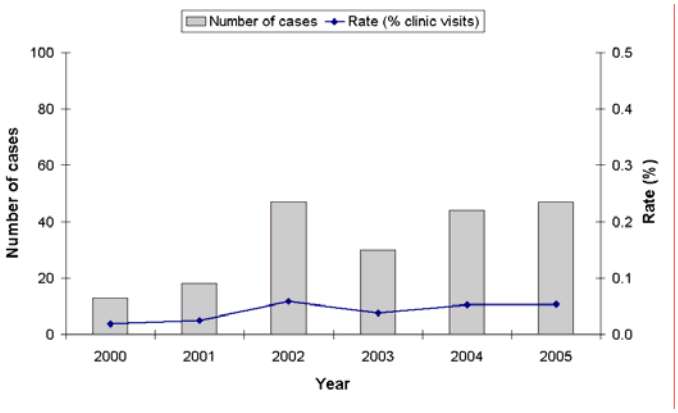
Denominator is the number of clinic visits



* For males aged less than 15 years genital warts rates are distorted due to small number of cases and visits (see Table 23).

Figure 21. Number of cases and rates of syphilis diagnosed at SHCs: 2000 to 2005

Denominator is the number of clinic visits



NSU (males only)

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

In 2005, there were 858 reported cases of NSU in SHCs, 13 cases in FPCs and 6 cases in SYHCs.

NSU cases in 2005

The mean age for NSU cases was 31 years in SHCs (range 14 to 68 years), 24 years in FPCs (range 18 to 54 years), and 21 (range 17 to 24 years) in SYHCs.

In SHCs NSU rates were highest in those who were older than 39 years (2.7% with 185 cases).

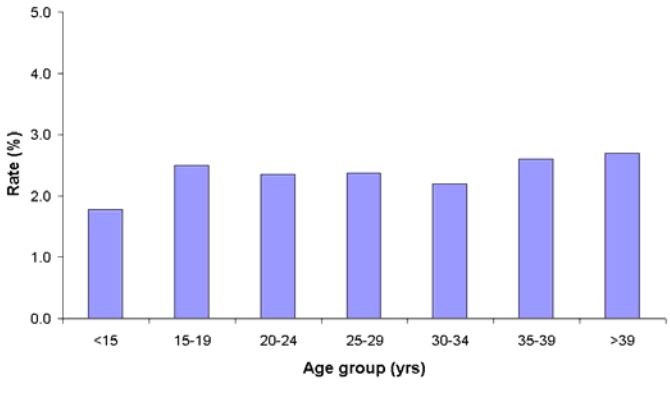
Recent trends

Between 2000 and 2005 the number of cases diagnosed at SHCs has fluctuated: 800 (in 2000), 1 055 (in 2001), 1 123 (in 2002), 1 054 (in 2003), 948 (in 2004) and 858 (in 2005). In 2005 the number of cases decreased by 9.5% compared to 2004. After the increase from 2000 to 2001, the rate of NSU has steadily decreased from 2001 to 2004 (see Figure 23).

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

Figure 22. Rates of NSU diagnosed at SHCs by age group, 2005

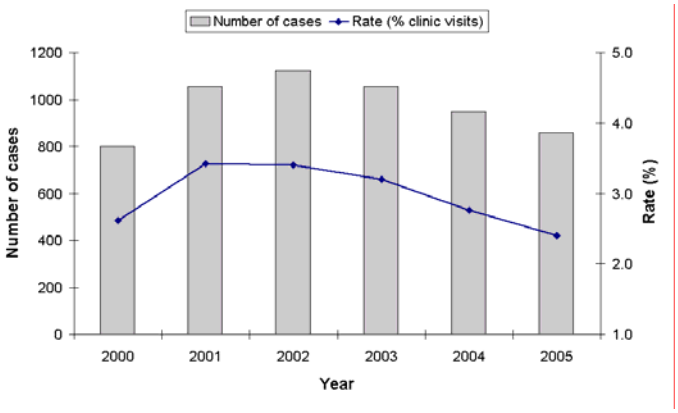
Denominator is the number of male clinic visits



Only 2 NSU cases were aged less than 15 years.

Figure 23. Number of cases and rates of NSU diagnosed at SHCs: 2000 to 2005

Denominator is the number of male clinic visits



Multiple infections

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

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

Concurrent infections

In 2005, 666 SHC visits were for concurrent infections. Of these 649 (97.4%) were diagnosed with two infections and 17 (2.5 %) were diagnosed with three infections. It is not possible to determine what proportion of clinic attendees were diagnosed with concurrent infections as SHC surveillance does not record the number of patients attending, but rather the total number of clinic visits. In an effort to overcome this problem, some data cleaning was used to try and determine the actual number of cases of concurrent infections reported in Tables 12 and 13.

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

Table 9. Comparison of the sex of attendees with one or concurrent STIs diagnosed at SHCs, 2005

Sex	One STI (%)	Two or more STIs (%)
Male	5 063 (52.31)	358 (53.75)
Female	4 616 (47.69)	308 (46.25)
Total	**9 679**	**666**

A significantly higher proportion of those with multiple STIs were in young people. Over 70% of those with concurrent infections were aged less than 25 years (see Table 10).

Table 10. Comparison of the age group of attendees with one or concurrent STIs diagnosed at SHCs, 2005

Age group (years)	One STI (%)	Two or more STIs (%)
<15	87 (0.90)	5 (0.75)
15-19	2 667 (27.55)	252 (37.84)
20-24	3 018 (31.18)	223 (33.48)
25-29	1 709 (17.66)	94 (14.11)
30-34	886 (9.15)	45 (6.76)
35-39	521 (5.38)	21 (3.15)
>39	790 (8.16)	26 (3.90)
Unknown	1 (0.01)	5 (0.75)
Total	**9 679**	**666**

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, 2005

Ethnicity	Number of patients	% with one STI	% with two or more STIs
European	6 610	95.58	4.42
Maori	2 395	89.06	10.94
Pacific Peoples	477	87.84	12.16
Other	734	94.55	5.45
Unknown	129	89.15	10.85
Total	**10 345**		

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

In SHC attendees with two STIs the combination of chlamydia and gonorrhoea accounted for 41.9% of concurrent infections. Chlamydia and genital warts accounted for a further 38.1% of concurrent infections.

In those with three STIs diagnosed the combination of chlamydia, gonorrhoea and genital warts accounted for 76.5% of concurrent infections.

Table 12. Number of patients with two STI diagnoses at SHC, 2005

STIs	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	279				
Genital herpes	27	6			
Genital warts	254	9	22		
Syphilis	1	1	0	1	
Non-specific urethritis (NSU)	9	1	8	29	2

Table 13. Number of patients with three STI diagnoses at SHC, 2005

First STI	Second STI	Third STI	Numbers of patients
Chlamydia	Gonorrhoea	Genital warts	13
Chlamydia	Gonorrhoea	Genital herpes	1
Chlamydia	Gonorrhoea	Non-specific urethritis (NSU)	1
Chlamydia	Genital herpes	Genital warts	1
Genital herpes	Genital warts	Non-specific urethritis (NSU)	1

Subsequent infections

Of the 10 398 SHC patients diagnosed with an STI in 2005, 1 250 patients (12.1%) were diagnosed with subsequent infections. Of these, 1 117 SHC patients were diagnosed with an STI twice in 2005, and a further 133 patients were diagnosed with an STI on three separate occasions in 2005.

Subsequent infections were more common among males (53.4%), young people aged under 25 years (65.6) and people of European ethnicity (53.3%).

Subsequent infections were diagnosed in 12.7% of male patients (692 out of 5 451), compared to 11.3% of female patients (558 out of 4 947). The greatest proportion of males and females who suffered subsequent infections were those initially diagnosed with genital warts.

Subsequent infections were diagnosed in 12.0% of SHC patients aged less than 15 years and 14.0% of patients aged 15 to 19 years, compared with 9.9% of patients aged 30 years and older. Subsequent infections were diagnosed in 16.1% of Maori, 18.5% of Pacific Peoples and 10.0% of European ethnicity.

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

Laboratory Surveillance

Chlamydia

Auckland region

In 2005, laboratories in the Auckland region tested 123 761 specimens for chlamydia, of which 8 288 (6.7%) specimens tested positive from 7 916 patients.

The overall rate for the region was 675 per 100 000. The rate in females (948 per 100 000) was nearly twice the rate in males (385 per 100 000).

The mean age of chlamydia cases was 24 years (median age 22 years, range 0 to 78 years). Sixty-three per cent of all chlamydia cases were aged less than 25 years.

The chlamydia rate for the less than one-year age group was 357 per 100 000 population (66 cases).

The highest rates of chlamydia in females and males were observed in the 20 to 24 years age group, with rates of 4 772 and 1 749 per 100 000 population. The second highest female rates were in 15 to 19 years age group, with a rate of 4 278 per 100 000 population. Comparatively, the second highest male rates were in 25 to 29 years age group, with a rate of 1 061 per 100 000 population.

Waikato region

In 2005, laboratories in the Waikato region tested 24 539 specimens for chlamydia, of which 2 785 (11.3%) specimens tested positive from 2 768 patients.

The overall rate for the region was 871 per 100 000. The rate in females (1 201 per 100 000) was twice the rate in males (520 per 100 000).

The mean age of chlamydia cases was 22 years (median age 20 years, range 0 to 69 years). Seventy-five per cent of all chlamydia cases were aged less than 25 years.

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

The highest female rates were observed in the 15 to 19 years age group, with a rate of 7 322 per 100 000 population, which equates to nearly six times the regional rate. Comparatively, in males rates were highest in the 20 to 24 years age group with a rate of 2 881 per 100 000 population, followed by the 15 to 19 years age group, with a rate of 1 908 per 100 000 population.

Figure 24. Rates of chlamydia in the Auckland region by age group and sex, 2005

Denominator is the population in each region

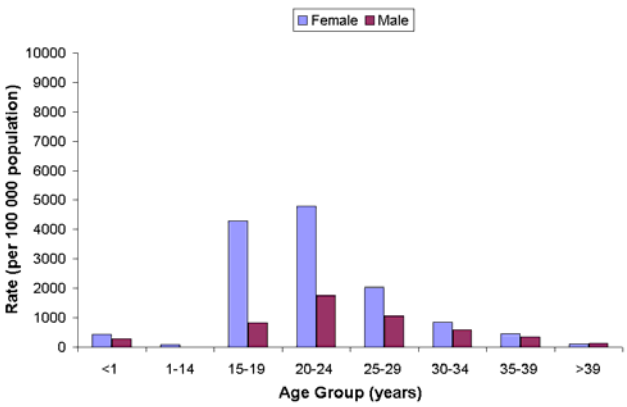


Figure 25. Rates of chlamydia in the Waikato region by age group and sex, 2005

Denominator is the population in each region

Bay of Plenty region

In 2005, laboratories in the BOP region tested 23 769 specimens for chlamydia, of which 2 446 (10.3%) specimens tested positive from 2 446 patients.

The overall rate for the region was 892 per 100 000. The rate in females (1 380 per 100 000) was nearly four times the rate in males (370 per 100 000).

The mean age of chlamydia cases was 21 years (median age 20 years, range 0 to 64 years). Seventy-seven per cent of all chlamydia cases were aged less than 25 years.

The chlamydia rate for the less than one-year age group was 341 per 100 000 population (14 cases).

The highest female rate was observed in the 15 to 19 years age group, with 11 018 per 100 000 population. The highest male rate was observed in the 20 to 24 years age group with a rate of 2 528 per 100 000 population.

Other regions

In 2005, laboratories in other regions reported 4 092 (10.4%) test positive specimens for chlamydia from 3 710 patients.

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

The mean age of chlamydia cases was 22 years (median age 20 years, range 0 to 70 years). Seventy-one per cent of all chlamydia cases were aged less than 25 years.

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

The highest chlamydia numbers were observed in the 15 to 19 years age group (1 389 cases), followed by the 20 to 24 years age group (1 147 cases). The highest male numbers were in the 20 to 24 years age group (328 cases) and the highest female numbers were in the 15 to 19 years age group (1 157 cases).

Figure 26. Rates of chlamydia in the BOP region by age group and sex, 2005

Denominator is the population in each region

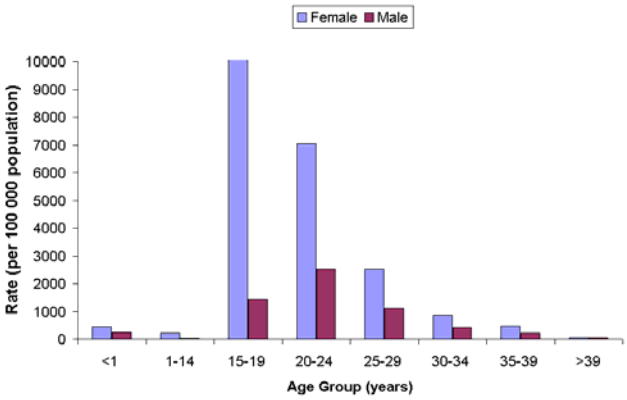


Figure 27. Case numbers of chlamydia in Other regions by age group and sex, 2005

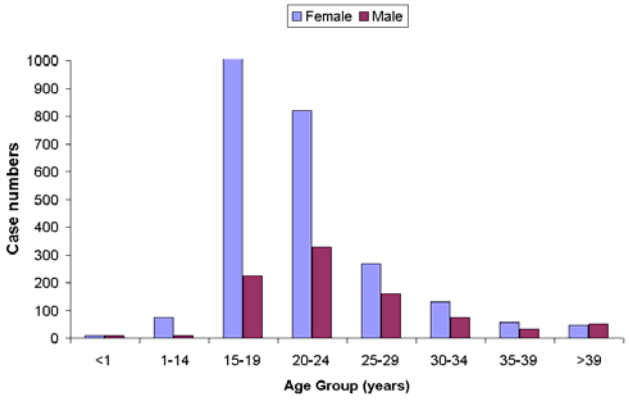


Table 14. Case numbers and rates of chlamydia by region, age group and sex, 2005

	Number of cases				Rate per 100 000 population		
Age group (years)	**Female**	**Male**	**Unknown**	**Total**	**Female**	**Male**	**Total**
				Auckland Region			
<1	38	26	2	66	420	275	357
1-14	89	8	0	97	73	6	39
15-19	1 789	347	2	2 138	4 278	813	2 530
20-24	2 009	711	2	2 722	4 772	1 749	3 289
25-29	911	432	1	1 344	2 018	1 061	1 565
30-34	424	264	1	689	828	577	711
35-39	224	170	1	395	436	355	398
40+	226	234	1	461	94	109	102
Unknown	2	1	1	4			
Total	5 712	2 193	11	7 916	948	385	675
				Waikato region			
<1	8	6	0	14	338	245	290
1-14	47	7	0	54	133	19	75
15-19	851	235	1	1 087	7 322	1 908	4 541
20-24	632	296	2	930	6 233	2 881	4 555
25-29	206	142	1	349	2 000	1459	1742
30-34	116	56	1	173	979	529	771
35-39	49	30	1	80	397	261	336
40+	31	40	0	71	46	64	55
Unknown	1	0	9	10			
Total	1 941	812	15	2 768	1 201	520	871
				BOP region			
<1	9	5	0	14	450	237	341
1-14	65	7	0	72	212	22	114
15-19	981	135	0	1 116	11 018	1 436	6 097
20-24	495	174	1	670	7 030	2 528	4 812
25-29	212	83	2	297	2 513	1 109	1 865
30-34	87	36	0	123	868	414	657
35-39	51	21	0	72	465	216	348
40+	35	27	0	62	56	47	52
Unknown	7	6	7	20			
Total	1 942	494	10	2 446	1 380	370	892
				Other regions			
<1	9	10	0	19			
1-14	74	9	0	83			
15-19	1 157	225	7	1 389			
20-24	819	328	0	1 147			
25-29	270	160	1	431			
30-34	131	73	0	204			
35-39	57	32	0	89			
40+	47	52	0	99			
Unknown	120	128	1	249			
Total	2 684	1 017	9	3 710			

Trend data: Auckland, Waikato and Bay of Plenty regions

In general, from 2001 to 2005, the overall rate of chlamydia diagnosed by participating laboratories in Auckland, Waikato and BOP has risen more or less steadily by 51.6%, from 491 per 100 000 to 744 per 100 000.

This increase is significant and has been seen in all three regions and both sexes. This trend can be explained, in part, by increasing test volumes and the introduction of more sensitive diagnostic techniques. However, the slight increase in the numbers of specimens tested cannot explain all the increases reported.

Figure 28 and 29 shows the chlamydia rates from 2000 to 2005.

From 2004 to 2005, the chlamydia rates for males and females increased in all three regions. The Waikato region had the highest increase in both male and females rates (20.5% and 22.7%, respectively). However, the BOP regions has the highest rate overall at 892 per 100 000 compared with 871 and 672 per 100 000 for Waikato and Auckland respectively.

Figure 28. Male chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2000 to 2005

Denominator is the population in each region

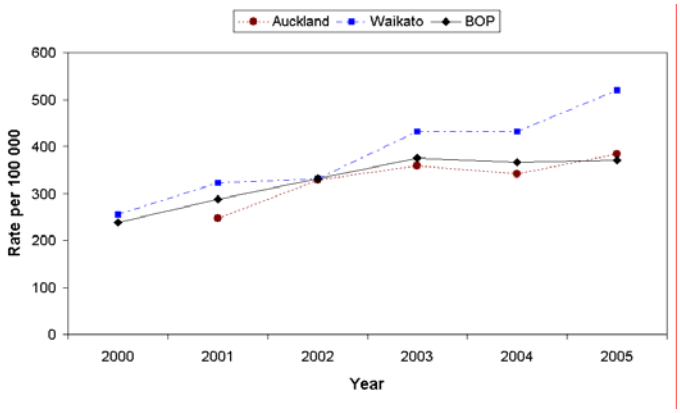
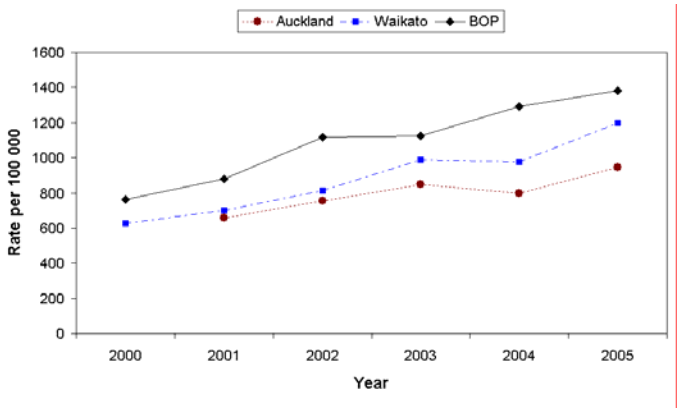


Figure 29. Female chlamydia rates diagnosed in the Auckland, Waikato and BOP regions: 2000 to 2005

Denominator is the population in each region



Gonorrhoea

Auckland region

In 2005, laboratories in the Auckland region tested over 196 740 specimens for gonorrhoea, of which 1 462 (0.7%) specimens tested positive from 962 patients. The large number of specimens tested is largely due to routine cultures for gonorrhoea being performed on any genital swab regardless of the reason for the swab being taken.

The overall rate in the region was 129 per 100 000. The rate in females (171 per 100 000) was nearly twice the rate in males (89 per 100 000).

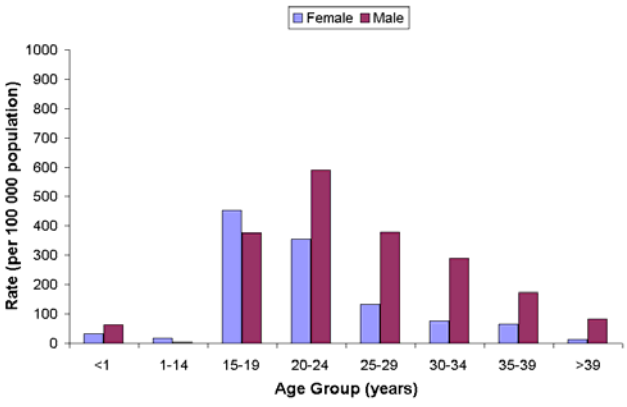
The mean age of gonorrhoea cases was 27 years (median age 24 years, range 0 to 81 years). Fifty-three per cent of all gonorrhoea cases were aged less than 25 years.

The gonorrhoea rate for the less than one-year age group was 49 per 100 000 population (6 cases).

The highest female rate was in the 15 to 19 years age group (453 per 100 000 population) and the highest male rate was in the 20 to 24 years age group (589 per 100 000 population).

Figure 30. Rates of gonorrhoea in the Auckland region by age group and sex, 2005

Denominator is the population in each region



Waikato region

In 2005, laboratories in the Waikato region tested 52 199 specimens for gonorrhoea, of which 261 (0.5%) specimens tested positive from 251 patients.

The overall rate in the region was 79 per 100 000. The rate in males (92 per 100 000) was higher than that in females (66 per 100 000).

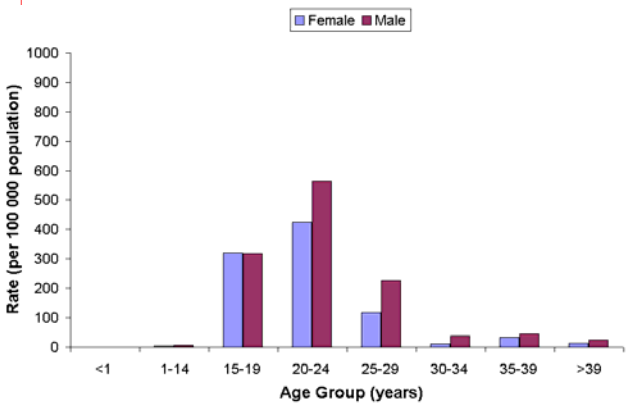
The mean age of gonorrhoea cases was 24 years (median age 21 years, range 4 to 60 years). Seventy-two per cent of all gonorrhoea cases were aged less than 25 years.

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

The gonorrhoea rate in 20 to 24 year old females (424 per 100 000 population) was nearly seven times higher than the regional gonorrhoea rate (66 per 100 000 population). The highest male rates were in the 20 to 24 years age group (564 per 100 000 population), followed by the 15 to 19 years age group (317 per 100 000 population).

Figure 31. Rates of gonorrhoea in the Waikato region by age group and sex, 2005

Denominator is the population in each region



Bay of Plenty region

In 2005, laboratories in the BOP region tested 36 541 specimens for gonorrhoea, of which 280 (0.8%) specimens tested positive from 277 patients.

The overall rate for the region was 101 per 100 000. The rate in females (122 per 100 000) was nearly twice the rate in males (77 per 100 000).

The mean age of gonorrhoea cases was 22 years (median age 20 years, range 5 to 53 years). Seventy-two per cent of all gonorrhoea cases were aged less than 25 years.

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

The gonorrhoea rate in 15 to 19 year old females (1 033 per 100 000 population) was nearly eight times higher than the regional gonorrhoea rate (122 per 100 000 population). The highest male rates were in the 20 to 24 years age group (465 per 100 000 population.

Other regions

In 2005, laboratories in other regions reported 408 (0.5%) test positive specimens for gonorrhoea from 310 patients.

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

The mean age of gonorrhoea cases was 24 years (median age 21 years, range 5 to 59 years). Sixty-seven per cent of all gonorrhoea cases were aged less than 25 years.

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

The highest gonorrhoea numbers were observed in the 15 to 19 years age group (111 cases), followed by the 20 to 24 years age group (91 cases). The the highest female numbers were in the 15 to 19 years age group (65 cases) and the highest male numbers were in the 20 to 24 years age group (50 cases).

Figure 32. Rates of gonorrhoea in the BOP region by age group and sex, 2005
Denominator is the population in each region

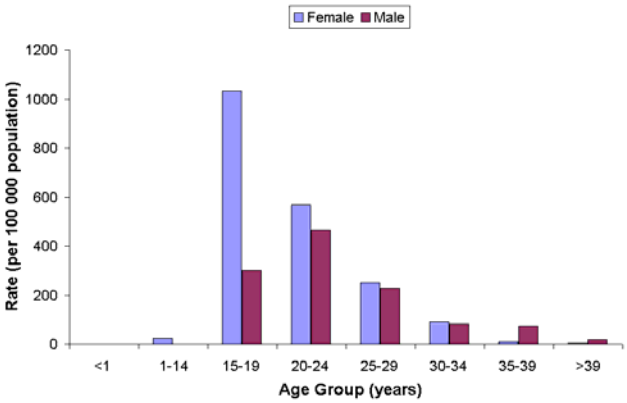


Figure 33. Case numbers of gonorrhoea in Other regions by age group and sex, 2005
Denominator is the population in each region

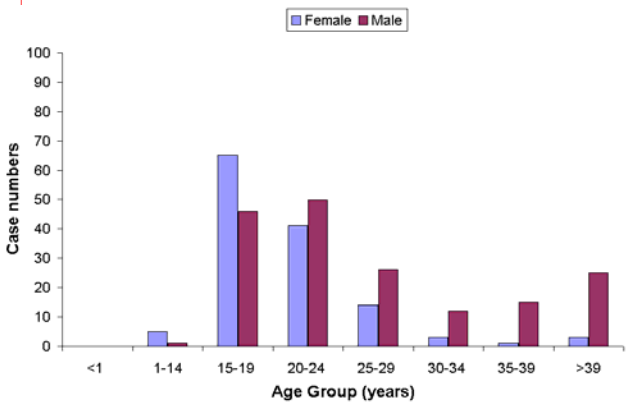


Table 15. Case numbers and rates of gonorrhoea by region, age group and sex, 2005

	Number of cases				Rate per 100 000 population		
Age group (years)	**Female**	**Male**	**Unknown**	**Total**	**Female**	**Male**	**Total**
				Auckland Region			
<1	2	4	0	6	33	63	49
1-14	12	2	0	14	15	2	9
15-19	121	102	0	223	453	376	414
20-24	103	160	1	264	355	589	470
25-29	40	103	1	144	132	377	250
30-34	25	86	0	111	76	290	177
35-39	21	52	0	73	65	172	117
40+	17	107	1	125	12	81	45
Unknown	0	1	1	2			
Total	341	617	4	962	89	171	129
				Waikato region			
<1	0	0	0	0	0	0	0
1-14	1	2	0	3	3	5	4
15-19	37	39	0	76	318	317	317
20-24	43	58	0	101	424	564	495
25-29	12	22	0	34	116	226	170
30-34	1	4	0	5	8	38	22
35-39	4	5	0	9	32	44	38
40+	8	14	0	22	12	22	17
Unknown	0	0	1	1			
Total	106	144	1	251	66	92	79
				BOP region			
<1	0	0	0	0	0	0	0
1-14	7	0	0	7	23	0	11
15-19	92	28	0	120	1 033	298	656
20-24	40	32	0	72	568	465	517
25-29	21	17	1	39	249	227	245
30-34	9	7	0	16	90	80	85
35-39	1	7	0	8	9	72	39
40+	1	9	0	10	2	16	8
Unknown	0	3	2	5			
Total	171	103	3	277	122	77	101
				Other regions			
<1	0	0	0	0			
1-14	5	1	0	6			
15-19	65	46	0	111			
20-24	41	50	0	91			
25-29	14	26	0	40			
30-34	3	12	0	15			
35-39	1	15	0	16			
40+	3	25	0	28			
Unknown	0	2	1	3			
Total	132	177	1	310			

Trend data: Auckland, Waikato and Bay of Plenty regions

Over the last six years gonorrhoea rates in Auckland, Waikato and BOP have been trending upwards with a significant increase of 57.0% from a rate of 71 per 100 000 in 2000 to 112 per 100 000 in 2005.

Figure 34 and 35 shows the gonorrhoea rates from 2000 to 2005. From 2004 to 2005, Waikato region had the highest increase in both male and females rates (60.0% and 23.3%, respectively).

However, the overall rate was highest in Auckland at 129 per 100 000, followed by BOP then Waikato at 101 and 79 per 100 000 respectively.

The number of laboratories reporting in these regions has not changed from 2000 to 2005 and, unlike for chlamydia, there have been no changes in gonorrhoea testing methods over this period. Therefore the overall trends suggest a true increase in the rate of gonorrhoea.

Figure 34. Male rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2000 to 2005

Denominator is the population in each region

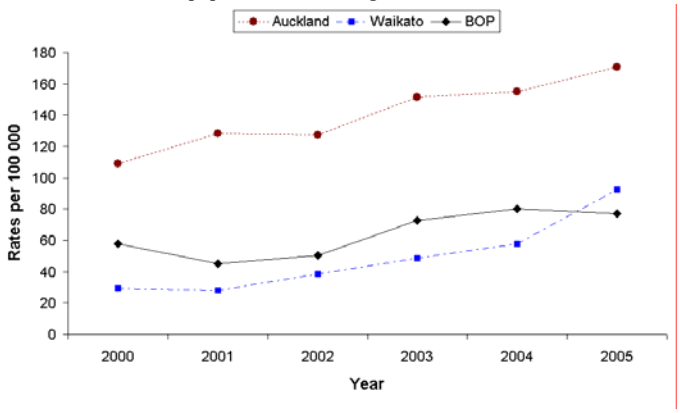
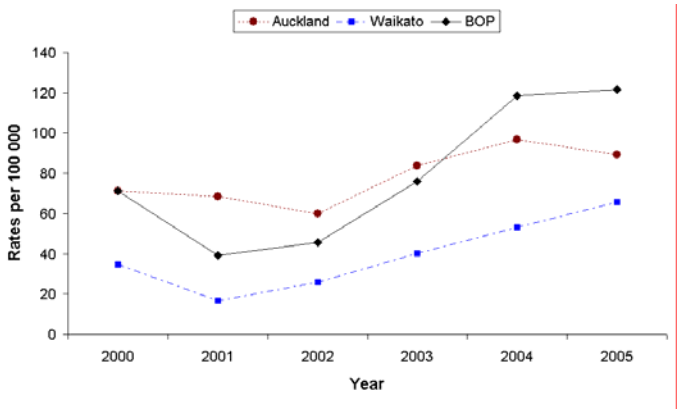


Figure 35. Female rates of gonorrhoea in the Auckland, Waikato and BOP regions: 2000 to 2005

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 HIV/AIDS in New Zealand in 2005 is available in the publication; AIDS – New Zealand, Issue 57, February 2006.

HIV

The number of people diagnosed with HIV in New Zealand increased again in 2005, and, at 218, is the highest since testing began in 1985. A total of 183 people were diagnosed through antibody testing (up from 157 in 2004). An additional 35 people (up from 28 in 2004) were reported through viral load testing, most of whom had previously been diagnosed overseas.

HIV infection was thought to have been acquired through homosexual contact in 109 cases (50.0% of all cases in 2005), and a further two cases had both homosexual contact and were intravenous drug users (IDU) (Table 16). This total of 111 cases increased from 86 cases for the same exposure categories in 2004.

Of the 89 cases diagnosed through antibody testing in men who have sex with men (MSM), almost three-quarters (66 cases) reported that infection occurred within New Zealand. In addition, based on previous HIV testing, at least 11 of these men were infected in New Zealand within the previous 12 months.

Heterosexual transmission was implicated in 38 male and 42 female cases reported in 2005, compared with 35 and 33 cases respectively in 2004. In contrast to MSM, a much smaller proportion (10% in 2005) acquired the infection in New Zealand.

All people diagnosed with HIV infection from blood or blood products acquired the infection overseas.

Six children were diagnosed with HIV infection in 2005 that occurred through mother to child transmission. Four of these children were born in New Zealand, however, none of their mothers were diagnosed antenatally, and so the pregnancies were not managed accordingly. Since 1995, no children have been infected through their mothers when HIV infection was diagnosed prior to giving birth. Routine offering of antenatal HIV screening to mothers began in Waikato DHB on 20th March 2006, and will be progressively implemented around the rest of the country.

For 16 cases diagnosed in 2005, the route of HIV exposure remains unknown.

The majority of cases, 185 (84.9%), were aged between 20 and 49 years at time of diagnosis, with 92 (42.2%) in the 30-39 years age bracket.

Of the 218 cases 97 (44.5%) were European, 15 (6.9%) Maori and 8 (3.7%) Pacific Peoples. There were 86 (39.4%) in other ethnic group categories, mainly of African and Asian ethnicity. The ethnicity of 12 cases (5.5%) is currently unknown.

AIDS

In 2005, 49 cases of AIDS were notified (Table 16) (24 were diagnosed during 2005 and 25 were late notifications of people diagnosed in previous years). Twenty-two of the cases (44.9%) are thought to have acquired the disease heterosexually, 20 (40.8%) through homosexual or bisexual contact, two perinatally, one through either homosexual activity or IDU, and the remaining four through other or unknown exposures.

The age distribution of AIDS cases at the time of notification was similar to the HIV cases with 20 cases (40.8%) aged 30-39 years. The distribution according to ethnicity was also similar, with around 40% of cases each in the European, and Other ethnic groups.

There were eight deaths from AIDS during the year, seven males and one female. The number of AIDS deaths peaked at 66 in 1992, and has been declining ever since. For the last few years there have been around 10 to 11 AIDS deaths each year. The number of AIDS deaths in 2005 may increase due to late notifications.

Table 16. Risk behaviour category for AIDS notifications and HIV infections, 1983[1] – 2005.

		AIDS[2]		HIV Infection[3]	
Risk category	**Sex**	**New cases in 2005 (%)**	**Cases (%) - Total 1983 to 2005**	**New cases in 2005 (%)**	**Cases (%) - Total 1983 to 2005**
Homosexual contact	Male	20 (40.8)	648 (72.8)	109 (50.0)	1 309 (52.9)
Homosexual & IDU	Male	1 (2.0)	12 (1.3)	2 (0.9)	33 (1.3)
Heterosexual contact	Male	13 (26.5)	75 (8.4)	38 (17.4)	284 (11.5)
	Female	9 (18.4)	63 (7.1)	42 (19.3)	309 (12.5)
Injecting drug user (IDU)	Male	0 (0.0)	19 (2.1)	0 (0.0)	53 (2.1)
	Female	0 (0.0)	0 (0.0)	0 (0.0)	11 (0.4)
Blood product recipient	Male	0 (0.0)	16 (1.8)	0 (0.0)	34 (1.4)
Transfusion related	Male	0 (0.0)	2 (0.2)	1 (0.5)	10 (0.4)
	Female	0 (0.0)	2 (0.2)	0 (0.0)	9 (0.4)
	Unknown	0 (0.0)	0 (0.0)	0 (0.0)	5 (0.2)
Perinatal	Male	2 (4.1)	8 (0.9)	6 (2.7)	22 (0.9)
	Female	0 (0.0)	6 (0.7)	0 (0.0)	14 (0.6)
Awaiting information/	Male	3 (6.1)	36 (4.0)	12 (5.5)	322 (13.0)
Undetermined	Female	0 (0.0)	2 (0.2)	4 (1.8)	31 (1.2)
	Unknown	0 (0.0)	0 (0.0)	0 (0.0)	13 (0.5)
Other	Male	0 (0.0)	0 (0.0)	2 (0.9)	6 (0.2)
	Female	1 (2.0)	2 (0.2)	2 (0.9)	9 (0.4)
Total		**49 (100.0)**	**891 (100.0)**	**218 (100.0)**	**2 474 (100.00)**

[1] Testing for HIV infection began in 1985.
[2] Reported by date of notification.
[3] Includes people who have developed AIDS. Numbers are recorded by date of diagnosis for those reported through antibody testing and by time of first viral load for those reported through viral load testing. The latter include many who have initially been diagnosed overseas and have not had an antibody test here.

Source: AIDS Epidemiology Group.

Discussion

Continuing trends
In 2005, STI surveillance data demonstrates continued increases in both the clinic and laboratory based surveillance in the most commonly diagnosed STIs in New Zealand, excepting NSU.

Chlamydia
Chlamydia continues to dominate with regional laboratory chlamydia diagnosis rates reaching 892 per 100 000 for the Bay of Plenty, and a staggeringly high 11 018 per 100 000 in females aged 15-19 in the Waikato region. Given that chlamydia infection remains asymptomatic in a significant proportion of infected individuals the actual infection rate is likely to be higher. Data from the first phase of England's National Chlamydia Screening Programme (NCSP), which offers opportunistic screening of under 25 year olds in primary care, detected substantial levels of undiagnosed chlamydia in screened females and males (10.1% and 13.3% respectively)[11]. The feasibility of a similar programme being implemented in New Zealand is currently being explored following a pilot by the Family Planning Association in Wellington[12].

Gonorrhoea
As gonorrohoea is much less likely to cause asymptomatic infection than chlamydia (especially in males), trends in gonorrhoea rates are considered to better reflect changes in STI incidence and sexual behaviour. The laboratory-based surveillance of gonorrhoea has shown a significant rate increase of 57% since 2000, with no change in laboratory testing methods or the number of participating laboratories over this period. This significant increase is therefore likely to be real, and is concerning as it implies an increase in unsafe sexual behaviour over the last six years.

At-risk groups - youth, non-Europeans, neonates
As in previous years, those aged less than 30 years and non-Europeans were disproportionately burdened with STIs in 2005. This finding is consistent across most STIs, and is also seen in the SHC data on concurrent infections. Over 70% of those with concurrent infections were aged less than 25 years, and Maori were approximately two times and Pacific peoples three times more likely than Europeans to be diagnosed with concurrent infections. Similarly, complicated chlamydia and gonorrhoea infections, i.e. those resulting in PID or epididymitis, were more common in young people and in individuals from non-European ethnic groups.

The No Rubba, No Hubba Hubba campaign which ran from September 2004 to June 2005, was specifically targeted at reducing STIs in 15-19 year olds with a particular emphasis on reaching Maori rangitahi and Pacific youth. An evaluation of the campaign has demonstrated raised awareness in Maori, Pacific and European youth of safer sex issues as a result of the campaign, and a reduction in the proportion who say they would have sex without a condom[13]. However, whether the campaign will result in changed behaviours is not yet known and STI rates remained high during 2005 for 15-19 year olds.

Although no neonatal gonococcal infections were reported in 2005, a total of 113 chlamydia infections were diagnosed in children under the age of one. Neonatal STI infections underscore the need for improvement in antenatal STI screening and reinforces that eye infections in neonates require close observation and investigation.

International comparisons
It is difficult to make direct comparisons between countries due to different STI surveillance and screening practices. In addition, the New Zealand rates are for specific regions only and rates can vary geographically. Bearing this in mind, New Zealand's regional STI rates are consistently higher compared with national rates for countries such as Australia, the United Kingdom (UK), and the United States (US). Using Chlamydia as an example, the 2005 Bay of Plenty rate was 892 per 100 000. In comparison, the 2003 rate in Australia was 152 per 100 000, with regional differences of 162 per 100 000 in Australian Capital Territory and 807 per 100 000 in Northern Territory[14]. The 2004 UK and US rates were 174 per 100 000[15] and 320 per 100 000 respectively[16].

Emerging/re-emerging STIs

Two STIs, with potentially serious consequences if left undiagnosed, are on the increase in western nations internationally. Syphilis, lately considered to be largely eliminated from western nations, is re-emerging internationally with rates of primary and secondary syphilis on the rise in the US[17], and outbreaks reported in many Western European countries including the UK[18], Denmark[19], and Belgium[20]. Although, the number of syphilis cases detected in New Zealand through STI surveillance remains low, an indication of an increase in the number of cases of infectious syphilis has been reported[10].

LGV is also emerging as a STI of concern internationally within the MSM community, particularly as the associated ulceration increases susceptibility to HIV transmission. Although, no cases of LGV were detected via STI surveillance in New Zealand during 2005, outbreaks have been reported in several western countries, including the Netherlands[21], Switzerland[22], the UK[23], and the United States[24].

Limitations of current surveillance system.

Research from the UK indicates that a growing proportion of STIs are diagnosed and treated outside of specialist sexual health care services. In particular, it is estimated that as high as 23% of chlamydia cases in women and 49% of NSU cases in males are treated and diagnosed in primary care in the UK[25]. New Zealand data from areas where laboratory and clinic-based STI surveillance co-exist already demonstrate that STI diagnoses made at SHCs, FPCs and SYHCs represent only a proportion of the positive laboratory diagnoses in the same region. If, as in the UK, the proportion of STIs being managed by general practitioners continues to grow, the representativeness of clinic-based STI surveillance data will further diminish. Consideration is being given to changing the way in which clinic-based STI surveillance data is reported.

In order to inform appropriate public health action, STI surveillance data needs to reliably reflect the extent of the STI burden in New Zealand, but also both identify and monitor the most affected population groups. Where laboratory data is more or less complete, it offers the best opportunity for appropriate surveillance. Comprehensive chlamydia and gonorrhoea laboratory data from Auckland, Waikato and Bay of Plenty has enabled diagnosis rates for the population of these regions to be monitored by age group since 2001. Increasing laboratory participation means that calculation of rates for additional geographic regions will be possible in the near future. However, as STI rates vary considerably between regions, a comprehensive New Zealand-wide dataset is required before national rates can be generated. No STIs are currently notifiable under the Health Act. A comprehensive dataset would be easier to achieve if laboratories were legally required to report STIs of public health importance. The Ministry of Health is currently reviewing whether any STIs should be made notifiable by laboratories.

Another limitation of the current laboratory-based surveillance is the absence of any ethnicity data. As previously described, large disparities in STI rates by ethnicity are evident in the populations captured by the clinic-based surveillance. However, as attendance patterns at these clinics may vary by ethnicity, a more accurate picture of the disparities would be obtained if laboratory data included ethnicity. As an individual's National Health Index number is now included with most specimens it may be possible to use this to obtain this vital information on STI rates by ethnicity.

To date the focus of the laboratory surveillance system has been on chlamydia and gonorrhoea. The utility of the system would be increased by the inclusion of other STIs. Laboratory surveillance of syphilis is currently being considered, however, complex issues surrounding the interpretation of test results will first need to be resolved.

Summary

Although imperfect, and likely to be an underestimate, the data presented in this report indicate a considerable STI burden in New Zealand which continues both to increase and be disparate in its distribution. The surveillance of STIs in New Zealand needs to be improved so that appropriate public health action can take place to decrease overall STI rates and reduce inequalities in the burden of disease. Comprehensive nationwide laboratory-based surveillance which includes ethnicity data would provide the appropriate surveillance data. This process may be assisted by full laboratory reporting of (certain) STIs and increasing the dataset collected.

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Appendices

Appendix A: Clinic-based Surveillance Data

Sexual Health Clinic Data

Table 17. Chlamydia - number of cases and disease rates by SHCs

Total Clinic Visits[1]			2004			2005		
2004	2005	Clinic	No. Confirmed	Total No.[2]	Rate[3]	No. Confirmed	Total No.[2]	Rate[3]
1412	1427	Whangarei	94	94	6.7%	84	84	5.9%
0	525	Dargaville	0	0	0.0%	9	9	1.7%
336	324	Kaikohe	18	18	5.4%	23	23	7.1%
22562	24241	Auckland	893	997	4.4%	1028	1082	4.5%
24310	**26517**	**North**	**1005**	**1109**	**4.6%**	**1144**	**1198**	**4.5%**
8592	8726	Hamilton	566	582	6.8%	643	691	7.9%
8041	7589	Tauranga	411	424	5.3%	429	434	5.7%
1321	924	Rotorua	86	110	8.3%	86	97	10.5%
786	949	Whakatane	67	68	8.7%	91	92	9.7%
815	840	Taupo	74	98	12.0%	32	88	10.5%
2305	2468	New Plymouth	261	319	13.8%	273	360	14.6%
2911	2944	Gisborne	152	152	5.2%	167	167	5.7%
24771	**24440**	**Midland**	**1617**	**1753**	**7.1%**	**1721**	**1929**	**7.9%**
1224	1078	Napier	128	128	10.5%	100	100	9.3%
309	401	Hastings	35	35	11.3%	52	52	13.0%
972	1089	Wanganui	126	136	14.0%	59	69	6.3%
3540	3849	Palmerston North/Levin/Dannevirke	186	269	7.6%	249	362	9.4%
9800	9943	Wellington	176	237	2.4%	202	309	3.1%
908	1021	Lower Hutt	23	34	3.7%	19	28	2.7%
637	678	Porirua	26	43	6.8%	29	41	6.0%
1416	1489	Nelson	60	63	4.4%	64	78	5.2%
330	476	Wairau (Blenheim)	17	22	6.7%	27	29	6.1%
19136	**20024**	**Central**	**777**	**967**	**5.1%**	**801**	**1068**	**5.3%**
438	482	Greymouth	9	23	5.3%	16	25	5.2%
0	145	Westport/Buller	0	0	0.0%	13	19	13.1%
8575	8875	Christchurch	222	311	3.6%	253	343	3.9%
148	124	Ashburton	7	9	6.1%	4	4	3.2%
607	737	Timaru	39	39	6.4%	33	34	4.6%
3242	3376	Dunedin	102	117	3.6%	152	165	4.9%
2440	2295	Invercargill/Gore	190	251	10.3%	175	217	9.5%
15450	**16034**	**South**	**569**	**750**	**4.9%**	**646**	**807**	**5.0%**
83667	**87015**	**Total**	**3968**	**4579**	**5.5%**	**4312**	**5002**	**5.7%**

[1] Total No. Clinic Visits = total no. clinic visits per year for any reason
[2] Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage
[3] Total No. = no. confirmed cases + no. probable cases

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

Table 18. Gonorrhoea - number of cases and disease rates by SHCs

Total Clinic Visits[1]			2004			2005		
2004	2005	Clinic	No. Confirmed	Total No.[2]	Rate[3]	No. Confirmed	Total No.[2]	Rate[3]
1412	1427	Whangarei	21	21	1.5%	6	6	0.4%
0	525	Dargaville	0	0	0.0%	0	0	0.0%
336	324	Kaikohe	0	0	0.0%	0	0	0.0%
22562	24241	Auckland	305	340	1.5%	327	340	1.4%
24310	**26517**	**North**	**326**	**361**	**1.5%**	**333**	**346**	**1.3%**
8592	8726	Hamilton	81	82	1.0%	104	115	1.3%
8041	7589	Tauranga	36	41	0.5%	30	31	0.4%
1321	924	Rotorua	29	32	2.4%	14	15	1.6%
786	949	Whakatane	8	8	1.0%	10	11	1.2%
815	840	Taupo	6	7	0.9%	1	4	0.5%
2305	2468	New Plymouth	15	15	0.7%	12	13	0.5%
2911	2944	Gisborne	29	29	1.0%	21	21	0.7%
24771	**24440**	**Midland**	**204**	**214**	**0.9%**	**192**	**210**	**0.9%**
1224	1078	Napier	22	22	1.8%	8	8	0.7%
309	401	Hastings	11	11	3.6%	21	21	5.2%
972	1089	Wanganui	8	8	0.8%	1	1	0.1%
3540	3849	Palmerston North/Levin/Dannevirke	27	32	0.9%	17	26	0.7%
9800	9943	Wellington	36	57	0.6%	27	27	0.3%
908	1021	Lower Hutt	5	8	0.9%	7	8	0.8%
637	678	Porirua	8	8	1.3%	11	11	1.6%
1416	1489	Nelson	8	10	0.7%	11	19	1.3%
330	476	Wairau (Blenheim)	2	4	1.2%	1	1	0.2%
19136	**20024**	**Central**	**127**	**160**	**0.8%**	**104**	**122**	**0.6%**
438	482	Greymouth	0	1	0.2%	0	0	0.0%
0	145	Westport/Buller	0	0	0.0%	1	1	0.7%
8575	8875	Christchurch	33	34	0.4%	38	41	0.5%
148	124	Ashburton	0	0	0.0%	1	1	0.8%
607	737	Timaru	3	3	0.5%	10	10	1.4%
3242	3376	Dunedin	7	7	0.2%	4	7	0.2%
2440	2295	Invercargill/Gore	6	9	0.4%	9	10	0.4%
15450	**16034**	**South**	**49**	**54**	**0.3%**	**63**	**70**	**0.4%**
83667	**87015**	**Total**	**706**	**789**	**0.9%**	**692**	**748**	**0.9%**

[1] Total No. Clinic Visits = total no. clinic visits per year for any reason
[2] Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage
[3] Total No. = no. confirmed cases + no. probable cases

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

Table 19. Genital Herpes (first presentation) - number of cases and disease rates by SHCs

Total Clinic Visits[1]			2004		2005	
2004	2005	Clinic	Total No.	Rate[2]	Total No.	Rate[2]
1412	1427	Whangarei	7	0.5%	14	1.0%
0	525	Dargaville	0	0.0%	1	0.2%
336	324	Kaikohe	0	0.0%	0	0.0%
22562	24241	Auckland	197	0.9%	162	0.7%
24310	**26517**	**North**	**204**	**0.8%**	**177**	**0.7%**
8592	8726	Hamilton	81	0.9%	112	1.3%
8041	7589	Tauranga	63	0.8%	67	0.9%
1321	924	Rotorua	11	0.8%	11	1.2%
786	949	Whakatane	6	0.8%	5	0.5%
815	840	Taupo	7	0.9%	5	0.6%
2305	2468	New Plymouth	35	1.5%	37	1.5%
2911	2944	Gisborne	3	0.1%	3	0.1%
24771	**24440**	**Midland**	**206**	**0.8%**	**240**	**1.0%**
1224	1078	Napier	17	1.4%	16	1.5%
309	401	Hastings	2	0.6%	4	1.0%
972	1089	Wanganui	17	1.7%	9	0.8%
3540	3849	Palmerston North/Levin/Dannevirke	52	1.5%	26	0.7%
9800	9943	Wellington	58	0.6%	53	0.5%
908	1021	Lower Hutt	0	0.0%	5	0.5%
637	678	Porirua	6	0.9%	3	0.4%
1416	1489	Nelson	13	0.9%	20	1.3%
330	476	Wairau (Blenheim)	4	1.2%	1	0.2%
19136	**20024**	**Central**	**169**	**0.9%**	**137**	**0.7%**
438	482	Greymouth	7	1.6%	12	2.5%
0	145	Westport/Buller	0	0.0%	2	1.4%
8575	8875	Christchurch	86	1.0%	106	1.2%
148	124	Ashburton	1	0.7%	0	0.0%
607	737	Timaru	11	1.8%	25	3.4%
3242	3376	Dunedin	22	0.7%	24	0.7%
2440	2295	Invercargill/Gore	22	0.9%	25	1.1%
15450	**16034**	**South**	**149**	**1.0%**	**194**	**1.2%**
83667	**87015**	**Total**	**728**	**0.9%**	**748**	**0.9%**

[1] Total No. Clinic Visits = total no. clinic visits per year for any reason
[2] Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

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

Table 20. Genital Warts (first presentation) - number of cases and disease rates by SHCs

Total Clinic Visits[1]			2004		2005	
2004	2005	Clinic	Total No.	Rate[2]	Total No.	Rate[2]
1412	1427	Whangarei	57	4.0%	52	3.6%
0	525	Dargaville	0	0.0%	0	0.0%
336	324	Kaikohe	0	0.0%	0	0.0%
22562	24241	Auckland	1018	4.5%	1099	4.5%
24310	**26517**	**North**	**1075**	**4.4%**	**1151**	**4.3%**
8592	8726	Hamilton	411	4.8%	430	4.9%
8041	7589	Tauranga	273	3.4%	268	3.5%
1321	924	Rotorua	96	7.3%	84	9.1%
786	949	Whakatane	37	4.7%	39	4.1%
815	840	Taupo	24	2.9%	14	1.7%
2305	2468	New Plymouth	134	5.8%	118	4.8%
2911	2944	Gisborne	5	0.2%	1	0.0%
24771	**24440**	**Midland**	**980**	**4.0%**	**954**	**3.9%**
1224	1078	Napier	74	6.0%	70	6.5%
309	401	Hastings	22	7.1%	23	5.7%
972	1089	Wanganui	54	5.6%	67	6.2%
3540	3849	Palmerston North/Levin/Dannevirke	147	4.2%	171	4.4%
9800	9943	Wellington	397	4.1%	315	3.2%
908	1021	Lower Hutt	54	5.9%	57	5.6%
637	678	Porirua	34	5.3%	40	5.9%
1416	1489	Nelson	91	6.4%	94	6.3%
330	476	Wairau (Blenheim)	38	11.5%	61	12.8%
19136	**20024**	**Central**	**911**	**4.8%**	**898**	**4.5%**
438	482	Greymouth	37	8.4%	20	4.1%
0	145	Westport/Buller	0	0.0%	1	0.7%
8575	8875	Christchurch	324	3.8%	364	4.1%
148	124	Ashburton	13	8.8%	7	5.6%
607	737	Timaru	25	4.1%	23	3.1%
3242	3376	Dunedin	178	5.5%	171	5.1%
2440	2295	Invercargill/Gore	189	7.7%	144	6.3%
15450	**16034**	**South**	**766**	**5.0%**	**730**	**4.6%**
83667	**87015**	**Total**	**3732**	**4.5%**	**3733**	**4.3%**

[1] Total No. Clinic Visits = total no. clinic visits per year for any reason
[2] Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

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

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

Total Clinic Visits[1]			2004		2005	
2004	2005	Clinic	Total No.	Rate[2]	Total No.	Rate[2]
1412	1427	Whangarei	0	0.0%	0	0.0%
0	525	Dargaville	0	0.0%	0	0.0%
336	324	Kaikohe	0	0.0%	0	0.0%
22562	24241	Auckland	18	0.1%	20	0.1%
24310	**26517**	**North**	**18**	**0.1%**	**20**	**0.1%**
8592	8726	Hamilton	9	0.1%	10	0.1%
8041	7589	Tauranga	1	0.0%	1	0.0%
1321	924	Rotorua	0	0.0%	0	0.0%
786	949	Whakatane	0	0.0%	0	0.0%
815	840	Taupo	0	0.0%	1	0.1%
2305	2468	New Plymouth	2	0.1%	1	0.0%
2911	2944	Gisborne	0	0.0%	0	0.0%
24771	**24440**	**Midland**	**12**	**0.0%**	**13**	**0.1%**
1224	1078	Napier	1	0.1%	0	0.0%
309	401	Hastings	1	0.3%	0	0.0%
972	1089	Wanganui	0	0.0%	0	0.0%
3540	3849	Palmerston North/Levin/Dannevirke	4	0.1%	2	0.1%
9800	9943	Wellington	8	0.1%	7	0.1%
908	1021	Lower Hutt	0	0.0%	0	0.0%
637	678	Porirua	0	0.0%	1	0.1%
1416	1489	Nelson	0	0.0%	0	0.0%
330	476	Wairau (Blenheim)	0	0.0%	0	0.0%
19136	**20024**	**Central**	**14**	**0.1%**	**10**	**0.0%**
438	482	Greymouth	0	0.0%	0	0.0%
0	145	Westport/Buller	0	0.0%	0	0.0%
8575	8875	Christchurch	0	0.0%	2	0.0%
148	124	Ashburton	0	0.0%	0	0.0%
607	737	Timaru	0	0.0%	0	0.0%
3242	3376	Dunedin	0	0.0%	1	0.0%
2440	2295	Invercargill/Gore	0	0.0%	1	0.0%
15450	**16034**	**South**	**0**	**0.0%**	**4**	**0.0%**
83667	**87015**	**Total**	**44**	**0.1%**	**47**	**0.1%**

[1] Total No. Clinic Visits = total no. clinic visits per year for any reason
[2] Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

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

Table 22. NSU (males only) - number of cases and disease rates by SHCs

Total Clinic Visits for males[1]			2004		2005	
2004	2005	Clinic	Total No.	Rate[2]	Total No.	Rate[2]
444	415	Whangarei	0	0.0%	0	0.0%
0	24	Dargaville	0	0.0%	0	0.0%
17	8	Kaikohe	0	0.0%	0	0.0%
11341	12409	Auckland	433	3.8%	425	3.4%
11802	**12856**	**North**	**433**	**3.7%**	**425**	**3.3%**
3081	3017	Hamilton	52	1.7%	57	1.9%
1416	1511	Tauranga	72	5.1%	54	3.6%
495	383	Rotorua	6	1.2%	5	1.3%
164	152	Whakatane	11	6.7%	3	2.0%
223	195	Taupo	0	0.0%	0	0.0%
1012	1046	New Plymouth	75	7.4%	50	4.8%
269	235	Gisborne	0	0.0%	0	0.0%
6660	**6539**	**Midland**	**216**	**3.2%**	**169**	**2.6%**
318	245	Napier	0	0.0%	0	0.0%
80	94	Hastings	0	0.0%	0	0.0%
344	379	Wanganui	7	2.0%	7	1.8%
1539	1631	Palmerston North/Levin/Dannevirke	146	9.5%	106	6.5%
4713	4744	Wellington	36	0.8%	21	0.4%
398	431	Lower Hutt	2	0.5%	5	1.2%
282	258	Porirua	4	1.4%	2	0.8%
634	787	Nelson	14	2.2%	15	1.9%
164	239	Wairau (Blenheim)	1	0.6%	0	0.0%
8472	**8808**	**Central**	**210**	**2.5%**	**156**	**1.8%**
117	152	Greymouth	0	0.0%	1	0.7%
0	46	Westport/Buller	0	0.0%	5	10.9%
4819	4795	Christchurch	48	1.0%	63	1.3%
59	69	Ashburton	0	0.0%	0	0.0%
295	334	Timaru	1	0.3%	1	0.3%
973	1104	Dunedin	6	0.6%	6	0.5%
1107	1030	Invercargill/Gore	34	3.1%	32	3.1%
7370	**7530**	**South**	**89**	**1.2%**	**108**	**1.4%**
34304	**35733**	**Total**	**948**	**2.8%**	**858**	**2.4%**

[1] Total No. Clinic Visits = total no. male clinic visits per year for any reason
[2] Rate = (total no. cases / total no. clinic visits) × 100, expressed as a percentage

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

Table 23. Number of cases[1] and disease rates[2] by age, sex and ethnicity, SHCs, 2005

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
Chlamydia											
Males	European/Pakeha	2	251	535	325	135	104	46	69	0	**1467**
		3.6	10.8	8.6	6.4	3.6	3.8	2.2	1.9	0.0	**5.7**
	Maori	7	178	219	119	46	22	11	5	0	**607**
		14.3	20.7	17.2	14.7	7.9	6.9	5.2	2.5	-	**14.1**
	Pacific Peoples	1	35	66	37	24	7	0	3	0	**173**
		25.0	22.2	19.5	12.3	12.5	8.4	0.0	2.8	-	**14.0**
	Other	0	9	70	53	20	11	6	6	0	**175**
		0.0	4.4	8.3	6.0	3.0	2.6	1.9	1.6	0.0	**4.7**
	Unknown	0	6	10	3	1	0	1	3	0	**24**
		0.0	8.2	7.8	3.4	1.6	0.0	1.8	2.5	-	**4.0**
	Total	**10**	**479**	**900**	**537**	**226**	**144**	**64**	**86**	**0**	**2446**
		8.8	**13.3**	**10.2**	**7.5**	**4.3**	**3.9**	**2.4**	**2.0**	**0.0**	**6.9**
Females	European/Pakeha	21	632	381	123	58	18	15	16	0	**1264**
		3.9	6.0	4.2	2.5	1.8	0.9	1.1	0.9	0.0	**3.8**
	Maori	31	517	283	126	46	15	8	1	0	**1027**
		7.5	11.4	9.3	7.9	5.0	2.9	1.9	0.3	-	**8.7**
	Pacific Peoples	1	39	35	28	13	6	0	0	0	**122**
		4.3	9.0	6.8	8.1	6.8	5.5	0.0	0.0	0.0	**7.0**
	Other	0	34	40	28	16	11	1	0	0	**130**
		0.0	7.1	3.7	3.0	3.2	3.0	0.4	0.0	0.0	**3.3**
	Unknown	0	8	2	1	2	0	0	0	0	**13**
		0.0	10.8	2.2	1.9	4.3	0.0	0.0	0.0	-	**3.7**
	Total	**53**	**1230**	**741**	**306**	**135**	**50**	**24**	**17**	**0**	**2556**
		5.3	**7.7**	**5.4**	**4.0**	**2.8**	**1.7**	**1.1**	**0.7**	**0.0**	**5.0**
Gonorrhoea											
Males	European/Pakeha	0	29	50	39	19	27	14	34	0	**212**
		0.0	1.3	0.8	0.8	0.5	1.0	0.7	1.0	0.0	**0.8**
	Maori	3	46	46	27	16	5	3	2	0	**148**
		6.1	5.3	3.6	3.3	2.7	1.6	1.4	1.0	-	**3.4**
	Pacific Peoples	1	7	17	19	5	2	0	0	0	**51**
		25.0	4.4	5.0	6.3	2.6	2.4	0.0	0.0	-	**4.1**
	Other	0	2	14	7	8	4	6	10	0	**51**
		0.0	1.0	1.7	0.8	1.2	0.9	1.9	2.7	0.0	**1.4**
	Unknown	0	3	3	2	0	3	0	1	0	**12**
		0.0	5.5	2.6	2.7	0.0	4.8	0.0	1.0	-	**2.5**
	Total	**4**	**87**	**130**	**94**	**48**	**41**	**23**	**47**	**0**	**474**
		3.5	**2.4**	**1.5**	**1.3**	**0.9**	**1.1**	**0.9**	**1.1**	**0.0**	**1.3**
Females	European/Pakeha	1	39	17	14	4	3	2	2	0	**82**
		0.2	0.4	0.2	0.3	0.1	0.2	0.1	0.1	0.0	**0.2**
	Maori	3	64	45	16	6	2	0	1	0	**137**
		0.7	1.4	1.5	1.0	0.7	0.4	0.0	0.3	-	**1.2**
	Pacific Peoples	0	9	8	4	5	3	0	0	0	**29**
		0.0	2.8	1.9	1.3	3.4	3.3	0.0	0.0	0.0	**2.1**
	Other	0	3	7	4	0	3	1	4	0	**22**
		0.0	0.9	0.9	0.5	0.0	1.1	0.6	1.8	-	**0.8**
	Unknown	0	2	1	1	0	0	0	0	0	**4**
		0.0	5.7	2.4	4.8	0.0	0.0	0.0	0.0	-	**2.5**
	Total	**4**	**117**	**78**	**39**	**15**	**11**	**3**	**7**	**0**	**274**
		0.4	**0.7**	**0.6**	**0.5**	**0.3**	**0.4**	**0.1**	**0.3**	**0.0**	**0.6**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 23. Cont. number of cases[1] and disease rates[2] by age, sex and ethnicity, SHCs, 2005

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
Genital Herpes (first presentation)											
Males	European/Pakeha	0	9	66	55	41	30	19	27	0	**247**
		0.0	0.4	1.1	1.1	1.1	1.1	0.9	0.8	0.0	**1.0**
	Maori	1	9	5	11	6	2	6	1	0	**41**
		2.0	1.0	0.4	1.4	1.0	0.6	2.8	0.5	-	**1.0**
	Pacific Peoples	0	2	0	3	0	0	0	0	0	**5**
		0.0	3.2	0.0	2.9	0.0	0.0	0.0	0.0	-	**1.2**
	Other	0	2	3	7	3	5	1	2	0	**23**
		0.0	1.2	0.4	0.9	0.5	1.3	0.4	0.6	0.0	**0.7**
	Unknown	0	1	2	1	1	2	0	2	0	**9**
		0.0	2.7	2.4	2.2	3.2	5.0	0.0	3.4	-	**2.8**
	Total	**1**	**23**	**76**	**77**	**51**	**39**	**26**	**32**	**0**	**325**
		0.9	**0.7**	**0.9**	**1.1**	**1.0**	**1.1**	**1.0**	**0.8**	**0.0**	**1.0**
Females	European/Pakeha	3	66	89	64	56	20	16	32	0	**346**
		0.6	0.6	1.0	1.3	1.7	1.0	1.1	1.8	0.0	**1.0**
	Maori	1	14	7	8	4	2	0	3	0	**39**
		0.3	0.4	0.3	0.6	0.5	0.5	0.0	1.2	-	**0.4**
	Pacific Peoples	0	1	2	0	1	0	0	1	0	**5**
		0.0	0.7	1.1	0.0	1.7	0.0	0.0	3.4	0.0	**0.9**
	Other	0	4	10	5	3	0	3	4	0	**29**
		0.0	0.9	1.0	0.6	0.6	0.0	1.4	1.4	0.0	**0.8**
	Unknown	0	1	1	0	1	0	0	1	0	**4**
		0.0	4.0	2.6	0.0	3.8	0.0	0.0	4.8	-	**2.3**
	Total	**4**	**86**	**109**	**77**	**65**	**22**	**19**	**41**	**0**	**423**
		0.4	**0.6**	**0.8**	**1.1**	**1.4**	**0.8**	**0.9**	**1.7**	**0.0**	**0.9**
Genital Warts (first presentation)											
Males	European/Pakeha	0	162	440	281	153	84	62	89	0	**1271**
		0.0	7.0	7.1	5.5	4.0	3.1	3.0	2.5	0.0	**4.9**
	Maori	0	61	94	28	25	5	2	6	0	**221**
		0.0	7.1	7.4	3.5	4.3	1.6	0.9	3.0	-	**5.1**
	Pacific Peoples	1	17	20	12	3	1	1	2	0	**57**
		25.0	10.8	5.9	4.0	1.6	1.2	2.0	1.9	-	**4.6**
	Other	0	8	42	38	18	8	8	5	0	**127**
		0.0	3.9	5.0	4.3	2.7	1.9	2.6	1.4	0.0	**3.4**
	Unknown	0	14	10	6	4	0	3	1	0	**38**
		0.0	20.3	7.6	6.7	6.6	0.0	5.2	0.8	-	**6.2**
	Total	**1**	**262**	**606**	**365**	**203**	**98**	**76**	**103**	**0**	**1714**
		0.9	**7.3**	**6.9**	**5.1**	**3.8**	**2.7**	**2.8**	**2.4**	**0.0**	**4.8**
Females	European/Pakeha	11	568	476	167	93	40	25	40	1	**1421**
		2.0	5.4	5.3	3.5	2.9	2.1	1.8	2.2	6.7	**4.3**
	Maori	9	204	93	40	12	8	5	2	0	**373**
		2.2	4.5	3.0	2.5	1.3	1.5	1.2	0.7	-	**3.2**
	Pacific Peoples	0	23	24	10	4	2	0	0	0	**63**
		0.0	5.3	4.7	2.9	2.1	1.8	0.0	0.0	0.0	**3.6**
	Other	0	25	46	35	13	11	5	1	0	**136**
		0.0	5.2	4.2	3.7	2.6	3.0	2.2	0.3	0.0	**3.5**
	Unknown	0	10	11	4	0	0	1	0	0	**26**
		0.0	13.0	13.1	6.6	0.0	0.0	3.6	0.0	-	**6.8**
	Total	**20**	**830**	**650**	**256**	**122**	**61**	**36**	**43**	**1**	**2019**
		2.0	**5.2**	**4.7**	**3.3**	**2.5**	**2.1**	**1.7**	**1.7**	**5.3**	**3.9**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 23. Cont. number of cases[1] and disease rates[2] by age, sex and ethnicity, SHCs, 2005

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
Syphilis											
Males	European/Pakeha	0	2	3	2	4	1	1	3	0	**16**
		0.0	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.0	**0.1**
	Maori	0	1	0	0	0	1	0	0	0	**2**
		0.0	0.7	0.0	0.0	0.0	2.0	0.0	0.0	-	**0.3**
	Pacific Peoples	0	0	0	0	0	0	0	1	0	**1**
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	-	**1.0**
	Other	0	1	3	0	1	0	1	5	0	**11**
		0.0	0.7	0.6	0.0	0.2	0.0	0.5	2.1	0.0	**0.5**
	Unknown	0	1	0	0	0	0	0	2	0	**3**
		0.0	5.3	0.0	0.0	0.0	0.0	0.0	6.7	-	**1.9**
	Total	**0**	**5**	**6**	**2**	**5**	**2**	**2**	**11**	**0**	**33**
		0.0	**0.3**	**0.2**	**0.1**	**0.2**	**0.1**	**0.1**	**0.5**	**0.0**	**0.2**
Females	European/Pakeha	0	2	2	0	1	0	1	0	0	**6**
		0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.0	0.0	**0.0**
	Pacific Peoples	0	0	2	0	0	1	0	0	0	**3**
		0.0	0.0	1.6	0.0	0.0	3.1	0.0	0.0	-	**0.6**
	Other	0	0	2	1	0	1	0	1	0	**5**
		0.0	0.0	0.8	0.5	0.0	1.4	0.0	1.3	-	**0.5**
	Total	**0**	**2**	**6**	**1**	**1**	**2**	**1**	**1**	**0**	**14**
		0.0	**0.0**	**0.1**	**0.0**	**0.1**	**0.2**	**0.1**	**0.1**	**0.0**	**0.1**
NSU (Males Only)											
Males	European/Pakeha	1	62	141	113	84	64	66	92	0	**623**
		1.8	2.7	2.3	2.2	2.2	2.3	3.2	2.6	0.0	**2.4**
	Maori	0	18	36	27	12	16	5	6	0	**120**
		0.0	2.1	2.8	3.3	2.1	5.0	2.4	3.0	-	**2.8**
	Pacific Peoples	1	3	10	14	5	2	0	1	0	**36**
		33.3	2.1	4.0	6.0	3.4	3.1	0.0	1.2	-	**3.8**
	Other	0	2	20	16	11	9	5	6	0	**69**
		0.0	1.0	2.4	1.8	1.6	2.1	1.6	1.6	0.0	**1.9**
	Unknown	0	3	0	0	1	2	2	2	0	**10**
		0.0	5.5	0.0	0.0	2.1	3.4	4.0	2.1	-	**2.1**
	Total	**2**	**88**	**207**	**170**	**113**	**93**	**78**	**107**	**0**	**858**
		1.8	**2.5**	**2.4**	**2.4**	**2.2**	**2.6**	**2.9**	**2.5**	**0.0**	**2.4**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

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Table 24. Number of cases[1] and disease rates[2] by age, sex and ethnicity, FPCs, 2005

		Age group (years)									
		<15	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**>44**	**Unk**	**Total**
Chlamydia											
Males	European/Pakeha	1	113	123	33	6	5	3	0	1	**285**
		0.9	6.6	7.9	6.0	1.2	0.9	0.8	0.0	3.7	**5.0**
	Maori	0	33	31	13	6	1	0	0	0	**84**
		0.0	16.5	18.1	19.1	13.3	2.3	0.0	0.0	-	**14.2**
	Pacific Peoples	0	13	22	2	1	0	0	0	0	**38**
		0.0	9.2	26.2	6.1	4.8	0.0	0.0	0.0	0.0	**10.9**
	Other	1	22	31	11	2	1	0	0	1	**69**
		3.1	9.0	13.3	8.7	2.6	1.7	0.0	0.0	25.0	**8.0**
	Unknown	0	7	17	7	1	2	0	0	1	**35**
		0.0	2.7	8.4	15.2	3.7	3.7	0.0	0.0	12.5	**5.3**
	Total	**2**	**188**	**224**	**66**	**16**	**9**	**3**	**0**	**3**	**511**
		0.8	**7.3**	**10.0**	**8.0**	**2.4**	**1.3**	**0.6**	**0.0**	**7.5**	**6.3**
Females	European/Pakeha	17	600	390	90	31	11	8	9	1	**1157**
		0.8	1.4	1.1	0.6	0.3	0.2	0.2	0.2	1.1	**1.0**
	Maori	13	224	129	47	7	3	3	0	0	**426**
		1.7	4.0	3.5	2.7	0.7	0.5	0.7	0.0	0.0	**3.0**
	Pacific Peoples	1	46	51	12	7	2	0	0	1	**120**
		0.7	2.4	2.5	1.3	1.4	0.7	0.0	0.0	16.7	**2.0**
	Other	10	151	107	32	8	8	1	6	0	**323**
		2.0	2.1	1.6	1.0	0.4	0.5	0.1	0.7	0.0	**1.4**
	Unknown	1	38	27	12	2	1	0	1	1	**83**
		0.5	1.4	1.2	1.0	0.2	0.1	0.0	0.1	1.0	**0.9**
	Total	**42**	**1059**	**704**	**193**	**55**	**25**	**12**	**16**	**3**	**2109**
		1.1	**1.8**	**1.4**	**0.9**	**0.4**	**0.3**	**0.2**	**0.2**	**1.2**	**1.2**
Gonorrhoea											
Males	European/Pakeha	0	6	9	1	1	0	0	0	1	**18**
		0.0	0.4	0.7	0.2	0.2	0.0	0.0	0.0	3.7	**0.4**
	Maori	0	5	4	1	0	0	0	0	0	**10**
		0.0	3.5	3.4	2.0	0.0	0.0	0.0	0.0	-	**2.4**
	Pacific Peoples	0	1	1	1	1	0	0	0	0	**4**
		0.0	1.8	3.7	7.1	10.0	0.0	0.0	0.0	-	**2.9**
	Other	0	3	1	0	0	0	0	0	1	**5**
		0.0	5.0	1.8	0.0	0.0	0.0	0.0	0.0	50.0	**2.2**
	Unknown	0	1	2	0	0	0	0	0	2	**5**
		0.0	0.9	3.4	0.0	0.0	0.0	0.0	0.0	50.0	**2.2**
	Total	**0**	**16**	**17**	**3**	**2**	**0**	**0**	**0**	**4**	**42**
		0.0	**0.9**	**1.1**	**0.5**	**0.4**	**0.0**	**0.0**	**0.0**	**12.1**	**0.7**
Females	European/Pakeha	1	24	19	1	0	1	0	0	1	**47**
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	1.1	**0.0**
	Maori	4	21	9	1	1	0	1	0	0	**37**
		0.5	0.4	0.2	0.1	0.1	0.0	0.2	0.0	0.0	**0.3**
	Pacific Peoples	1	10	9	1	0	0	0	0	1	**22**
		0.8	0.6	0.5	0.1	0.0	0.0	0.0	0.0	33.3	**0.4**
	Other	0	6	3	3	0	0	0	0	0	**12**
		0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	**0.1**
	Unknown	0	4	1	1	2	0	0	0	3	**11**
		0.0	0.2	0.1	0.1	0.3	0.0	0.0	0.0	5.2	**0.2**
	Total	**6**	**65**	**41**	**7**	**3**	**1**	**1**	**0**	**5**	**129**
		0.2	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2.6**	**0.1**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 24. cont. number of cases[1] and disease rates[2] by age, sex and ethnicity, FPCs, 2005

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
Genital Herpes (first presentation)											
Males	European/Pakeha	0	2	8	2	2	0	1	0	1	**16**
		0.0	0.2	0.8	0.5	0.6	0.0	0.4	0.0	4.8	**0.4**
	Maori	0	2	2	0	0	0	0	0	0	**4**
		0.0	5.7	7.7	0.0	0.0	0.0	0.0	0.0	-	**4.2**
	Other	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	-	**1.3**
	Unknown	0	0	0	2	0	0	0	0	0	**2**
		0.0	0.0	0.0	66.7	0.0	0.0	0.0	0.0	-	**1.6**
	Total	**0**	**4**	**11**	**4**	**2**	**0**	**1**	**0**	**1**	**23**
		0.0	**0.3**	**1.0**	**0.9**	**0.6**	**0.0**	**0.4**	**0.0**	**4.8**	**0.6**
Females	European/Pakeha	0	38	30	13	11	3	5	2	1	**103**
		0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.0	1.1	**0.1**
	Maori	1	5	3	3	1	1	0	1	0	**15**
		0.2	0.1	0.1	0.3	0.2	0.2	0.0	0.9	0.0	**0.2**
	Pacific Peoples	0	0	2	0	1	0	0	0	0	**3**
		0.0	0.0	0.5	0.0	1.1	0.0	0.0	0.0	0.0	**0.3**
	Other	0	2	5	2	0	1	0	0	0	**10**
		0.0	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	**0.1**
	Unknown	0	1	2	2	2	1	0	1	0	**9**
		0.0	0.1	0.2	0.3	0.4	0.3	0.0	0.3	0.0	**0.2**
	Total	**1**	**46**	**42**	**20**	**15**	**6**	**5**	**4**	**1**	**140**
		0.0	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.5**	**0.1**
Genital Warts (first presentation)											
Males	European/Pakeha	0	20	46	8	1	0	0	1	0	**76**
		0.0	1.2	3.0	1.5	0.2	0.0	0.0	0.3	0.0	**1.3**
	Maori	0	5	9	1	1	0	0	1	0	**17**
		0.0	4.1	7.8	2.3	3.0	0.0	0.0	12.5	-	**4.6**
	Pacific Peoples	0	0	0	1	0	0	0	0	0	**1**
		0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	-	**2.8**
	Other	0	3	4	2	0	0	0	0	0	**9**
		0.0	2.5	3.0	2.7	0.0	0.0	0.0	0.0	0.0	**2.0**
	Unknown	0	3	1	1	0	1	0	0	0	**6**
		0.0	3.1	1.4	4.5	0.0	6.3	0.0	0.0	0.0	**2.4**
	Total	**0**	**31**	**60**	**13**	**2**	**1**	**0**	**2**	**0**	**109**
		0.0	**1.5**	**3.2**	**1.9**	**0.3**	**0.2**	**0.0**	**0.5**	**0.0**	**1.6**
Females	European/Pakeha	4	140	122	17	4	6	5	6	1	**305**
		0.2	0.3	0.3	0.1	0.0	0.1	0.1	0.1	1.1	**0.3**
	Maori	1	31	8	1	0	0	0	0	0	**41**
		0.1	0.5	0.2	0.1	0.0	0.0	0.0	0.0	0.0	**0.3**
	Pacific Peoples	1	8	3	3	0	1	0	0	0	**16**
		0.9	0.6	0.2	0.5	0.0	0.5	0.0	0.0	0.0	**0.4**
	Other	0	21	17	2	0	0	2	0	0	**42**
		0.0	0.3	0.3	0.1	0.0	0.0	0.2	0.0	0.0	**0.2**
	Unknown	0	8	6	4	2	0	0	0	0	**20**
		0.0	0.4	0.4	0.5	0.3	0.0	0.0	0.0	0.0	**0.3**
	Total	**6**	**208**	**156**	**27**	**6**	**7**	**7**	**6**	**1**	**424**
		0.2	**0.4**	**0.3**	**0.1**	**0.0**	**0.1**	**0.1**	**0.1**	**0.5**	**0.3**
Syphilis											
Males	Maori	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	11.1	0.0	0.0	0.0	0.0	0.0	-	**3.3**
	Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
		0.0	**0.0**	**11.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**3.3**
Females	Unknown	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
	Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
		0.0	**0.0**	**0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 24. cont. number of cases[1] and disease rates[2] by age, sex and ethnicity, FPCs, 2005

		Age group (years)									
		<15	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**>44**	**Unk**	**Total**
NSU (Males Only)											
Males	European/Pakeha	0	5	3	1	1	0	0	1	0	**11**
		0.0	0.4	0.3	0.3	0.3	0.0	0.0	0.4	0.0	**0.3**
	Maori	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	-	**1.8**
	Unknown	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	9.1	0.0	0.0	0.0	0.0	0.0	-	**1.7**
	Total	**0**	**5**	**5**	**1**	**1**	**0**	**0**	**1**	**0**	**13**
		0.0	**0.4**	**0.4**	**0.2**	**0.3**	**0.0**	**0.0**	**0.4**	**0.0**	**0.3**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

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Table 255. Number of cases[1] and disease rates[2] by age, sex and ethnicity, SYHCs, 2005

		Age group (years)									
		<15	**15-19**	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**>44**	**Unk**	**Total**
Chlamydia											
Males	European/Pakeha	0	21	24	7	2	1	0	0	0	**55**
		0.0	0.6	0.5	0.5	0.5	0.3	0.0	0.0	0.0	**0.5**
	Maori	0	13	10	2	2	0	0	0	0	**27**
		0.0	2.1	1.1	0.6	1.1	0.0	0.0	0.0	0.0	**1.0**
	Pacific Peoples	0	2	2	1	0	0	0	0	0	**5**
		0.0	5.6	2.8	3.2	0.0	0.0	0.0	0.0	-	**2.5**
	Other	0	2	5	2	0	0	0	0	0	**9**
		0.0	0.6	0.5	0.5	0.0	0.0	0.0	0.0	0.0	**0.4**
	Unknown	0	5	7	2	0	0	0	0	0	**14**
		0.0	7.8	3.5	2.2	0.0	0.0	0.0	0.0	0.0	**0.1**
	Total	**0**	**43**	**48**	**14**	**4**	**1**	**0**	**0**	**0**	**110**
		0.0	**1.0**	**0.7**	**0.6**	**0.5**	**0.2**	**0.0**	**0.0**	**0.0**	**0.3**
Females	European/Pakeha	3	108	107	11	3	4	1	1	0	**238**
		1.0	0.8	0.6	0.4	0.2	0.4	0.1	0.1	0.0	**0.6**
	Maori	11	55	45	5	2	0	0	0	0	**118**
		7.2	2.3	1.7	0.6	0.5	0.0	0.0	0.0	0.0	**1.5**
	Pacific Peoples	1	7	15	0	0	0	0	0	0	**23**
		6.3	2.1	2.9	0.0	0.0	0.0	0.0	0.0	0.0	**1.8**
	Other	0	10	32	6	1	1	0	0	0	**50**
		0.0	0.4	0.7	0.3	0.1	0.2	0.0	0.0	0.0	**0.5**
	Unknown	0	9	15	1	1	0	0	0	1	**27**
		0.0	3.9	2.3	1.0	1.1	0.0	0.0	0.0	0.0	**0.1**
	Total	**15**	**189**	**214**	**23**	**7**	**5**	**1**	**1**	**1**	**456**
		2.9	**1.0**	**0.8**	**0.4**	**0.3**	**0.3**	**0.1**	**0.0**	**0.0**	**0.5**
Gonorrhoea											
Males	European/Pakeha	0	1	3	0	0	0	0	0	0	**4**
		0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
	Maori	0	1	2	0	0	0	0	0	0	**3**
		0.0	0.7	1.1	0.0	0.0	0.0	0.0	0.0	0.0	**0.5**
	Other	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	-	**0.2**
	Unknown	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Total	**0**	**2**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**9**
		0.0	**0.2**	**0.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**
Females	European/Pakeha	0	0	4	2	0	0	0	0	0	**6**
		0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	**0.0**
	Maori	0	2	3	0	0	0	0	0	0	**5**
		0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	**0.2**
	Other	0	1	0	0	0	0	0	0	0	**1**
		0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	-	**0.1**
	Total	**0**	**3**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**12**
		0.0	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**
Genital Herpes (first presentation)											
Males	European/Pakeha	0	0	1	2	0	0	0	0	0	**3**
		0.0	0.0	0.1	0.6	0.0	0.0	0.0	0.0	0.0	**0.1**
	Total	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**3**
		0.0	**0.0**	**0.1**	**0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**
Females	European/Pakeha	0	7	13	0	0	3	0	0	0	**23**
		0.0	0.1	0.1	0.0	0.0	0.4	0.0	0.0	0.0	**0.1**
	Maori	0	1	1	0	0	0	0	0	0	**2**
		0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
	Pacific Peoples	0	1	0	0	0	0	0	0	0	**1**
		0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	-	**0.7**
	Other	0	2	0	1	0	0	0	0	0	**3**
		0.0	0.5	0.0	0.2	0.0	0.0	0.0	0.0	-	**0.1**
	Unknown	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Total	**0**	**11**	**15**	**1**	**0**	**3**	**0**	**0**	**0**	**30**
		0.0	**0.1**	**0.1**	**0.0**	**0.0**	**0.3**	**0.0**	**0.0**	**0.0**	**0.1**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Table 25. cont. number of cases[1] and disease rates[2] by age, sex and ethnicity, SYHCs, 2005

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
Genital Warts (first presentation)											
Males	European/Pakeha	0	2	6	3	0	0	0	0	0	**11**
		0.0	0.1	0.2	0.4	0.0	0.0	0.0	0.0	0.0	**0.2**
	Maori	0	1	0	0	0	0	0	0	0	**1**
		0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	-	**1.0**
	Pacific Peoples	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	3.4	0.0	0.0	0.0	0.0	0.0	-	**1.6**
	Other	0	0	3	0	0	0	0	0	0	**3**
		0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	-	**0.2**
	Unknown	0	1	2	0	0	0	0	0	0	**3**
		0.0	7.1	3.9	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Total	**0**	**4**	**12**	**3**	**0**	**0**	**0**	**0**	**0**	**19**
		0.0	**0.2**	**0.3**	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**
Females	European/Pakeha	2	29	20	1	0	0	0	0	0	**52**
		0.7	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	**0.1**
	Maori	0	5	5	0	0	0	1	0	0	**11**
		0.0	0.3	0.3	0.0	0.0	0.0	0.4	0.0	0.0	**0.2**
	Pacific Peoples	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	2.8	0.0	0.0	0.0	0.0	0.0	-	**1.2**
	Other	0	2	5	3	0	0	0	0	0	**10**
		0.0	0.2	0.2	0.3	0.0	0.0	0.0	0.0	0.0	**0.2**
	Unknown	0	5	2	2	1	0	0	0	0	**10**
		0.0	2.7	0.4	2.7	1.5	0.0	0.0	0.0	0.0	**0.0**
	Total	**2**	**41**	**33**	**6**	**1**	**0**	**1**	**0**	**0**	**84**
		0.5	**0.3**	**0.1**	**0.1**	**0.0**	**0.0**	**0.1**	**0.0**	**0.0**	**0.1**
NSU (Males Only)											
Males	European/Pakeha	0	2	3	0	0	0	0	0	0	**5**
		0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	-	**0.3**
	Unknown	0	0	1	0	0	0	0	0	0	**1**
		0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
	Total	**0**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
		0.0	**0.3**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.1**

[1] For Chlamydia and Gonorrhoea, cases = no. confirmed + no. probable cases
[2] Rate = (total number of cases / total number of visits) x 100, expressed as a percentage

Appendix B: STI Surveillance Case definitions

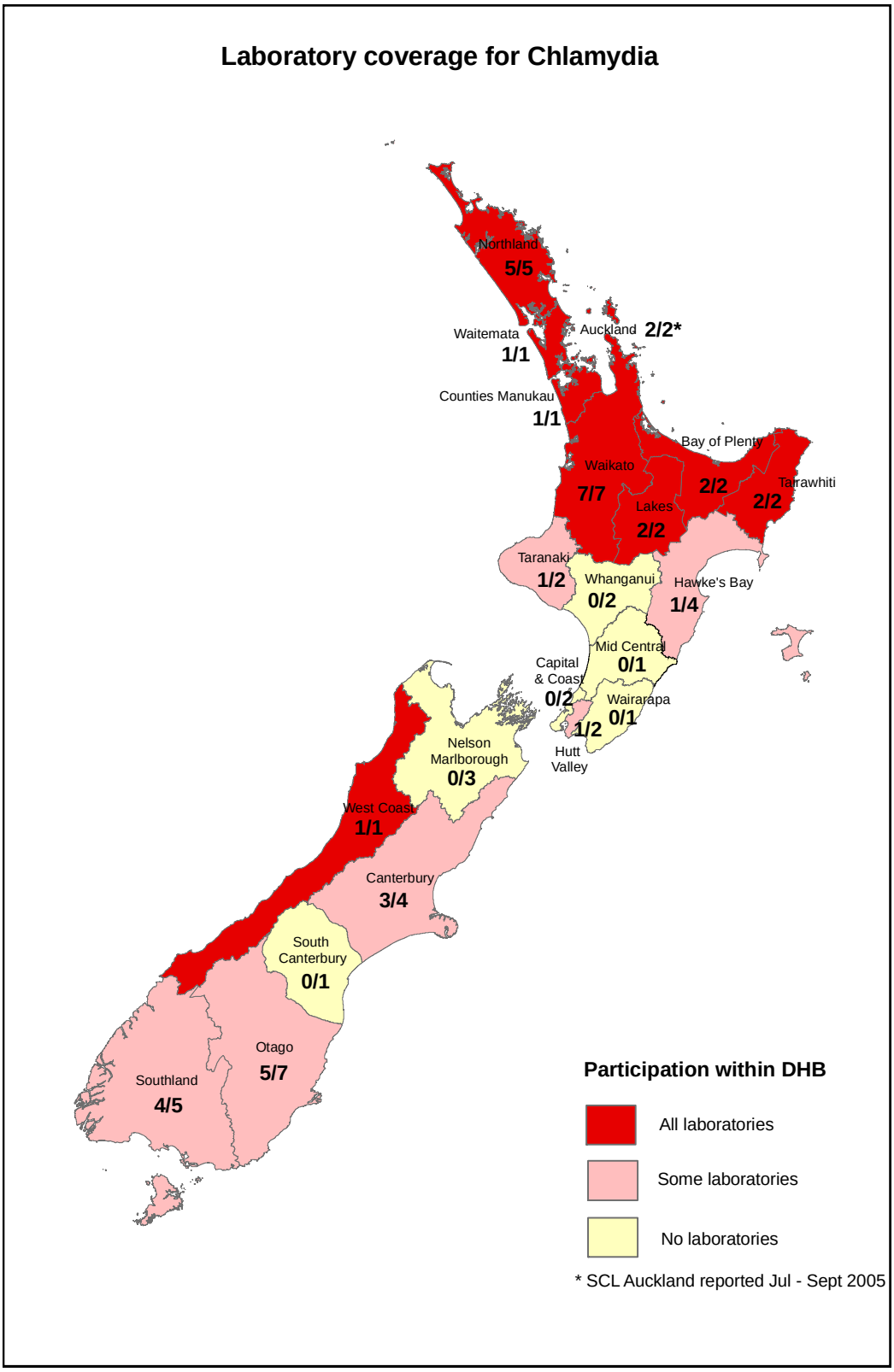
Chlamydia	*Confirmed*	Laboratory detection of *Chlamydia trachomatis* in a clinical specimen. Cases should be classified as: 1. uncomplicated infection of the lower anogenital* tract * Includes urogenital and anorectal infection. 2. PID (pelvic inflammatory disease) or epididymitis 3. infection of another site (eg, eye or pharynx)
	Probable	Cases must be <u>all</u> of the following: • symptomatic, **and** • a contact of a confirmed case, **and** • non-laboratory confirmed (test negative or test not done).
Gonorrhoea	*Confirmed*	Laboratory isolation of *Neisseria gonorrhoeae* from a clinical specimen. Cases should be classified as: 1. uncomplicated infection of one or both of the following: 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: a) pharynx b) other site not listed
	Probable	Cases must be <u>all</u> of the following: • symptomatic, **and** • a contact of a confirmed case, **and** • non-laboratory confirmed (test negative or test not done).
Anogenital Herpes	First diagnosis for the person at your clinic, with either 1. laboratory detection of herpes simplex virus (HSV) from a clinical specimen, **or** 2. a clinically compatible illness in the lower anogenital and buttock area (syphilis should be considered as a cause of genital ulceration)	
Anogenital Warts	First diagnosis for the person at your clinic, with <u>visible</u>* typical lesion(s) on internal or external genitalia, perineum, or perianal region. * Do not include persons for whom there is <u>only</u> demonstration of human papillomavirus (HPV) on cervical cytology or other laboratory method.	
Syphilis	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.	
Non-Specific Urethritis (NSU) (males only)	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.	
Chancroid	*Confirmed*	Isolation of *Haemophilus ducreyi* from a clinical specimen.
	Probable	Typical 'shoal of fish' pattern on gram stain of a clinical specimen, where syphilis, granuloma inguinale (GI) and anogenital herpes have been excluded, **or** A clinically compatible illness in a patient who is a contact of a confirmed case.
Granuloma inguinale (GI)	*Confirmed*	Demonstration of intracytoplasmic Donovan bodies on Wright or Giemsa stained smears or biopsies of clinical specimens.
	Probable	A clinically compatible illness in a patient who is a contact of a confirmed case.
Lymphogranuloma venereum (LGV)	*Confirmed*	Laboratory detection of *Chlamydia trachomatis* serotype L_1, L_2 or L_3 from a clinical specimen.
	Probable	A clinically compatible illness with complement fixation titre of > 64 and other causes of ulcerations excluded, **or** A clinically compatible illness in a person who is a contact of a confirmed case.

Appendix C: List of Participating Laboratories

STI surveillance data is received from the following laboratories:

- Northland Pathology Laboratory, Northland
- Dargaville Hospital Laboratory, Northland
- Kaitaia Hospital Laboratory, Northland
- Bay of Islands Hospital Laboratory, Northland
- Whangarei Hospital Laboratory, Northland
- North Shore Hospital Laboratory, Waitemata
- Diagnostic MedLab Auckland, Auckland
- LabPlus, Auckland
- Auckland Southern Community Laboratory, Auckland (reported July-September 2005)
- Middlemore Hospital Laboratory, Counties-Manukau
- Waikato Hospital Laboratory, Waikato
- MedLab Hamilton, Waikato
- Pathlab Waikato, Waikato
- Te Kuiti Hospital, Waikato
- Thames Hospital, Waikato
- Taumaranui Hospital, Waikato
- Tokoroa Hospital, Waikato
- MedLab Bay of Plenty, Bay of Plenty
- Whakatane Hospital Laboratory, Bay of Plenty
- Rotorua Diagnostic Laboratory, Lakes
- Rotorua Hospital Laboratory, Lakes
- Gisborne Hospital Laboratory, Tairawhiti
- MedLab Gisborne, Tairawhiti (started reporting July 2005)
- Hastings Southern Community Laboratory, Hawke's Bay (started reporting July 2005)
- Taranaki MedLab, Taranaki
- Hutt Hospital Laboratory, Hutt Valley
- Medical Laboratory Wellington, Capital and Coast
- Grey Hospital Laboratory, West Coast
- Canterbury Health Laboratories, Canterbury
- Christchurch Southern Community Laboratory, Canterbury (started reporting July 2005)
- Ashburton Southern Community Laboratory, Canterbury (started reporting July 2005)
- Oamaru Southern Community Laboratory, Otago (started reporting July 2005)
- Dunedin Southern Community Laboratory, Otago (started reporting July 2005)
- Clyde Southern Community Laboratory, Otago (started reporting July 2005)
- Alexandra Southern Community Laboratory, Otago (started reporting July 2005)
- Balclutha Southern Community Laboratory, Otago (started reporting July 2005)
- Queenstown Southern Community Laboratory, Southland (started reporting July 2005)
- HealthLab Kew (Southland Hospital), Southland
- Invercargill Southern Community Laboratory, Southland (started reporting July 2005)
- Gore Southern Community Laboratory, Southland (started reporting July 2005)

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



Laboratory coverage for Gonorrhoea