



SEXUALLY TRANSMITTED INFECTIONS IN NEW ZEALAND ANNUAL SURVEILLANCE REPORT 2009

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by

STI Surveillance Team

Population and Environmental Health Group

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SUMMARY

In New Zealand, sexually transmitted infections (STIs) are not notifiable. However, acquired immune deficiency syndrome (AIDS), the late sequelae of human immunodeficiency virus (HIV) infection, is notifiable. Therefore surveillance efforts are based on voluntary provision of data from several different sources (sexual health clinics (SHCs), family planning clinics (FPCs), student and youth health clinics (SYHCs) and laboratories). Population and disease coverage varies with the data source.

At present data from SHCs provides the most comprehensive information on the epidemiology of STIs. This is for a number of reasons including the stability of the number of SHCs across New Zealand, the number of clinics participating in the surveillance programme, and the availability of ethnicity data. However, the number of cases reported through the clinic-based surveillance system underestimates the true burden of STI disease because a substantial percentage of STIs are diagnosed by other health care providers, particularly primary healthcare practitioners. Laboratories receive specimens from all health providers, and so, provide a useful, complementary source of STI data. In 2009, it was estimated that laboratory surveillance reported approximately four times the number of cases of chlamydia and gonorrhoea that were reported by clinic surveillance.

Improvements to the reporting of laboratory surveillance data were implemented during 2009. Population-based rates of chlamydia and gonorrhoea for many District Health Boards (DHBs) and estimates of national rates based on the data from these DHBs are now being reported. This is the first time since STI surveillance began that comprehensive regional and national population estimates of STI incidence have been produced.

Chlamydia

Chlamydia was again the most commonly reported STI in 2009. The number of cases and the clinic visit rate for chlamydia reported by SHCs decreased by 6.5% and 8.2%, respectively. A national chlamydia rate (based on 16 DHBs) of 803 per 100 000 population was reported from laboratory surveillance data. Over 70% of cases reported by SHCs and laboratories were aged less than 25 years. Laboratory surveillance reported 140 cases of chlamydia in infants. In SHCs, over 50% of cases were from non-European ethnic groups (Māori, Pacific Peoples and Other ethnic groups). Of the 16 DHBs meeting the laboratory

selection criteria for analysis in 2009, Tairāwhiti, Lakes and Hawke's Bay DHBs reported the highest chlamydia rates. From 2005 to 2009, SHCs reported an increase in the number of cases and clinic visit rate of chlamydia (3.3% and 7.1%, respectively). These trends were supported by laboratory data which reported an 11.3% increase in the chlamydia restricted national rate (based on 9 DHBs) between 2006 and 2009.

Gonorrhoea

In 2009, the number of cases and clinic visit rate of gonorrhoea reported by SHCs decreased by 5.8% and 7.5%, respectively. A national gonorrhoea rate (based on 18 DHBs) of 66 per 100 000 population was reported from laboratory surveillance data. Over 60% of cases reported by SHCs and laboratories were aged less than 25 years. Laboratory surveillance reported six cases of gonorrhoea in infants. In SHCs, 60.4% of cases were from non-European ethnic groups (Māori, Pacific Peoples and Other ethnic groups). Of the 18 DHBs meeting the laboratory selection criteria for analysis in 2009, Tairāwhiti, Hawke's Bay and Lakes DHBs reported the highest gonorrhoea rates. From 2005 to 2009, SHCs reported an increase in the number of cases and clinic visit rate for gonorrhoea (17.5% and 21.7%, respectively). These trends were not reflected by laboratory data which reported a 22.0% decrease in the gonorrhoea restricted national rate (based on 10 DHBs) between 2006 and 2009.

Syphilis

In 2009, the number of cases of syphilis reported by SHCs increased by 50.0% compared to 2008. SHCs reported higher case numbers for individuals aged over 40 years and those of European ethnicity (44.9% and 55.8%, respectively). Over the last five years the number of cases reported by SHCs increased by 193.7%.

Other STIs

In 2009, SHCs reported a 5.6% increase in the number of cases of genital herpes, while a decrease was reported for genital warts and non-specific urethritis (NSU) (11.7% and 0.7% respectively). No cases of chancroid, granuloma inguinale (GI) and lymphogranuloma venereum (LGV) were reported. Over the last five years the number of cases of genital herpes reported by SHCs increased by 17.3%. In contrast, a decrease was reported for genital warts and NSU (11.1% and 14.3% respectively).

INTRODUCTION

This report summarises the epidemiology of sexually transmitted infections (STIs) in 2009, and examines trends since 2005 for clinic-based surveillance, and 2006 for laboratory-based surveillance. It covers the STIs of public health importance, including chlamydia, gonorrhoea, genital herpes, genital warts, syphilis, non-specific urethritis (NSU), chancroid, granuloma inguinale (GI) and lymphogranuloma venereum (LGV).

Two major sources of data are used in the report; clinics and laboratories.

The clinic-based data is derived from sexual health clinics (SHCs), family planning clinics (FPCs), and student and youth health clinics (SYHCs) throughout New Zealand. The laboratory-based data is derived from laboratories throughout New Zealand and provides a limited dataset for chlamydia and gonorrhoea only.

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*.

Acquired immune deficiency syndrome (AIDS), but not human immunodeficiency virus (HIV) infection, is a notifiable disease in New Zealand. The AIDS Epidemiology Group (AEG) within the University of Otago carries out national HIV/AIDS surveillance and only a brief summary of their data is reported here.

In New Zealand, STIs are not notifiable. However, AIDS, the late sequelae of HIV, is notifiable. Therefore surveillance efforts rely on the voluntary provision of data. Surveillance has traditionally been based on data from specialist SHCs. SHCs provide a free and confidential sexual health service. Although a significant proportion of the general population attend other health care settings for their sexual health, SHCs provide the most comprehensive source of information on the epidemiology of STIs in New Zealand. This is for a number of reasons including the stability of both the number of SHCs across New Zealand and the number participating in the surveillance programme, and the availability of ethnicity data.

Since mid 1998, surveillance has been progressively expanded to include data from FPCs and SYHCs to provide a more comprehensive picture of the disease burden in New Zealand.

FPCs provide sexual and reproductive health services. SYHCs often operate as drop-in centres and provide general and/or specialist health services for students and staff. FPCs and SYHCs charge a variable fee for their services.

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

In areas where both clinic and laboratory surveillance data are collected, laboratory surveillance data aggregated across DHBs in 2009 reported approximately four times the number of chlamydia and gonorrhoea cases compared with that reported by STI clinic surveillance. This estimate may vary by region.

Laboratory-based surveillance of gonorrhoea began in the Auckland, Waikato and Bay of Plenty (BOP) regions in 1998. Laboratory surveillance of chlamydia began in the Waikato and BOP regions in 1998 and in the Auckland region in 2001. Since June 2004, efforts have been made to extend STI surveillance to additional laboratories across New Zealand. Beginning in 2009, laboratory-based surveillance data has been reported by DHB.

Due to the comprehensive coverage of health care providers in a region, laboratory surveillance allows the use of population data as a denominator for calculating population rates for STIs. In contrast, clinic-based surveillance denominators are based on the number of clinic visits.

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 2009 is included together with some discussion of trends in all STIs from 2005. Possible factors underlying the observed distribution and trends are discussed.

METHODS

All results and analyses are based on data submitted prior to 26 March 2010. Any data submitted after this date is not included in this report due to time constraints.

DATA COLLECTION

Clinics

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

Laboratories

The participating laboratories (see Appendix B) report anonymised 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. Laboratories only report specimens received directly from health care settings and do not report data on specimens which were subcontracted to their laboratory from outside of their region. The diagnostic tests used by each laboratory differ.

With current laboratory data and reporting practice it is not possible to determine the total number of positive individuals and specimens. An attempt has been made to remove duplicates from the data where one patient may have multiple positive specimens. If this is not possible then it was assumed that each test-positive specimen was equivalent to one test-positive patient. As it is possible for one patient to have more than one positive specimen taken for the one STI episode, the true incidence may be less than that reported here.

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

Diseases under clinic-based STI surveillance

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

ANALYSIS METHODS

STI surveillance data from the above mentioned sources is stored in separate clinic and laboratory databases and was extracted and analysed using Microsoft Access and Excel.

Table 1. STIs under clinic-based surveillance

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

STI case numbers

The STIs under surveillance include both probable and confirmed case definitions for chlamydia, gonorrhoea, chancroid, GI, and LGV. However, case numbers and clinic visit rates presented in this report relate to confirmed cases of these diseases only (unless otherwise stated).

STI rates

Rates have been generated for both clinic, and laboratory-based STI surveillance data. To highlight that the denominator of the clinic-specific rates is the number of clinic visits (see below), these rates are referred to as “clinic visit” rates.

Calculation of rates

Rates have not been calculated where there are fewer than five cases in any category. Calculating rates from fewer than five cases produces unstable rates for comparisons. Care should also be exercised when interpreting and comparing rates based on fewer than twenty cases.

Readers are also advised to consider the absolute number of cases in the categories analysed by rate. This is because categories with the highest rates may sometimes involve a relatively small proportion of the overall disease burden.

Numerator data

Clinic visit rates: the total number of reported cases by disease for the specific clinic. For gonorrhoea and chlamydia only confirmed cases are included in the rates presented in the main body of this report.

Laboratory-specific rates: the total number of test-positive reported cases for chlamydia and gonorrhoea.

Denominator data

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

Laboratory-specific rates: the denominator for the calculation of laboratory-specific infection rates is the mid-year population estimates published by Statistics New Zealand.

Population rates

Population rates can only be determined for laboratory-based STI surveillance data. Clinic data

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

DATA COMPLETENESS

Clinic participation

In 2009, 27 SHCs, 35 FPCs, and 16 SYHCs across New Zealand voluntarily participated in the STI surveillance programme. Of these, 25 SHCs, 34 FPCs, and 15 SYHCs provided complete data to ESR for at least 10 out of 12 months. FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods.

Laboratory participation

In 2009, 41 laboratories across 19 DHBs in New Zealand voluntarily participated in the STI surveillance programme. Of these, 40 laboratories provided chlamydia data and 35 laboratories provided gonorrhoea. As laboratories commenced supplying data at different times and some gaps in data supply occurred, rates of chlamydia and gonorrhoea for each analysis type were calculated using data from laboratories that met specific selection criteria.

DHB reporting criteria

For a DHB to be included in the analyses, all laboratories servicing that DHB must have participated in the surveillance programme (unless the non participating laboratory(ies) was a hospital laboratory undertaking a small proportion of the DHB’s STI testing).

In addition, the following participation criteria must be met for each analysis type.

1. Annual analysis: Each laboratory in the DHB must have provided data for all 12 months of 2009.
2. Restricted national rates: These rates enable comparison of national rates between years. For a DHB to be included in the restricted national rate trend analysis, all laboratories in the selected DHB must have provided data for all 12 months of each of the last four years.
3. Individual DHB trend analysis: For a DHB to be included in this analysis, all laboratories in the selected DHB must have provided data for all 12 months of each year for at least three of the last four years.

In some cases, where a community laboratory carried out testing for more than one DHB, these

DHBs have been combined for reporting purposes i.e. Auckland, Waitemata and Counties Manukau DHBs (Diagnostic Medlab and Labtests), and Hutt Valley and Capital and Coast DHBs (Aotea Pathology).

DATA LIMITATIONS

Reporting of specimens and diagnostic tests

Laboratories only report specimens received directly from health care settings within their own region. They do not report data on specimens, which were subcontracted to their laboratory from outside their region. The diagnostic tests used for chlamydia are not standardised. Some laboratories use nucleic acid amplification and others enzyme immunoassay. These tests have different sensitivities and specificities that may influence the data.

Generalisability

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

While STIs are diagnosed and treated by a range of primary healthcare providers, including General Practitioners (GPs), SHCs diagnose a substantial proportion of the total number of STIs and their data

can provide an alert for changes occurring in the wider population. Data presented for SYHCs in New Zealand may not be representative of all SYHCs because not all provide STI surveillance data and some provide incomplete data.

Valid comparisons between infection rates at different clinic types are not possible due to differences in the range of services provided which affect the denominator (total clinic visits for any reason) used to calculate infection rates. SHCs provide mainly STI-related sexual health services, FPCs provide mainly non-STI sexual and reproductive health services and SYHCs provide mainly general health services. Those attending SHCs are more likely to have concerns about STIs and are more likely to have opportunistic STI testing than those attending other clinic types for other reasons. As a result, STI rates at SHCs are higher than STI rates at other clinic types.

Comparison with previous years

From 2005 to 2009 the number of clinic data sources has been relatively stable therefore year-on-year comparisons for this period are reasonably valid.

For the laboratory data trend analyses, DHBs were only reported if their data was considered complete by a series of selection criteria (see data completeness section). Similarly, the New Zealand rates (restricted national rates) reported for 2006 to 2009 were calculated using a restricted set of DHBs who had complete data for all four years. Therefore, year-on-year comparisons using the laboratory data are also valid.

Table 2. Selected/excluded DHBs by analysis type and STI

District Health Board	Annual analysis 2009		Restricted national rate trend analysis		Individual DHB trend analysis	
	Chlamydia	Gonorrhoea	Chlamydia	Gonorrhoea	Chlamydia	Gonorrhoea
Northland	✓	✓	×	×	✓ ¹	✓ ¹
AK-WA-CM	✓	✓	✓	✓	✓	✓
Waikato	✓	✓	✓	✓	✓	✓
Lakes	✓	✓	×	×	×	×
Bay of Plenty	✓	✓	✓	✓	✓	✓
Tairāwhiti	✓	✓	×	×	×	✓ ²
Taranaki	✓	✓	✓	✓	✓	✓
Hawke's Bay	✓	✓	✓	✓	✓	✓
Whanganui	✓	✓	×	×	×	×
MidCentral	✓	✓	×	✓	×	✓
Wairarapa	✓	✓	×	×	×	×
HV-CC	×	✓	×	×	×	✓ ¹
Nelson Marlborough	×	×	×	×	×	×
West Coast	✓	✓	✓	✓	✓	✓
Canterbury	×	×	×	×	×	×
South Canterbury	×	×	×	×	×	×
Otago	✓	✓	×	×	×	×
Southland	✓	✓	✓	✓	✓	✓

AK-WA-CM: Auckland / Waitemata / Counties Manukau; HV-CC: Hutt Valley / Capital & Coast
 ✓ = Selected × = Excluded ¹ 2007-2009 only ² 2006, 2008, 2009 only

CLINIC SURVEILLANCE

CLINIC OVERVIEW

This section presents an overview of clinic visits and cases of STIs for each clinic type (SHC, FPC, and SYHC) participating in the STI clinic-based surveillance programme in 2009.

both sexes either decreased slightly or remained stable for the majority of STIs.

SEXUAL HEALTH CLINICS

SHC attendees

SHCs reported 83 964 clinic visits during 2009, 57.7% (48 440 visits) of which were by females. Between 2008 and 2009, the number of clinic visits increased by 1.9% (82 399 to 83 964 visits).

Age and ethnicity were recorded for 99.8% (83 792/83 964) and 97.7% (82 001/83 964) of clinic attendees respectively. Where age and ethnicity information were provided, 44.0% (36 832 visits) were aged less than 25 years, 66.0% (54 140 visits) were European, 19.6% (16 088 visits) were Māori, 4.3% (3565 visits) were Pacific Peoples and 10.0% (8208 visits) were of Other ethnicity.

STIs reported by SHCs

In 2009, a total of 10 309 STI cases were reported by SHCs, representing a clinic visit rate of 12.3% in SHC attendees, with chlamydia being the most commonly reported STI (Table 3).

There were 4461 cases of chlamydia, 814 cases of gonorrhoea and 138 cases of syphilis reported by SHCs. No cases of chancroid, GI or LGV were reported during 2009.

Figures 1 and 2 show the infection clinic visit rates for the STIs reported by SHCs from 2005 to 2009 by sex. Between 2008 and 2009 clinic visit rates for

Figure 1. Male STI clinic visit rates reported by SHCs, 2005 to 2009

Denominator is the number of male clinic visits

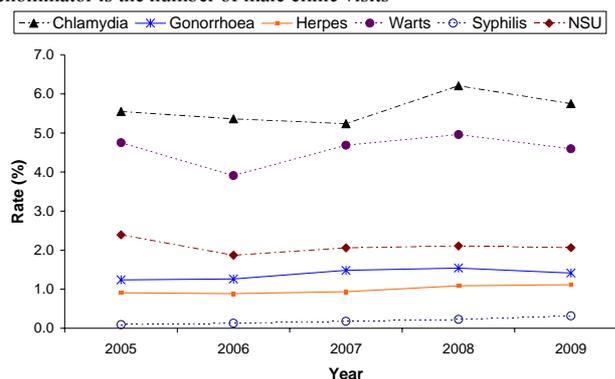


Figure 2. Female STI clinic visit rates reported by SHCs, 2005 to 2009

Denominator is the number of female clinic visits

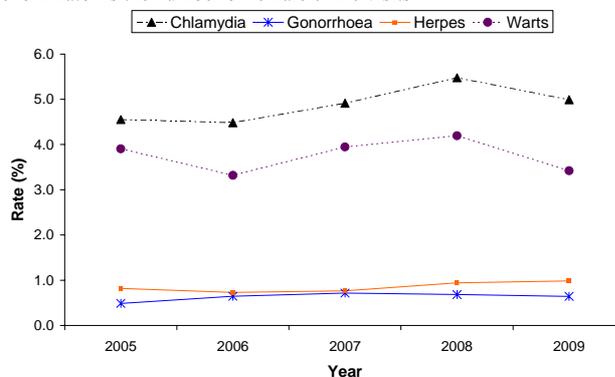


Table 3. Number of cases, clinic visit rates and age comparisons for STIs reported by SHCs, 2009

Infection	No. of cases	Clinic visit rate ¹ (%)	Mean age (years)	Age range (years)
Chlamydia	4 461	5.3	23	(12-69)
Gonorrhoea	814	1.0	25	(12-71)
Genital herpes (first presentation)	873	1.0	29	(11-77)
Genital warts (first presentation)	3 290	3.9	25	(11-81)
Syphilis	138	0.2	40	(17-81)
NSU (males only)	733	2.1	31	(15-77)
STI cases	10 309	12.3	-	-
Total clinic visits	83 964	-	-	-

¹ Cases / total number of clinic visits. For NSU the denominator is male clinic visits only.

FAMILY PLANNING CLINICS

FPC attendees

FPCs reported 190 655 clinic visits during 2009, 94.8% (180 408 visits) of which were by females. Compared to 2008, the number of clinic visits increased by 7.2% in 2009.

Age and ethnicity were recorded for 99.98% (190 624/190 655) and 93.4% (178 106/190 655) of clinic attendees respectively. Where age and ethnicity information were provided, 49.2% (93 863 visits) were aged less than 25 years, 71.1% (126 684 visits) were European, 15.6% (27 836 visits) were Māori, 5.3% (9437 visits) were Pacific Peoples and 7.9% (14 149 visits) were of Other ethnicity.

STIs reported by FPCs

In 2009, a total of 4409 cases were reported by FPCs, representing a clinic visit rate of 2.3% in FPC attendees, with chlamydia being the most commonly reported STI (Table 4).

There were 3456 cases of chlamydia, 200 cases of gonorrhoea and 2 cases of syphilis reported by FPCs. No cases of chancroid, GI or LGV were reported during 2009.

Figures 3 and 4 show the infection clinic visit rates for the main STIs reported by FPCs from 2005 to 2009 by sex. Over this time period, clinic visit rates of chlamydia increased for both sexes. There was little change in the other STI clinic visit rates for either sex.

Figure 3. Male STI clinic visit rates reported by FPCs, 2005 to 2009

Denominator is the number of male clinic visits

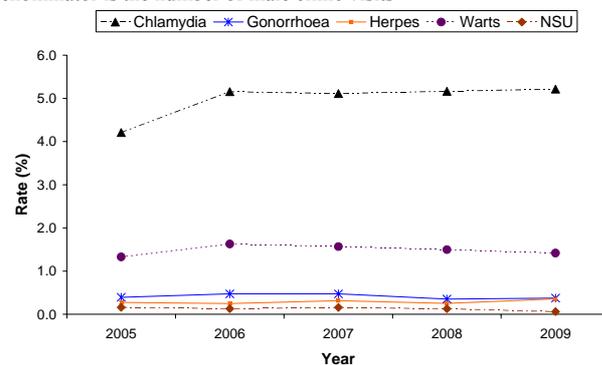


Figure 4. Female STI clinic visit rates reported by FPCs, 2005 to 2009

Denominator is the number of female clinic visits

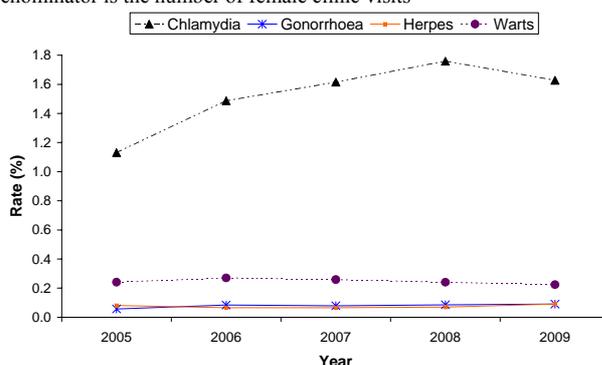


Table 4. Number of cases, clinic visit rates and age comparisons for STIs reported by FPCs, 2009

Infection	No. of cases	Clinic visit rate ¹ (%)	Mean age (years)	Age range (years)
Chlamydia	3 456	1.8	22	(13-60)
Gonorrhoea	200	0.1	22	(16-41)
Genital herpes (first presentation)	199	0.1	25	(15-64)
Genital warts (first presentation)	546	0.3	23	(15-48)
Syphilis	2	-	33	(20-45)
NSU (males only)	6	0.1	22	(19-23)
STI cases	4 409	2.3	-	-
Total clinic visits	190 655	-	-	-

¹ Cases / total number of clinic visits. For NSU the denominator is male clinic visits only.

STUDENT AND YOUTH HEALTH CLINICS

SYHC attendees

SYHCs reported 244 080 clinic visits during 2009, 68.7% (167 678 visits) of which were by females. Compared to 2008, the number of clinic visits increased by 1.2% in 2009.

Age and ethnicity were recorded for 66.0% (161 094/244 080) and 67.8% (165 508/244 080) of clinic attendees respectively. Demographics of SYHC attendees are not routinely collected with factors such as lack of computerisation and time constraints further limiting data collection and collation. Where age and ethnicity information were provided, 62.5% (100 661 visits) were aged less than 25 years, 63.7% (105 381 visits) were European, 8.1% (13 441 visits) were Māori, 2.7% (4469 visits) were Pacific Peoples and 25.5% (42 217 visits) were of Other ethnicity.

STIs reported by SYHCs

In 2009, a total 1275 STI cases were reported by SYHCs, representing a clinic visit rate of 0.5% in SYHC attendees, with chlamydia being the most commonly reported STI (Table 5).

There were 865 cases of chlamydia, 41 cases of gonorrhoea and 4 cases of syphilis reported by SYHCs. No cases of chancroid, GI or LGV were reported during 2009.

Figures 5 and 6 show the infection clinic visit rates for the main STIs reported by SYHCs from 2005 to 2009 by sex. Clinic visit rates of chlamydia for both sexes increased from 2005 to 2007, since 2007 rates have decreased. There was little change in the other STI clinic visit rates for either sex.

Figure 5. Male STI clinic visit rates reported by SYHCs, 2005 to 2009

Denominator is the number of male clinic visits

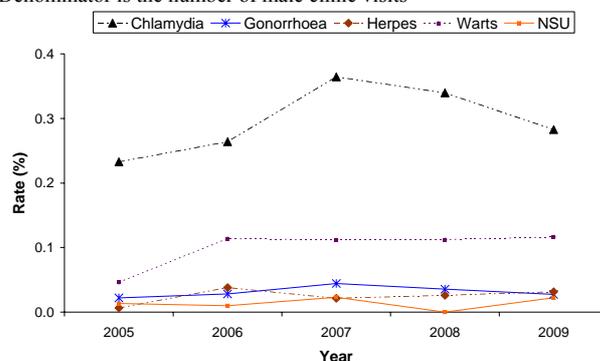


Figure 6. Female STI clinic visit rates reported by SYHCs, 2005 to 2009

Denominator is the number of female clinic visits

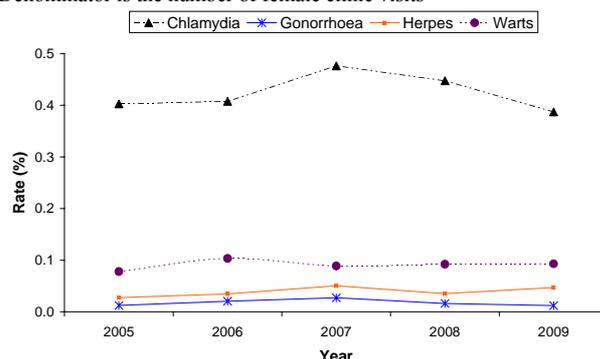


Table 5. Number of cases, clinic visit rates and age comparisons for STIs reported by SYHCs, 2009

Infection	No. of cases	Clinic visit rate ¹ (%)	Mean age (years)	Age range (years)
Chlamydia	865	0.4	20	(13-42)
Gonorrhoea	41	0.02	20	(13-36)
Genital herpes (first presentation)	103	0.04	21	(16-40)
Genital warts (first presentation)	245	0.1	21	(15-35)
Syphilis	4	-	29	(23-42)
NSU (males only)	17	0.02	22	(18-31)
STI cases	1 275	0.5	-	-
Total clinic visits	244 080	-	-	-

¹ Cases / total number of clinic visits. For NSU the denominator is male clinic visits only.

CHLAMYDIA

In 2009, genital chlamydia infection was the most commonly reported STI in New Zealand. Chlamydia infection is asymptomatic in approximately 25% of male and 70% of female cases [1]. Untreated infection can lead to the development of serious sequelae, including pelvic inflammatory disease (PID), ectopic pregnancy and infertility in females and urethritis, epididymo-orchitis, reactive arthritis and infertility in males. Infants born vaginally to infected mothers can be infected during delivery resulting in neonatal conjunctivitis or pneumonia [2].

CHLAMYDIA REPORTING IN 2009

Between 2008 and 2009, the number of cases of chlamydia decreased by 6.5% in SHCs (4770 to 4461 cases) and 13.5% in SYHCs (1000 to 865 cases). In contrast the number of cases of chlamydia increased by 0.8% in FPCs (3427 to 3456 cases).

Higher clinic visit rates were reported in males attending both SHCs and FPCs compared to females, with rates 1.2 times and 3.3 times higher respectively (Table 6). Males are more likely to be symptomatic and are also more likely to seek treatment at SHCs. It is important to note that the high rate ratio observed in FPCs is related to the low numbers of males who attend these clinics, and that almost six times more females are reported with chlamydia than males in FPCs. It may be that case positive males attending FPCs are partners of chlamydia positive patients contacted through partner notification.

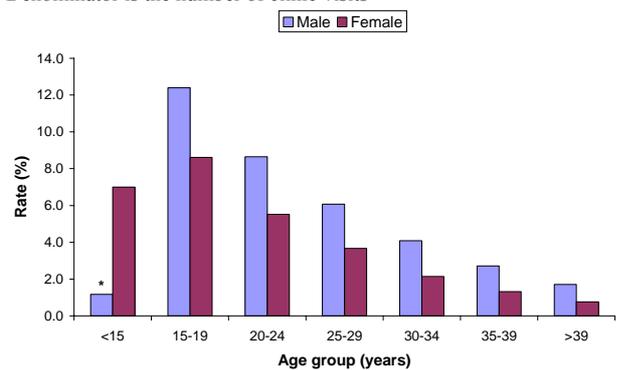
In 2009, a large proportion of the reported cases of chlamydia were aged less than 25 years, 71.2% (3176/4461) at SHCs, 82.1% (2838/3456) at FPCs and 93.2% (806/865) at SYHCs. The mean age of cases of chlamydia was 23 years in SHCs, 22 years in FPCs and 20 years in SYHCs.

Across all clinic types the number of males with chlamydia was highest in the 20 to 24 years age group (752 cases in SHCs, 284 cases in FPCs, and 120 cases in SYHCs). For females, the highest numbers were in the 15 to 19 years age group (1181

cases in SHCs and 336 cases in SYHCs) and in the 20 to 24 years age group for FPCs (1361 cases). Figures 7 to 9 present the clinic visit rates of chlamydia by age group and sex for each clinic type for 2009.

Figure 7. Clinic visit rates of chlamydia reported by SHCs by age group and sex, 2009

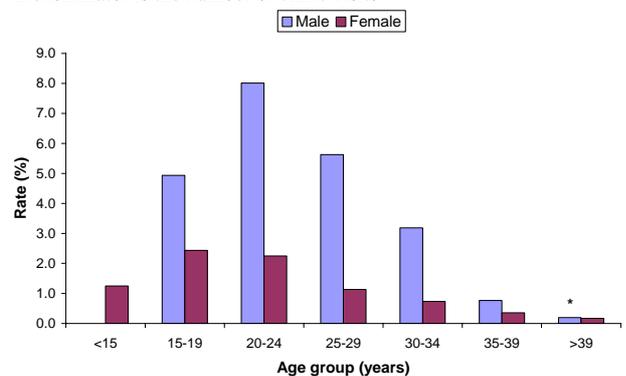
Denominator is the number of clinic visits



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

Figure 8. Clinic visit rates of chlamydia reported by FPCs by age group and sex, 2009

Denominator is the number of clinic visits



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

Note: In FPCs the male to female ratio of attendees is 1:18.

Table 6. Number of cases and clinic visit rates of chlamydia by sex and clinic type, 2009

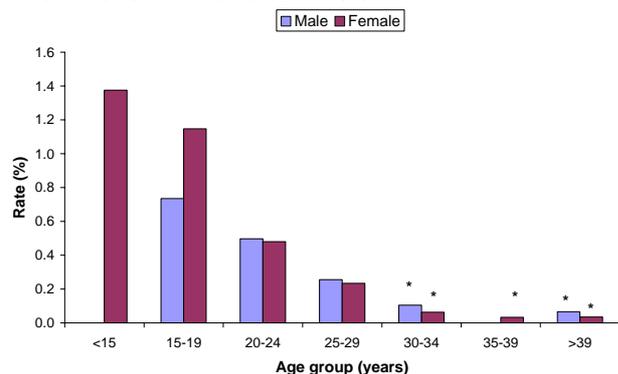
Clinic type	No. of cases			Clinic visit rate ¹ (%)		
	Male	Female	Total ²	Male	Female	Total
SHCs	2 043	2 418	4 461	5.8	5.0	5.3
FPCs	515	2 937	3 456	5.2	1.6	1.8
SYHCs	216	649	865	0.3	0.4	0.4

¹ Cases / total number of clinic visits.

² Total includes cases with unknown sex.

Figure 9. Clinic visit rates of chlamydia reported by SYHCs by age group and sex, 2009

Denominator is the number of clinic visits



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

In SHCs, ethnicity was recorded for 98.7% (4402/4461) of the reported cases of chlamydia. The highest percentage of cases in SHCs were of European ethnicity (46.7%, 2054 cases), followed by Māori (37.4%, 1647 cases), Pacific Peoples (9.8%, 433 cases), and Other ethnicity (6.1%, 268 cases). In FPCs, ethnicity was recorded for 95.8% (3311/3456) of the reported cases. The highest percentage of cases in FPCs were of European ethnicity (53.3%, 1765 cases), followed by Māori (31.8%, 1054 cases), Pacific Peoples (11.1%, 368 cases) and Other ethnicity (3.7%, 124 cases). In SYHCs, ethnicity was recorded for 98.3% (850/865) of the reported cases. The highest percentage of cases in SYHCs were of European ethnicity (62.6%, 532 cases), followed by Māori (24.9%, 212 cases), Other ethnicity (6.4%, 54 cases) and Pacific Peoples (6.1%, 52 cases).

In all health care settings, the clinic visit rates of chlamydia varied by ethnic group. Māori chlamydia clinic visit rates were more than double European rates in all clinic settings (SHCs - 10.2% vs. 3.8%, FPCs - 3.8% vs. 1.4% and SYHCs - 1.6% vs. 0.5%). Similarly, Pacific Peoples' chlamydia clinic visit rates were 2.4 to 3.2 times higher than European rates across the clinic types.

See Table 20 (Appendix D) for chlamydia site of infection data.

Complicated infections

In 2009, 1.9% (83/4461) of cases of chlamydia in SHCs, 1.8% (62/3456) in FPCs and 1.0% (9/865) in SYHCs were reported with complicated infections (epididymitis in males and PID in females).

A total of 24 males (21 in SHCs, 2 in FPCs, and 1 in SYHCs) were reported with epididymitis, 58.3% (14 cases) of whom were aged less than 25 years. Of the 23 cases (95.8%) where ethnicity was recorded, the highest percentage of cases were of European ethnicity (65.2%, 15 cases), followed by Māori (21.7%, 5 cases), Other ethnicity (8.7%, 2 cases), and Pacific Peoples (4.3%, 1 case).

A total of 130 females (62 in SHCs, 60 in FPCs, and 8 in SYHCs) were reported with PID, 80.8% (105 cases) of whom were aged less than 25 years. Of the 123 cases (94.6%) where ethnicity was recorded, the highest percentage of cases were of European ethnicity (44.7%, 55 cases), followed by Māori (43.1%, 53 cases), Pacific Peoples (7.3%, 9 cases), and Other ethnicity (4.9%, 6 cases).

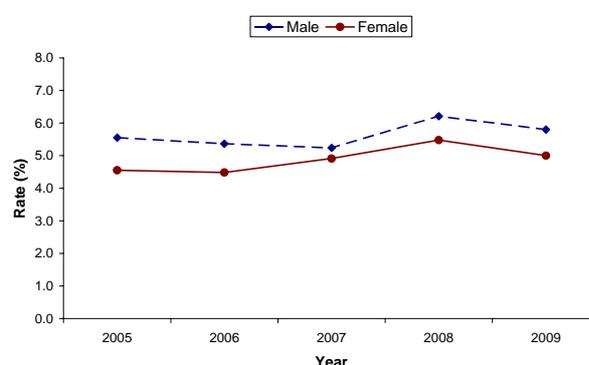
CHLAMYDIA TRENDS

From 2005 to 2009, the number of cases of chlamydia reported increased by 3.3% in SHCs (4317 to 4461 cases), 51.2% in FPCs (2285 to 3456 cases) and 63.5% (529 to 865 cases) in SYHCs. The clinic visit rate of chlamydia reported by SHCs increased by 7.1% (5.0% to 5.3%). In males, the clinic visit rate increased by 4.5% (5.5% to 5.8%) and in females by 9.9% (4.6% to 5.0%) (Figure 10).

These trends were supported by the rate of chlamydia reported through laboratory surveillance. From 2006 to 2009, the chlamydia restricted national rate (based on 9 DHBs) increased by 11.3% (694 to 772 per 100 000 population).

Figure 10. Clinic visit rates of chlamydia reported by SHCs, 2005 to 2009

Denominator is the number of clinic visits



GONORRHOEA

Infections due to *Neisseria gonorrhoeae* can cause dysuria and urethral discharge in males and vaginal discharge in females. Asymptomatic infection can occur in up to 5% of males and 50% of females [3]. Untreated gonococcal infection may be associated with long-term serious sequelae, including pelvic inflammatory disease (PID) in females, epididymo-orchitis in males and severe conjunctivitis in neonates [2].

GONORRHOEA REPORTING IN 2009

Between 2008 and 2009, the number of cases of gonorrhoea decreased by 5.8% in SHCs (864 to 814 cases), and 22.6% in SYHCs (53 to 41 cases). In comparison, the number of cases of gonorrhoea increased by 13.6% in FPCs (176 to 200 cases).

Higher clinic visit rates were reported in males attending all clinic settings compared to females, with rates 2.2 to 4.1 times higher (Table 7). Males are more likely to be symptomatic and to seek treatment than females particularly in SHCs, but less likely to seek care at FPCs.

In 2009, a large proportion of the reported cases of gonorrhoea were aged less than 25 years, 61.3% (499/814) at SHCs, 83.0% (166/200) at FPCs and 90.2% (37/41) at SYHCs. The mean age of cases of gonorrhoea was 25 years in SHCs, 22 years in FPCs and 20 years in SYHCs.

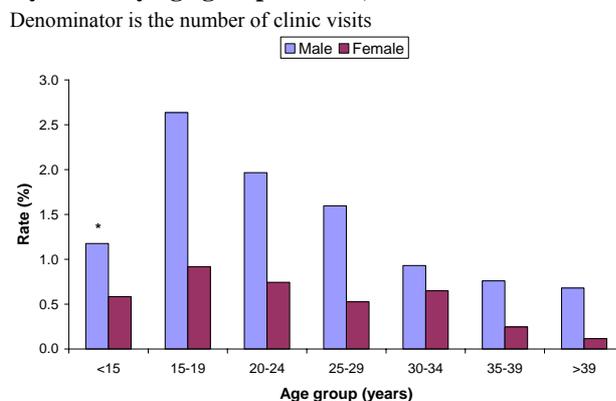
Across all clinic types the number of males with gonorrhoea was highest in the 20 to 24 years age group (171 cases in SHCs, 18 cases in FPCs, and 10 cases in SYHCs). For females, the highest numbers were in the 15 to 19 years age group (126 cases in SHCs, 70 cases in FPCs, and 13 cases in SYHCs). Figures 11 and 12 present the clinic visit rates by age group and sex for 2009. The clinic visit rates may be unreliable for the less than 15 years age group due to the small number of clinic visits.

In SHCs, ethnicity was recorded for 98.0% (798/814) of the reported cases of gonorrhoea. The highest percentage of cases in SHCs were of Māori ethnicity (41.9%, 334 cases), followed by European (39.6%, 316 cases), Pacific Peoples (12.4%, 99 cases), and Other ethnicity (6.1%, 49 cases).

In FPCs, ethnicity was recorded for 94.0% (194/200) of the reported cases. The highest percentage of cases in FPCs were of Māori ethnicity (46.9%, 91 cases), followed by European (35.6%, 69 cases), Pacific Peoples (16.5%, 32 cases), and Other ethnicity (1.0%, 2 cases). In SYHCs, ethnicity was recorded for 97.6% (40/41) of the reported cases. The highest percentage of cases in SYHCs were of European ethnicity (55.0%, 22 cases), followed by Māori (30.0%, 12 cases), Other ethnicity (12.5%, 5 cases) and Pacific Peoples (2.5%, 1 case).

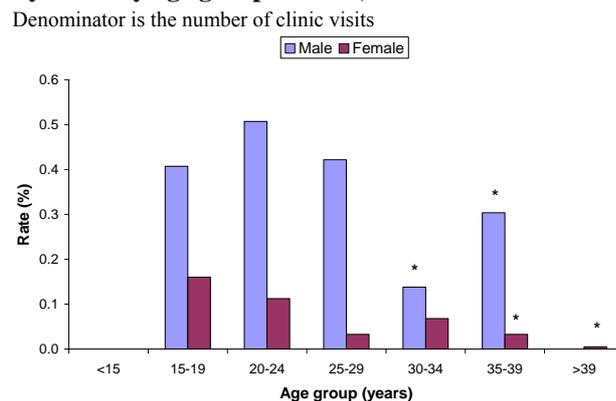
See Table 21 (Appendix D) for gonorrhoea site of infection data.

Figure 11. Clinic visit rates of gonorrhoea reported by SHCs by age group and sex, 2009



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

Figure 12. Clinic visit rates of gonorrhoea reported by FPCs by age group and sex, 2009



*Clinic visit rates may be unreliable as the case numbers are less than 5. Note: In FPCs the male to female ratio of attendees is 1:18.

Table 7. Number of cases and clinic visit rates of gonorrhoea by sex and clinic type, 2009

Clinic type	No. of cases			Clinic visit rate ¹ (%)		
	Male	Female	Total ²	Male	Female	Total
SHCs	502	312	814	1.4	0.6	1.0
FPCs	37	163	200	0.4	0.1	0.1
SYHCs	21	20	41	0.03	0.01	0.02

¹ Cases / total number of clinic visits.

² Total includes cases with unknown sex.

Complicated infections

In 2009, 2.7% (22/814) of cases of gonorrhoea in SHCs, 3.0% (6/200) in FPCs and no cases in SYHCs were reported with complicated infections (epididymitis in males and PID in females).

A total of 14 males (12 in SHCs and 2 in FPCs) were reported with epididymitis, 64.3% (9/14) of whom were aged less than 25 years. Ethnicity was recorded for all 14 cases, the highest percentage of cases were of Māori ethnicity (50.0%, 7 cases), followed by European (42.9%, 6 cases), and Pacific Peoples (7.1%, 1 case).

A total of 14 females (10 in SHCs and 4 in FPCs) were reported with PID, 85.7% (12/14) of whom were aged less than 25 years. Of the 13 cases (92.9%) where ethnicity was recorded, the highest percentage of cases were of Māori ethnicity (46.2%, 6 cases), followed by European (38.5%, 5 cases), and Pacific Peoples (15.4%, 2 cases).

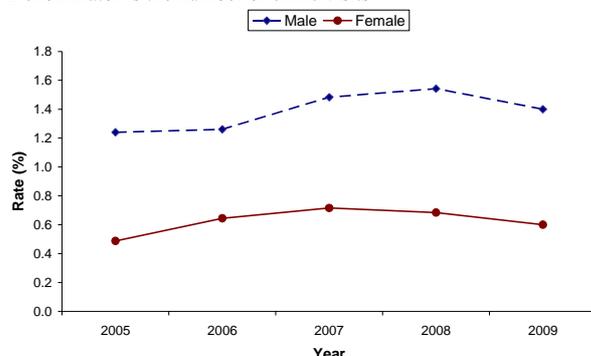
GONORRHOEA TRENDS

From 2005 to 2009, the number of cases of gonorrhoea reported increased by 17.5% in SHCs (693 to 814 cases), 53.8% in FPCs (130 to 200 cases) and 78.3% in SYHCs (23 to 41 cases). The clinic visit rate of gonorrhoea reported by SHCs increased by 21.7% (0.8% to 1.0%). In males, the clinic visits rate increased by 12.9% (1.2% to 1.4%) and in females by 23.1% (0.5% to 0.6%) (Figure 13).

These trends were not reflected by the rate of gonorrhoea reported through laboratory surveillance. From 2006 to 2009, the gonorrhoea restricted national rate (based on 10 DHBs) decreased by 22.0% (83 to 65 per 100 000 population).

Figure 13. Clinic visit rates of gonorrhoea reported by SHCs, 2005 to 2009

Denominator is the number of clinic visits

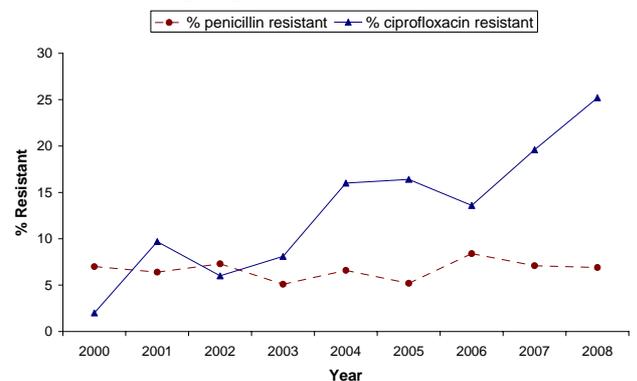


Data on ceftriaxone, ciprofloxacin, penicillin and tetracycline resistance among *N. gonorrhoeae* isolates is collected annually from community and hospital diagnostic microbiology laboratories, and collated at ESR to provide national estimates of resistance to these four antibiotics.

The latest data available is for 2008. In that year, the prevalence of ciprofloxacin resistance among *N. gonorrhoeae* was 25.2%. Ciprofloxacin resistance was more than three times as common as penicillin resistance (6.9%). Ceftriaxone is now considered the first-line treatment for gonorrhoea.

Ciprofloxacin resistance emerged in gonococci in New Zealand at the beginning of this decade, and by 2008 had reached a rate of 25.2%. By contrast, penicillin resistance has been relatively stable at 5 to 8% since 2000 (Figure 14).

Figure 14. Prevalence of penicillin and ciprofloxacin resistance among *N. gonorrhoeae*, 2000 to 2008



GENITAL HERPES (FIRST PRESENTATION)

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

Symptomatic first infections are associated with anogenital ulcerations and recurrent infections are common. Vaginal delivery in pregnant women with active genital infection, particularly if a primary infection, carries a higher risk of infection in the foetus or newborn. Genital herpes can cause severe systemic disease in neonates and those who are immune suppressed [1]. The ulcerative lesions of HSV facilitate the transmission of HIV infection [5].

GENITAL HERPES REPORTING IN 2009

Between 2008 and 2009, the number of cases of genital herpes increased by 5.6% in SHCs (827 to 873 cases), 41.1% in FPCs (141 to 199 cases), and 32.1% in SYHCs (78 to 103 cases).

Higher clinic visit rates were reported in males attending both SHCs and FPCs compared to females, with rates 1.1 and 3.9 times higher respectively (Table 8).

In 2009, the proportion of reported cases of genital herpes aged less than 25 years varied by clinic type with 47.2% (412/873) at SHCs, 66.3% (132/199) at FPCs and 89.3% (92/103) at SYHCs. The mean age of cases of genital herpes was 29 years in SHCs, 25 years in FPCs, and 21 years in SYHCs.

Across all clinic types the number of males with genital herpes was highest in the 20 to 24 years age group (106 cases in SHCs, 16 cases in FPCs, and 15 cases in SYHCs). For females, the highest numbers were also in the 20 to 24 years age group (137 cases in SHCs, 57 cases in FPCs, and 46 cases in SYHCs). Figures 15 and 16 present the clinic visit rates by age group and sex for 2009.

Ethnicity was recorded for 97.4% (850/873) of the reported cases of genital herpes in SHCs, 95.0% (189/199) in FPCs and 95.1% (98/103) in SYHCs. Of these, the majority of cases of genital herpes were of European ethnicity in all clinic types: SHCs - 72.9% (620 cases), FPCs - 73.0% (138 cases), and SYHCs - 75.5% (74 cases).

Figure 15. Clinic visit rates of genital herpes (first presentation) reported by SHCs by age group and sex, 2009

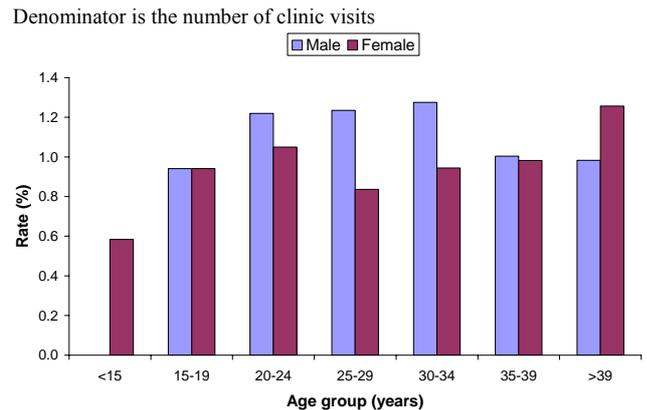
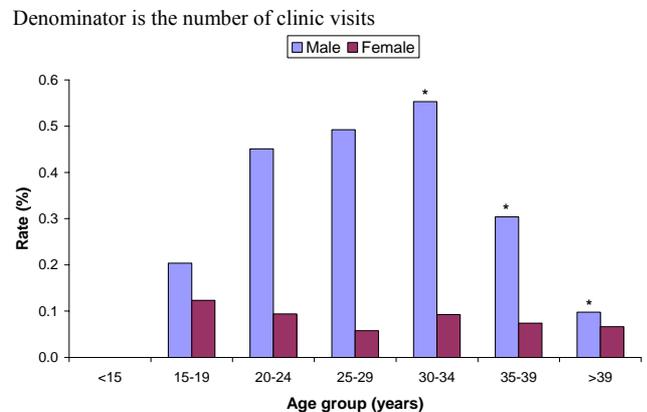


Figure 16. Clinic visit rates of genital herpes (first presentation) reported by FPCs by age group and sex, 2009



*Clinic visit rates may be unreliable as the case numbers are less than 5. Note: In FPCs the male to female ratio of attendees is 1:18.

Table 8. Number of cases and clinic visit rates of genital herpes (first presentation) by sex and clinic type, 2009

Clinic type	No. of cases			Clinic visit rate ¹ (%)		
	Male	Female	Total ²	Male	Female	Total
SHCs	397	476	873	1.1	1.0	1.0
FPCs	35	164	199	0.4	0.1	0.1
SYHCs	24	79	103	0.03	0.05	0.04

¹ Cases/number of clinic visits

² Total includes cases with unknown sex.

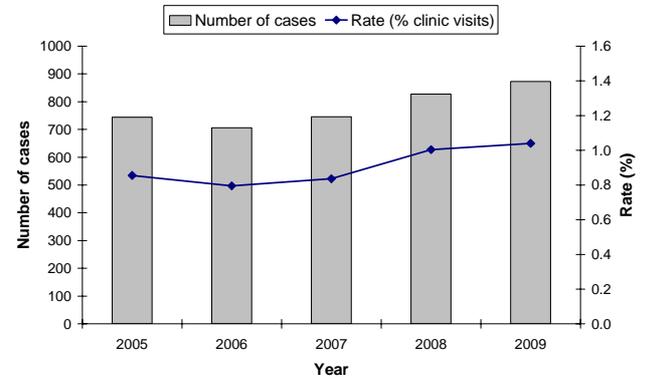
GENITAL HERPES TRENDS

From 2005 to 2009, the number of cases of genital herpes reported by SHCs increased by 17.3% (744 to 873 cases). The clinic visit rate of genital herpes reported by SHCs increased by 21.6% (0.9% to 1.0%) (Figure 17).

Surveillance as reported here covers only the initial presentation of genital herpes at sentinel clinics. Therefore, this data is an under-estimate of the burden of disease caused by genital herpes. As many as one in five adults may have genital herpes due to HSV-2 but most will have asymptomatic or unrecognised disease. Prevalence of HSV-2 infection increases with age; the prevalence of HSV-2 antibodies in the Dunedin birth cohort was 3.4% at age 21, 11% at age 26, and 18.4% at age 32 and is more common in women [6]. HSV-1 seroprevalence studies do not distinguish between oral and genital infection sites which makes it much more difficult to generate estimates of the prevalence of genital HSV-1 infection. Nonetheless, it is recognised that HSV-1 accounts for a substantial proportion of diagnosed genital herpes infections, particularly amongst younger women [4].

Figure 17. Numbers of cases and clinic visit rates of genital herpes (first presentation) reported by SHCs, 2005 to 2009

Denominator is the number of clinic visits



GENITAL WARTS (FIRST PRESENTATION)

In 2009, genital warts, a visible manifestation of human papillomavirus (HPV) infection, was the most commonly reported viral STI in New Zealand. Genital warts are of particular public health importance because of the association between some types of HPV (mainly types 16 and 18) and cervical, penile and anal cancers. However, approximately 90% of genital warts are caused by HPV types 6 or 11, which are not associated with cervical cancer [7].

GENITAL WARTS REPORTING IN 2009

Between 2008 and 2009, the number of cases of genital warts decreased by 11.7% in SHCs (3726 to 3290 cases). In contrast there was an increase of 1.3% in FPCs (539 to 546 cases) and 3.4% in SYHCs (237 to 245 cases).

Higher clinic visit rates were reported in males compared to females in all clinic settings, with rates 1.3 to 6.3 times higher (Table 9).

In 2009, the proportion of reported cases of genital warts aged less than 25 years varied by clinic type with 59.9% (1970/3290) at SHCs, 76.9% (420/546) at FPCs and 93.9% (230/245). The mean age of cases of genital warts was 25 years in SHCs, 23 years in both FPCs and 21 years in SYHCs.

Across all clinic types the number of males with genital warts was highest in the 20 to 24 years (539 cases in SHCs, 84 cases in FPCs, and 71 cases in SYHCs). For females, the highest numbers were reported in the 15 to 19 years age group in SHCs (639 cases) and in the 20 to 24 years age group in FPCs (198 cases) and SYHCs (82 cases). Figures 18 and 19 present the clinic visit rates by age group and sex for 2009.

Ethnicity was recorded for 97.8% (3217/3290) of the reported cases of genital warts in SHCs, 93.0% (508/546) in FPCs and 98.4% (241/245) in SYHCs.

Table 9. Number of cases and clinic visit rates of genital warts (first presentation) by sex and clinic type, 2009

Clinic type	No. of cases			Clinic visit rate ¹ (%)		
	Male	Female	Total ²	Male	Female	Total
SHCs	1 633	1 657	3 290	4.6	3.4	3.9
FPCs	140	405	546	1.4	0.2	0.3
SYHCs	89	156	245	0.1	0.1	0.1

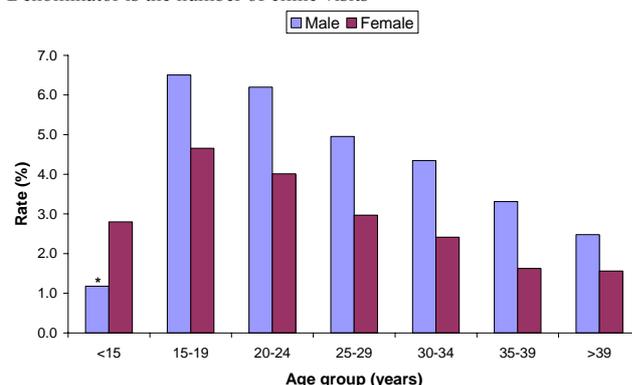
¹ Cases / total number of clinic visits.

² Total includes cases with unknown sex.

Of these, the majority of cases of genital warts were of European ethnicity in all clinic types: SHCs – 70.7% (2275 cases), FPCs – 72.8% (370 cases), and SYHCs – 82.2% (198 cases).

Figure 18. Clinic visit rates of genital warts (first presentation) reported by SHCs by age group and sex, 2009

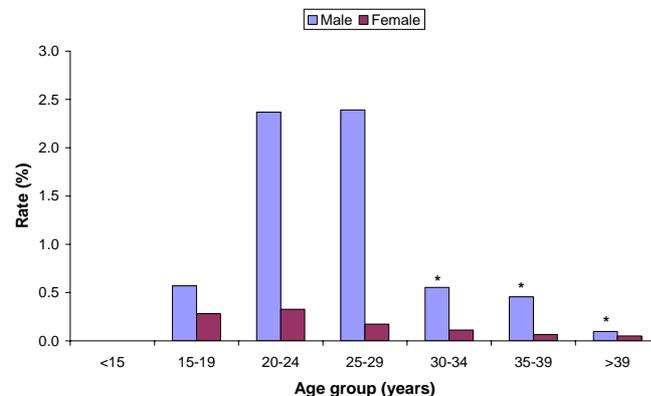
Denominator is the number of clinic visits



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

Figure 19. Clinic visit rates of genital warts (first presentation) reported by FPCs by age group and sex, 2009

Denominator is the number of clinic visits



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

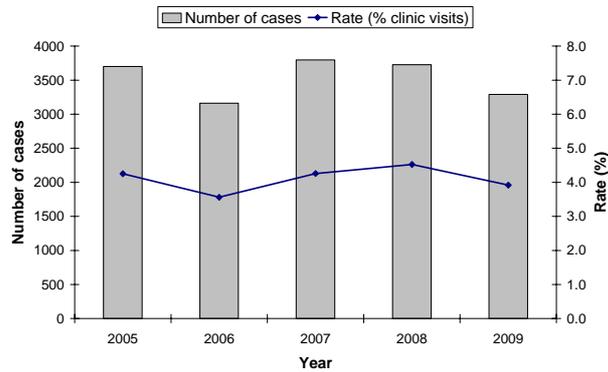
Note: In FPCs the male to female ratio of attendees is 1:18.

GENITAL WARTS TRENDS

From 2005 to 2009, both the number of cases and the clinic visit rates of genital warts reported by SHCs have remained stable with minor decreases in 2006 and 2009. During this period the number of cases of genital warts decreased by 11.1% (3701 to 3290 cases). The clinic visit rate of genital warts reported by SHCs decreased by 7.9% (4.3% to 3.9%) (Figure 20).

Figure 20. Number of cases and clinic visit rates of genital warts (first presentation) reported by SHCs, 2005 to 2009

Denominator is the number of clinic visits



INFECTIOUS SYPHILIS

Infectious syphilis (primary, secondary or early latent) is caused by *Treponema pallidum*. The first stage of the disease presents as an ulcerative infection that heals spontaneously. If untreated, secondary syphilis will develop in two to eight weeks, and one-third of cases will progress to tertiary syphilis some years later. Untreated early syphilis during pregnancy almost always results in perinatal death or congenital infections and complications. In untreated cases, vertical transmission of syphilis, i.e. from mother to baby, can occur for at least four years, whereas sexual transmission is usually only for one year [8]. Only cases of infectious syphilis (primary, secondary and early latent) are reported by clinics for surveillance purposes.

SYPHILIS REPORTING IN 2009

Between 2008 and 2009, the number of cases of syphilis increased by 50.0% in SHCs (92 to 138 cases) and the clinic visit rate increased by 47.2% (0.1% to 0.2%). In 2009, two cases of syphilis were reported by FPCs and four cases by SYHCs.

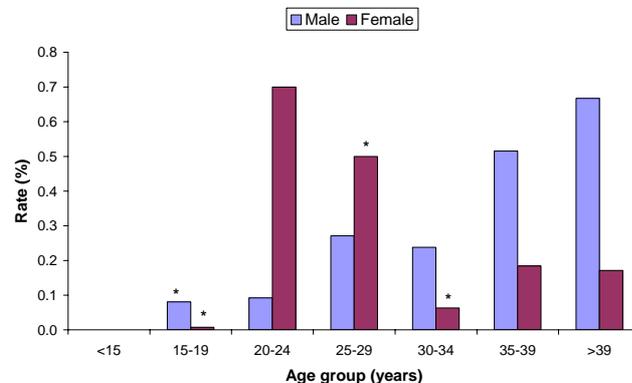
Of the 144 cases of syphilis reported in 2009, 80.6% (116 cases) were male and 19.4% (28 cases) were female. The mean age of cases of syphilis was 40 years (range 17 to 81 years).

Figure 21 presents the clinic visit rates of syphilis reported by SHCs by age group and sex. In SHCs, the highest number of cases of syphilis for both sexes was in the 40+ years age group (males - 53 cases with a clinic visit rate of 0.7%, females - 9 cases, with a clinic visit rate of 0.2%).

Ethnicity was recorded for 93.5% (129/138) of the reported cases of syphilis in SHCs. Of these, the highest percentage of cases were of European ethnicity (55.8%, 72 cases), followed by Other ethnicity (25.6%, 33 cases), Pacific Peoples (11.6%, 15 cases), and Māori (7.0%, 9 cases).

Figure 21. Clinic visit rates of syphilis reported by SHCs by age group and sex, 2009

Denominator is the number of clinic visits



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

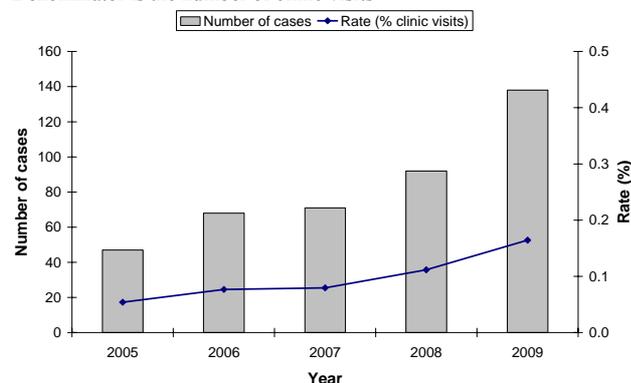
SYPHILIS TRENDS

In 2009, the majority of cases of syphilis (77.5%) for all clinic types occurred in the greater Wellington region (45 cases), Auckland (31 cases) and Christchurch (31 cases).

Between 2005 and 2009, the number of cases of syphilis reported by SHCs increased by 193.6% (47 to 138 cases). Although the overall number of cases of syphilis remains low compared to other STIs, case numbers and clinic visit rates have steadily increased over the last five years (Figure 22).

Figure 22. Number of cases and clinic visit rates of syphilis reported by SHCs, 2005 to 2009

Denominator is the number of clinic visits



NON-SPECIFIC URETHRITIS (MALES ONLY)

Non-specific urethritis (NSU) 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.

NSU REPORTING IN 2009

Between 2008 and 2009, the number of cases of NSU decreased by 0.7% in SHCs (738 to 733). The clinic visit rate of NSU reported by SHCs was 2.1%. In 2009, 6 cases of NSU were reported by FPCs and 17 cases by SYHCs.

The mean age for cases of NSU was 31 years in SHCs (range 15 to 77 years), 22 years in FPCs (range 19 to 23 years), and 22 SYHCs (range 18 to 31 years) in SYHCs.

In SHCs, the highest number of cases of NSU was in the 20 to 24 years age group (168 cases). The highest clinic visit rate of NSU in SHCs was observed in the 30 to 34 years age group with a clinic visit rate of 2.5% (Figure 23).

NSU TRENDS

From 2005 to 2009, both the number of cases and clinic visit rate of NSU reported by SHCs decreased by 14.3% (855 to 733 cases and 2.5% to 2.1%, respectively) (Figure 24).

Figure 23. Clinic visit rates of NSU reported by SHCs by age group, 2009

Denominator is the number of male clinic visits

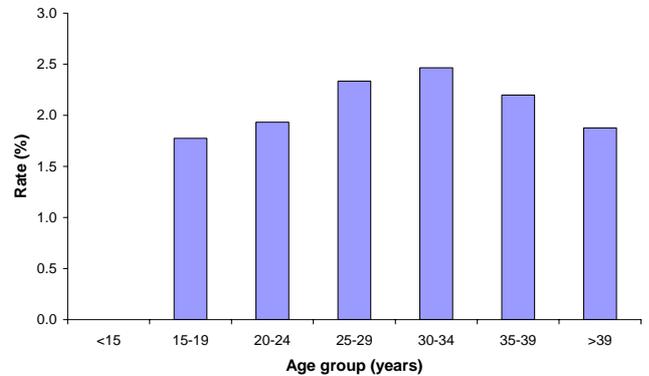
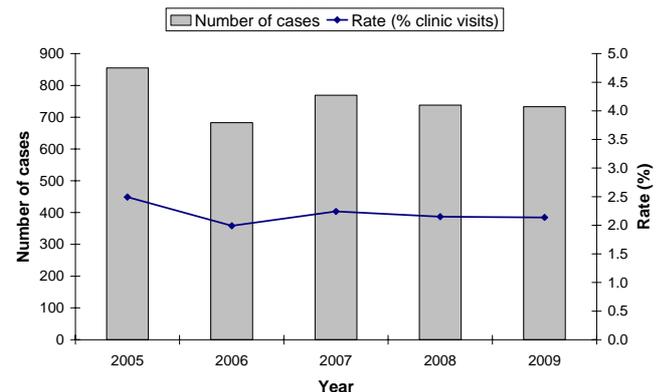


Figure 24. Number of cases and clinic visit rates of NSU reported by SHCs, 2005 to 2009

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 reported to have more than one confirmed STI during the same year. Multiple confirmed STIs can be reported 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 reported in the same month are referred to as concurrent infections. Multiple STIs reported in different months are referred to as subsequent infections. Some clinic attendees are reported to have 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.

It is not possible to determine what proportion of clinic attendees were reported with concurrent infections, as SHC surveillance does not record the total number of unique patients attending, but rather the total number of clinic visits.

CONCURRENT INFECTIONS

In 2009, SHCs reported 635 attendees with concurrent infections. Of these, 624 attendees (98.3%) were reported with two infections and 11 attendees (1.7%) were reported with three or more infections.

Table 10 presents a comparison of the sex of attendees with one or concurrent STIs reported by SHCs. Compared to attendees with one STI, a greater proportion of male attendees had concurrent infections.

Table 10. Comparison of the sex of attendees with one or concurrent STIs reported by SHCs, 2009

Sex	One STI (%)	Two or more STIs (%)
Male	4 679 (52.1)	356 (56.1)
Female	4 302 (47.9)	279 (43.9)
Unknown	-	-
Total	8 981	635

A significantly higher proportion of those with concurrent infections were young people. Over 70% of those with concurrent infections were aged less than 25 years (Table 11).

Table 11. Comparison of the age group of attendees with one or concurrent STIs reported by SHCs, 2009

Age group (years)	One STI (%)	Two or more STIs (%)
<15	81 (0.9)	9 (1.4)
15 to 19	2 478 (27.6)	243 (38.3)
20 to 24	2 787 (31.0)	214 (33.7)
25 to 29	1 485 (16.5)	94 (14.8)
30 to 34	829 (9.2)	39 (6.1)
35 to 39	494 (5.5)	17 (2.7)
>39	826 (9.2)	19 (3.0)
Unknown	1 (0.0)	0 (0.0)
Total	8 981	635

Compared to SHC attendees with one STI, a greater proportion of Māori or Pacific Peoples attendees had concurrent infections (Table 12).

Table 12. Comparison of the ethnicity of attendees with one or concurrent STIs reported by SHCs, 2009

Ethnicity	No. of patients	One STI (%)	Two or more STIs (%)
European	5 566	95.3	4.7
Māori	2 530	89.7	10.3
Pacific Peoples	657	89.8	10.2
Other	676	94.2	5.8
Unknown	187	95.2	4.8
Total	9 616	-	-

The different combinations of STIs reported for attendees who had two or three infections are shown in tables 13 and 14 respectively.

In SHC attendees with two STIs, the combination of chlamydia and gonorrhoea accounted for 46.8% (290/620) of concurrent infections. Chlamydia and genital warts accounted for a further 33.2% (206/620) of concurrent infections.

In those with three STIs reported the combination of chlamydia, gonorrhoea and genital warts accounted for 50.0% (5/10) of concurrent infections.

Table 13. Number of attendees with two concurrent STIs reported by SHCs, 2009

STIs	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	290				
Genital herpes	44	8			
Genital warts	206	10	20		
Syphilis	10	1	2	2	
Non-specific urethritis (NSU)	NA	NA	8	19	0

NA=not applicable

Table 14. Number of attendees with three concurrent STIs reported by SHCs, 2009

First STI	Second STI	Third STI	No. of patients
Chlamydia	Gonorrhoea	Genital warts	5
Chlamydia	Gonorrhoea	Genital herpes	2
Chlamydia	Genital herpes	Genital warts	2
Chlamydia	Gonorrhoea	Syphilis	1

SUBSEQUENT INFECTIONS

In 2009, SHCs reported 568 attendees with subsequent infections. Of these, 521 attendees were reported with an STI twice, and a further 47 attendees were reported with an STI on three or more separate occasions within 2009.

There was a higher percentage of female attendees (53.9%, 306 attendees) compared to male attendees (46.1%, 262 attendees) with subsequent infections.

The age groups with the highest percentage of attendees with subsequent infections were the 15 to 19 years (37.9%, 215 attendees), 20 to 24 years (29.2%, 166 attendees), and 25 to 29 years (15.8%, 90 attendees) age groups.

Of the 561 attendees (98.8%) with known ethnicity, the highest percentage of attendees were of European ethnicity (49.9%, 280 attendees), followed by Maori (33.0%, 185 attendees), Pacific Peoples (9.4%, 53 attendees), and Other ethnicity (7.7%, 43 attendees).

The highest percentage of attendees with subsequent infections reported chlamydia as one of the STIs diagnosed (59.0%, 335 attendees), followed by genital warts (30.8%, 175 attendees), genital herpes (12.0%, 68 attendees), NSU (10.4%, 59 attendees), and syphilis (1.1%, 6 attendees).

Of the 568 attendees reported with subsequent infections, 86.1% (489 attendees) had a single infection followed by a single infection, 12.7% (72 attendees) had a mixture of concurrent and single infections, and 1.2% (7 attendees) had a concurrent infection followed by another concurrent infection.

The highest percentage of attendees reported with subsequent infections had two different STIs (50.7%, 288 attendees), followed by those with one STI (46.1%, 262 attendees) (Table 15). Of the attendees who were diagnosed and reported with two different STIs, 77.4% (223 attendees) had only single infection episodes and 22.6% (65 attendees) had at least one concurrent infection episode.

Table 15. Number of attendees with subsequent infections and number of different STIs reported by SHCs, 2009

No. of different STIs*	No. of attendees (%)
1	262 (46.1%)
2	288 (50.7%)
3	17 (3.0%)
4	1 (0.2%)
Total	568

*The following were considered as different infections: chlamydia, gonorrhoea, genital herpes, genital warts, syphilis, and NSU (males only).

LABORATORY SURVEILLANCE

CHLAMYDIA

CHLAMYDIA REPORTING IN 2009

In 2009, laboratories from 16 DHBs met the selection criteria for reporting. Laboratories in these DHBs tested 294 355 specimens for chlamydia, of which 27 488 (9.3%) specimens tested positive from 25 614 patients. The national chlamydia rate, based on 16 DHBs, was 803 per 100 000 population (25 614 cases). Table 16 presents the percentage of specimens tested for chlamydia that were positive, number of test-positive chlamydia cases, and chlamydia population rates by DHB and sex for 2009.

Age and sex information was recorded for 98.6% (25 265/25 614) and 99.6% (25 515/25 614) of cases of chlamydia, respectively. The national rate for females (1178 per 100 000 population, 19 135 cases) was almost three times of the national rate for males (408 per 100 000 population, 6380 cases). The highest DHB rate of chlamydia was reported for Tairāwhiti DHB (1189 per 100 000 population, 548 cases) followed by Lakes (1173 per 100 000 population, 1211 cases) and Hawke's Bay (1097 per 100 000 population, 1681 cases) DHBs.

The mean age of cases of chlamydia was 22 years (median age 20 years, range 0 to 87 years).

Seventy-one percent (18 298) of positive cases were aged 15 to 24 years. The highest national age-specific rate of chlamydia occurred in the 20 to 24 years age group for males (1932 per 100 000 population, 2202 cases), almost two and a half times the national rate. For females the highest age-specific rate occurred in the 15 to 19 years age group (7098 per 100 000 population, 8375 cases), almost nine times the national rate. The highest DHB age-specific rate was in the 15 to 19 years age group from Tairāwhiti DHB (7427 per 100 000 population, 267 cases). Table 17 presents the number of test-positive cases and chlamydia rates by DHB and age group for 2009.

In 2009, 140 (73 male, 66 female and 1 sex unknown) cases of chlamydia were reported for the less than one year age group. The highest number of chlamydia cases aged less than one year were reported from Auckland, Counties Manukau and Waitemata DHBs (a total of 43 male and 42 female cases). Age-specific rates by DHB could not be calculated separately for this age group, as estimated population data was not available.

Table 16. Percentage of specimens tested that were positive for chlamydia, number of test-positive chlamydia cases, and chlamydia population rates by DHB and sex, 2009

District Health Board	Specimens tested positive (%)	No. of test-positive cases				Rate per 100 000 population		
		Male	Female	Unknown	Total	Male	Female	Total
Northland	13.0	359	1 131	3	1 493	469	1 430	959
AK-WA-CM	7.3	2 563	7 451	10	10 024	359	1 006	689
Waikato	10.6	869	2 220	1	3 090	490	1 214	858
Lakes	11.5	245	963	3	1 211	483	1 833	1 173
Bay of Plenty	9.9	357	1 636	16	2 009	352	1 537	967
Tairāwhiti	12.3	117	431	0	548	521	1 824	1 189
Taranaki	10.1	238	565	1	804	445	1 031	742
Hawke's Bay	13.4	407	1 272	2	1 681	545	1 618	1 097
Whanganui	13.1	73	235	22	330	241	746	534
MidCentral	17.9	419	1 199	5	1 623	520	1 408	979
Wairarapa	12.6	45	195	23	263	231	952	658
West Coast	10.3	50	118	0	168	303	738	517
Otago	7.3	419	974	10	1 403	454	1 013	744
Southland	10.2	219	745	3	967	393	1 337	867
Other ¹	13.1	567	1 224	2	1 793	-	-	-
Total ²	9.3	6 380	19 135	99	25 614	408	1 178	803

AK-WA-CM: Auckland / Waitemata / Counties Manukau

¹ Data from other DHBs where selection criteria was not met

² Total number and denominator for rate calculations only includes DHBs meeting the selection criteria

Table 17. Number of test-positive cases and chlamydia rates by DHB and age group, 2009

Age group (years)	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40+		Unknown		Total	
District Health Board	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000
Northland	5	45	0	-	39	324	770	6 909	409	4 970	125	1 860	66	879	33	342	46	59	0	-	1 493	959
AK-WA-CM	90	84	7	7	95	94	3 132	2 826	3 388	3 033	1 568	1 402	768	752	453	408	515	86	8	-	10 024	689
Waikato	12	44	0	-	57	214	1 332	4 737	1 030	4 104	353	1 588	177	853	72	299	50	31	7	-	3 090	858
Lakes	10	124	4	-	35	434	538	6 992	367	5 987	125	2 168	59	959	40	559	32	69	1	-	1 211	1 173
Bay of Plenty	8	55	0	-	78	518	991	6 678	527	4 864	208	1 975	87	789	42	311	54	52	14	-	2 009	967
Tairāwhiti	1	-	0	-	23	587	267	7 427	159	5 679	47	1 946	23	918	15	500	10	49	3	-	548	1 189
Taranaki	7	91	0	-	10	129	258	3 295	185	2 960	53	905	19	317	18	251	11	21	243	-	804	742
Hawke's Bay	7	63	2	-	49	415	795	7 111	491	5 770	154	1 994	77	925	48	477	57	78	1	-	1 681	1 097
Whanganui	0	-	1	-	4	-	124	2 704	81	2 137	37	1 221	16	527	5	132	7	23	55	-	330	534
MidCentral	6	52	2	-	23	197	717	5 389	536	4 285	177	1 760	66	730	38	360	48	63	10	-	1 623	979
Wairarapa	1	-	0	-	7	251	128	4 655	78	4 309	20	1 136	17	914	7	283	5	24	0	-	263	658
West Coast	0	-	0	-	4	-	79	3 616	57	3 455	14	903	8	455	6	276	0	-	0	-	168	517
Otago	3	-	0	-	14	128	522	3 216	568	3 105	157	1 381	64	633	26	221	42	47	7	-	1 403	744
Southland	2	-	1	-	12	165	440	5 995	329	4 903	109	1 441	37	492	16	197	21	40	0	-	967	867
Other ¹	9	-	3	-	27	-	656	-	651	-	225	-	106	-	49	-	67	-	0	-	1 793	-
Total ²	152	66	17	8	450	199	10 093	4 177	8 205	3 657	3 147	1 510	1484	751	819	365	898	63	349	-	25 614	803

AK-WA-CM: Auckland / Waitemata / Counties Manukau

¹ Data from other DHBs where selection criteria was not met

² Total number and denominator for rate calculations only includes DHBs meeting the selection criteria

CHLAMYDIA TRENDS

Figure 25 presents the chlamydia restricted national rate for 2006 to 2009. Figure 26 presents chlamydia rates by DHB for 2006 to 2009.

Nine DHBs met the selection criteria for the restricted national rate trend analysis for chlamydia. Between 2008 and 2009, the chlamydia restricted national rate increased by 1.7% (759 to 772 per 100 000 population). From 2006 to 2009, the chlamydia restricted national rate increased by 11.3% (694 to 772 per 100 000 population).

Ten DHBs met the selection criteria for the individual DHB trend analysis. From 2006 to 2009 the chlamydia rate increased in all DHBs, although the percentage increase for the combined Auckland region DHBs was very small (0.5%). The highest percentage increase in rate was reported for Southland DHB (which rose from 571 to 867 per 100 000 population) followed by Hawke's Bay DHB (733 to 1 097 per 100 000 population).

Figure 25. Chlamydia restricted national rate, 2006 to 2009

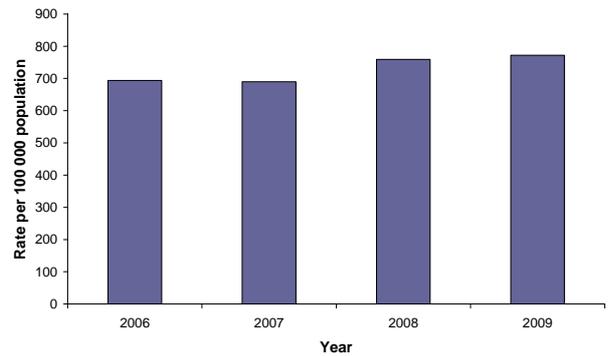
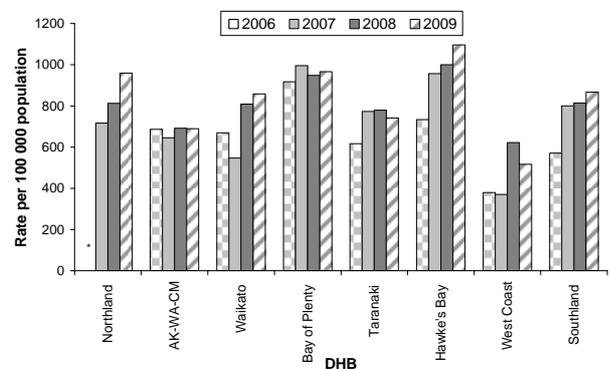


Figure 26. Chlamydia rates by DHB, 2006 to 2009



AK-WA-CM: Auckland / Waitemata / Counties Manukau
*Data incomplete

GONORRHOEA

GONORRHOEA REPORTING IN 2009

In 2009, laboratories from 18 DHBs met the selection criteria for reporting. Laboratories in these DHBs tested 365 188 specimens for gonorrhoea, of which 3285 (0.9%) specimens tested positive from 2387 patients. The national gonorrhoea rate, based on 18 DHBs, was 66 per 100 000 population (2387 cases). Table 18 presents the percentage of specimens tested for gonorrhoea that were positive, number of test-positive gonorrhoea cases, and gonorrhoea population rates by DHB and sex for 2009.

Age and sex information was recorded for 99.2% (2368/2387) and 99.4% (2373/2387) of cases of gonorrhoea, respectively. The national rate for males (75 per 100 000 population, 1337 cases) was almost one and a half times of the national rate for females (56 per 100 000 population, 1036 cases). The highest DHB rate of gonorrhoea was reported for Tairāwhiti DHB (289 per 100 000 population, 133 cases) followed by Hawke's Bay (110 per 100 000 population, 168 cases) and Lakes (104 per 100 000 population, 107 cases) DHBs.

The mean age of cases of gonorrhoea was 24 years (median age 22 years, range 0 to 70 years). Sixty-three percent (1502) of positive cases were aged 15 to 24 years. The highest national age-specific rate of gonorrhoea occurred in the 20 to 24 years age group for males (343 per 100 000 population, 449 cases), over five times the national rate. For females the highest age-specific rate occurred in the 15 to 19 years age group (312 per 100 000 population, 416 cases), over four and a half times the national rate. The highest DHB age-specific rate was in the 20 to 24 years age group from Tairāwhiti DHB (1571 per 100 000 population, 44 cases). Table 19 presents the number of test-positive cases, and gonorrhoea rates by DHB and age group for 2009.

Six (2 male, 3 female and 1 sex unknown) cases of gonorrhoea were reported for the less than one year age group. The highest number of gonorrhoea cases aged less than one year was observed from Auckland, Counties Manukau and Waitemata DHBs (a total of 1 male, 3 female and 1 sex unknown cases). Age-specific rates by DHB could not be calculated separately for this age group, as estimated population data was not available.

Table 18. Percentage of specimens tested that were positive for gonorrhoea, number of test-positive gonorrhoea cases, and gonorrhoea population rates by DHB and sex, 2009

District Health Board	Specimens tested positive (%)	Number of test-positive cases				Rate per 100 000 population		
		Male	Female	Unknown	Total	Male	Female	Total
Northland	0.2	18	4	0	22	24	-	14
AK-WA-CM	0.8	549	371	1	921	77	50	63
Waikato	0.9	115	95	1	211	65	52	59
Lakes	1.6	63	43	1	107	124	82	104
Bay of Plenty	1.0	60	61	1	122	59	57	59
Tairāwhiti	2.3	65	63	5	133	289	267	289
Taranaki	0.9	9	40	0	49	17	73	45
Hawke's Bay	3.1	85	83	0	168	114	106	110
Whanganui	0.8	21	11	0	36	82	35	58
MidCentral	0.5	71	56	0	127	88	66	77
HV-CC	1.2	189	120	3	312	90	54	73
Wairarapa	0.7	14	10	0	24	72	49	60
West Coast	0.4	4	6	0	10	-	38	31
Otago	0.6	31	33	1	65	34	34	34
Southland	2.1	39	40	1	80	70	72	72
Other ¹	2.1	89	63	0	152	-	-	-
Total ²	0.9	1 337	1 036	14	2 387	75	56	66

AK-WA-CM: Auckland / Waitemata / Counties Manukau

HV-CC: Hutt Valley / Capital & Coast

¹ Data from other DHBs where selection criteria was not met

² Total number and denominator for rate calculations only includes DHBs meeting the selection criteria

Table 19. Number of test-positive cases and gonorrhoea rates by DHB and age group, 2009

Age Group (years)	0 to 4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40+		Unknown		Total	
	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000
Northland	0	-	0	-	0	-	7	63	8	97	3	-	2	-	2	-	0	-	0	-	22	14
AK-WA-CM	8	7	2	-	3	-	229	207	287	257	161	144	93	91	58	52	78	13	2	-	921	63
Waikato	0	-	0	-	6	23	80	284	65	259	30	135	15	72	11	46	4	-	0	-	211	59
Lakes	0	-	0	-	6	74	30	390	38	620	14	243	5	81	3	-	9	19	2	-	107	104
Bay of Plenty	0	-	0	-	0	-	35	236	40	369	22	209	13	118	4	-	7	7	1	-	122	59
Tairāwhiti	0	-	0	-	4	-	55	1 530	44	1 571	15	621	7	279	6	200	2	-	0	-	133	289
Taranaki	0	-	0	-	1	-	22	281	16	256	3	-	3	-	3	-	0	-	1	-	49	45
Hawke's Bay	0	-	0	-	4	-	68	608	50	588	19	246	18	216	5	50	4	-	0	-	168	110
Whanganui	0	-	0	-	0	-	6	131	10	264	5	165	4	-	0	-	1	-	10	-	36	58
MidCentral	0	-	0	-	0	-	40	301	44	352	23	229	8	88	6	57	5	7	1	-	127	77
HV-CC	1	-	1	-	1	-	89	287	103	298	58	178	23	76	15	45	21	11	0	-	312	73
Wairarapa	0	-	0	-	0	-	11	400	6	331	4	-	1	-	1	-	1	-	0	-	24	60
West Coast	0	-	0	-	0	-	2	-	7	424	1	-	0	-	0	-	0	-	0	-	10	31
Otago	0	-	0	-	0	-	21	129	20	109	17	150	4	-	1	-	1	-	1	-	65	34
Southland	0	-	0	-	0	-	34	463	35	522	6	79	1	-	2	-	1	-	1	-	80	72
Other ¹	0	-	0	-	2	-	47	-	55	-	19	-	12	-	6	-	11	-	0	-	152	-
Total ²	9	3	3	-	25	10	729	267	773	299	381	158	197	86	117	45	134	8	19	-	2 387	66

AK-WA-CM: Auckland / Waitemata / Counties Manukau

HV-CC: Hutt Valley / Capital & Coast

¹ Data from other DHBs where selection criteria was not met

² Total number and denominator for rate calculations only includes DHBs meeting the selection criteria

GONORRHOEA TRENDS

Figure 27 presents the gonorrhoea restricted national rate for 2006 to 2009. Figure 28 presents gonorrhoea rates by DHB for 2006 to 2009.

Ten DHBs met the selection criteria for the restricted national rate trend analysis for gonorrhoea. Between 2008 and 2009, the gonorrhoea restricted national rate decreased by 12.4% (75 to 65 per 100 000 population). From 2006 to 2009, the gonorrhoea restricted national rate decreased by 22.0% (83 to 65 per 100 000 population).

Fourteen DHBs met the selection criteria for the individual DHB trend analysis. From 2006 to 2009 the change in rates of gonorrhoea varied across the DHBs with some DHBs experiencing an increase and other DHBs a decrease in rates. The highest percentage increase in rate was reported for Taranaki DHB (which rose from 11 to 45 per 100 000 population). The largest percentage decrease in rate was reported for Waikato DHB (which dropped from 107 to 59 per 100 000 population).

Figure 27. Gonorrhoea restricted national rate, 2006 to 2009

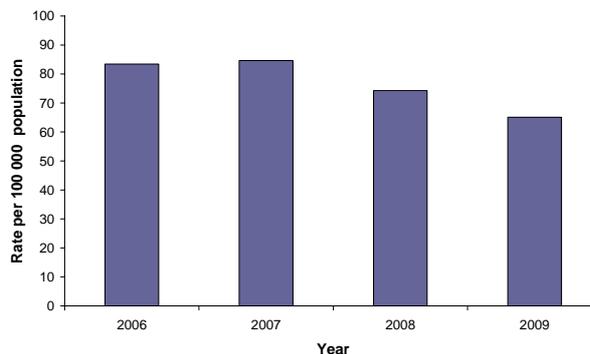
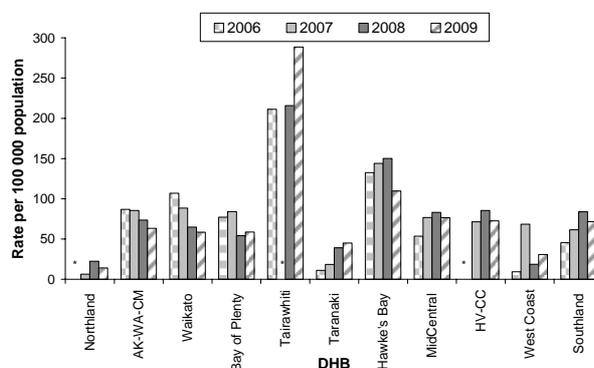


Figure 28. Gonorrhoea rates by DHB, 2006 to 2009



AK-WA-CM: Auckland / Waitemata / Counties Manukau

HV-CC: Hutt Valley / Capital & Coast

*Data incomplete

HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNE DEFICIENCY SYNDROME

Acquired immune deficiency syndrome (AIDS), but not human immunodeficiency virus (HIV) infection, is a notifiable disease in New Zealand. The AIDS Epidemiology Group (AEG) within the University of Otago carries out national HIV/AIDS surveillance and it is their data which is reported here. A more detailed account of HIV/AIDS in New Zealand in 2009 is available in the publication AIDS – New Zealand [9].

HUMAN IMMUNODEFICIENCY VIRUS

In 2009, a total of 199 people were reported to the AEG as having HIV infection. This comprised of 151 people diagnosed through antibody testing in New Zealand and a further 48 people were reported with HIV through viral load testing (most of whom had previously been diagnosed overseas).

Of the 151 people diagnosed through antibody testing in 2009, 73 were men infected through sex with other men, 50 (24 men and 26 women) through heterosexual contact, 5 (all men) through injecting drug use, three through mother-to-child transmission, and two through possible health care related infection overseas. The means of infection was unknown or unreported for the remaining 18 people.

Amongst the 48 people reported through viral load testing, 18 were men infected through sex with other men, 10 (3 men and 7 women) through heterosexual contact, and two were children infected through mother-to-child transmission. For the remaining 18 people the means of infection was unknown or unreported.

ACQUIRED IMMUNE DEFICIENCY SYNDROME

In 2009, 28 people were notified with AIDS. Of these, 15 were men infected through sex with other men, 9 (5 men and 4 women) through heterosexual contact, two were children infected through mother-to-child transmission, and one through injecting drug use. The means of infection was unknown one person.

In 2009, two deaths due to AIDS were reported to the AEG. However, this number may increase due to delayed notifications.

DISCUSSION

Chlamydia

Chlamydia was again the most commonly reported STI in New Zealand in 2009. Over recent years case numbers and clinic visit rates had been trending upwards across the three clinic types. However, in 2009, case numbers decreased in both SHCs and SYHCs, in contrast a small increase was reported in FPCs. Clinic visit rates decreased in SHCs and FPCs and remained the same in SYHCs. In contrast, data from laboratory surveillance showed a steady increase in the restricted national chlamydia rate over the last four years. The restricted national rate trend analysis is based on data from nine DHBs so may not accurately reflect the true national trend. However, as laboratory data provides the most comprehensive set of chlamydia positive results, from a range of health care providers including General Practitioners, it is more likely than the clinic-based surveillance to reflect actual trends in disease detection within the New Zealand population.

It is difficult to determine at this stage whether the Chlamydia Management Guidelines, released by the Ministry of Health in mid-2008 are contributing to the upward trend in laboratory chlamydia diagnoses [10]. These guidelines include recommendations for opportunistic testing for chlamydia in at-risk groups. Pilot implementation of the guidelines began in mid-2009 in the Waikato and Lakes regions, with an Auckland pilot due to start in 2010. Project data from the Waikato DHB found high baseline rates of chlamydia testing and detection in those aged less than 25 years. Preliminary findings post-implementation include increased testing of those at higher risk, but only a small impact on overall test volumes because of reduced testing amongst older non-Māori women.[11] If the implementation is successful in reaching those at-risk, surveillance data should show an increase in the number of cases detected. Over a longer period of time, success can be measured by continued high rates of testing in at-risk groups but a decreasing test-positivity rate, indicating a reduction in the overall burden of chlamydia in at-risk groups. At present only the total numbers of tests are reported for routine laboratory surveillance data. Additional demographic data (e.g. age and sex) for patients tested will be required to monitor implementation of the guidelines.

Gonorrhoea

As gonorrhoea is more likely to cause symptomatic infection than chlamydia (especially in males), trends in gonorrhoea rates are considered to better reflect changes in STI incidence and sexual behaviour. Analysis of the laboratory data indicates a decrease in gonorrhoea rates nationally over the last four years (based on 10 DHBs). However, trends for individual DHBs show considerable variation across the country with some regions showing an increase and others a decrease over the last four years. It was not possible to determine from the available surveillance data whether the regional differences reflect regional variations in disease burden or regional variations in testing policies, and consequently it is difficult to interpret the decline seen in the national gonorrhoea rate.

At-risk groups

As in previous years, those aged less than 25 years and non-Europeans showed a disproportionate burden of STIs in 2009. The highest numbers and rates for each STI were almost always seen in the 15 to 19 years and 20 to 24 years age groups, both in the clinic and laboratory surveillance data. The exception to this was syphilis where older age groups had the higher disease burden. The STI clinic visit rates were higher in non-European ethnic groups; even though the highest percentage of clinic attendees reported with an STI were European. STI rates by ethnicity can only be calculated from clinic data as ethnicity data is not collected and stored by laboratories.

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

Neonatal chlamydia and gonorrhoea cases continue to occur with laboratory data reporting 140 chlamydia cases and six gonorrhoea cases aged less than one year in 2009. These neonatal infections highlight the need to improve STI screening during pregnancy. The Chlamydia Management Guidelines recommend that all pregnant women are tested during their first trimester and that testing is repeated in the third trimester if there are ongoing risk factors [10].

Also, the New Zealand College of Midwives have made a consensus statement that promotes discussion between midwives and women on the

International comparisons

Several factors affect the ability to compare New Zealand data to incidence rates reported in other countries.

- The collection methods for STI surveillance data vary widely between countries, and are influenced by local STI screening practices.
- The New Zealand incidence rates are based on data from many but not all of the laboratories in New Zealand.
- The incidence rates vary geographically within New Zealand and may not be representative of the overall New Zealand rate.

These factors make it difficult to meaningfully compare incidence rates between New Zealand and other countries.

The estimated national chlamydia rate for New Zealand in 2009 (803 per 100 000 population) was two to four times higher than the national chlamydia rates most recently published for Australia (287 per 100 000 population in 2009), the United Kingdom (202 per 100 000 population in 2008), and the United States (401 per 100 000 population in 2008) [13-15]. For gonorrhoea, the estimated national rate for New Zealand in 2009 (66 per 100 000 population) was approximately twice the national rates observed in Australia (37 per 100 000 population in 2009) and the United Kingdom (27 per 100 000 population in 2008) [13, 14] but just over half the 2008 United States rate (112 per 100 000 population) [15].

Emerging/re-emerging STIs

Although syphilis numbers remain low compared with other STIs, the number of cases reported by SHCs continues to climb. Between 2008 and 2009 an increase of 50% was reported (92 to 138 cases). This year is first time syphilis cases have also been reported by SYHCs. This steady increase is of concern as increases in STIs such as syphilis are a marker for behaviours associated with HIV transmission. In addition, syphilitic lesions make it easier to transmit and acquire HIV infection; there is a two to five fold increased risk of transmitting HIV when syphilis is present [15].

Syphilis cases diagnosed outside of the participating clinics (e.g. General Practices, hospitals) are not captured in current syphilis surveillance. Therefore, the syphilis numbers

risks of STIs during pregnancy and the offer of screening for STIs [12].

reported here will underestimate the true disease burden, as shown in research using laboratory data on positive serological syphilis tests in the greater Wellington region [16]. In the event that syphilis becomes a notifiable disease, quantifying the true disease burden will be easier through direct laboratory notification (see below). However, enhanced surveillance of syphilis remains important to collect the risk factor information necessary to develop and implement control measures to reverse the increasing trend.

Limitations of current surveillance system

Improvements to the reporting of laboratory surveillance data were implemented during 2009. Using laboratory data, population-based rates of chlamydia and gonorrhoea are now being reported for many DHBs, along with estimates of national rates for these infections. This is the first time, since STI surveillance began more than a decade ago, that comprehensive regional and national rates have been produced. Increased participation of laboratories across New Zealand in this voluntary system has enabled this to occur but there are still sizeable gaps in laboratory participation, particularly in the South Island. This limits the representativeness and sensitivity of the data.

Chlamydia, gonorrhoea and syphilis have been added to the notifiable diseases schedule in the proposed Public Health Bill which has completed its first reading in Parliament and is waiting for its second reading. If these STIs are made notifiable STI surveillance will be vastly improved through direct laboratory reporting, a legal requirement for all notifiable conditions under the Epidemic Preparedness Act (2006). However, other solutions would still be needed to obtain the more comprehensive data required for effective monitoring and public health action, such as the ethnicity of cases, their area of residence, and other risk factors and behaviours, as well as information on negative and not just positive tests.

Summary

The STI burden in New Zealand is considerable with young people under the age of 25 years and individuals from non-European ethnic groups over-represented amongst STI cases. Although case numbers of the syphilis are relatively low, they are increasing, and indicate a possible increase in behaviours associated with HIV transmission. The national STI surveillance system is reliant on the voluntary involvement of

SHCs, FPCs and SHYCs, as well as regional laboratories. While there are issues with the quality, generalisability, and sensitivity of the data, trends and at-risk groups can still be identified. While improvements were made to the reporting of laboratory STI surveillance data in 2009, addition of STIs to the notifiable diseases schedule and utilisation of direct laboratory notification would enable more comprehensive, robust, population-based rates for STIs to be generated across New Zealand. However, methods other than laboratory reporting will be needed to provide ethnicity, risk factor and exposure information important to direct public health action to reduce the burden and inequalities associated with STIs in New Zealand.

REFERENCES

1. Control of Communicable Diseases Manual, 19th Edition, D.L. Heymann, Editor. 2008, American Public Health Association: Washington.
2. Alder, M., et al., ABC of Sexually Transmitted Infections. 5th ed. 2004, London: BMJ Publishing Group.
3. Champoux, J.J., et al., Medical Microbiology: an introduction to infectious diseases. 2nd ed, ed. J.C. Sherris. 1990, New York: Elsevier Science Publishing Co.
4. Gray, E., J. Morgan, and J. Lindeman, Herpes simplex type 1 versus Herpes simplex type 2 in anogenital herpes; a 10 year study from the Waikato region of New Zealand. NZMJ, 2008. 121(1271).
5. Freeman, E.E., et al., Herpes simplex virus 2 infection increases HIV acquisition in men and women: systematic review and meta-analysis of longitudinal studies. AIDS, 2006. 20: p. 73-83.
6. Dickson, N.P., et al., Risk of HSV-2 acquisition increases over early adulthood: evidence from a cohort study. Sexually Transmitted Infections, 2006.
7. Gilson, R. and A. Mindel, Sexually transmitted infections. BMJ, 2001. 2001(322): p. 1160-4.
8. Patel, R. and F.E. Willmott, Chapter 9. Genital Ulcers, in Sexual Health Medicine, D. Russell, D. Bradford, and C. Fairley, Editors. 2005, IP Communications: Melbourne.
9. AIDS Epidemiology Group, AIDS – New Zealand, Issue 65, March 2010. 2010 [cited 2 March 2010; Available from: <http://dnmeds.otago.ac.nz/departments/psm/research/aids/pdf/65%20AIDS-NZ%20March%202010.pdf>].
10. Ministry of Health, Chlamydia Management Guidelines. 2008, Ministry of Health: Wellington.
11. Morgan, J. and A. Bell, Waikato DHB Chlamydia Project Final Report. 2010, Waikato District Health Board: Waikato.
12. New Zealand College of Midwives. NZCOM Consensus Statement: Sexually Transmitted Infections Screening. 2008 [cited 20 April 2010; Available from: <http://www.midwife.org.nz/index.cfm/3,108,559/sexually-transmitted-infections-final-2008.pdf>].
13. Department of Health and Ageing. Notifications of all diseases by state and territory and year. [cited 24 March 2010; Available from: http://www9.health.gov.au/cda/Source/Rpt_2_sel.cfm].
14. Health Protection Agency. Number of new episodes of selected diagnoses by sex and age group, 2004-2008. [cited 24 March 2010; Available from: http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1215589013442].
15. Centers for Disease Control and Prevention, Sexually Transmitted Disease Surveillance, 2008. 2009, U.S. Department of Health and Human Services: Atlanta, GA. [cited 24 March 2010; Available from: <http://www.cdc.gov/std/stats08/main.htm>].
16. Cunningham, R., et al., An outbreak of infectious syphilis in Wellington, New Zealand. NZMJ, 2007. 120(1260).

APPENDICES

APPENDIX A: STI SURVEILLANCE CASE DEFINITIONS

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

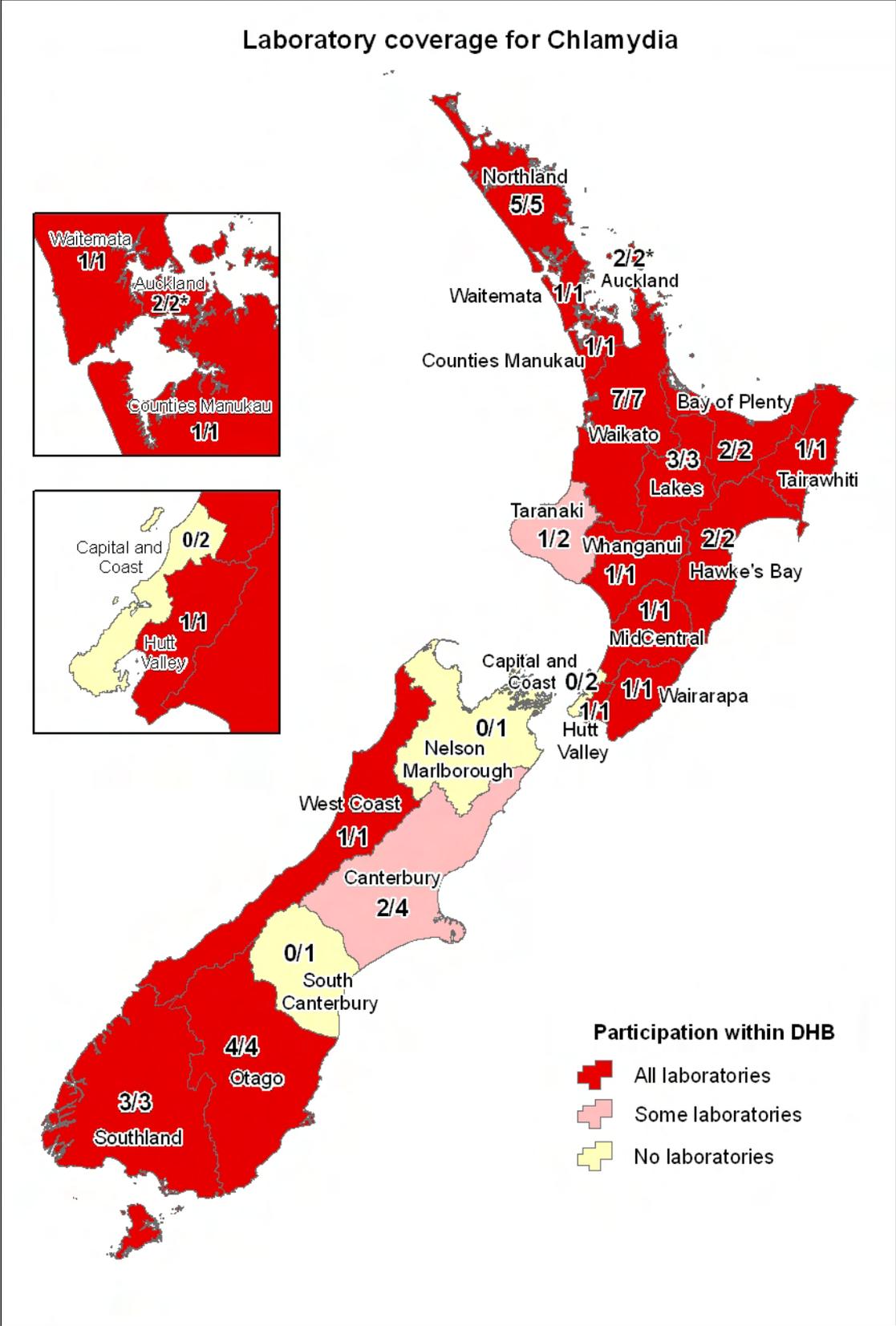
APPENDIX B: LIST OF PARTICIPATING LABORATORIES

In 2009 STI surveillance data was received from the following laboratories:

- Northland Pathology Laboratory, Northland
- Kaitaia Hospital Laboratory, Northland (Chlamydia only)
- Bay of Islands Hospital Laboratory, Northland (Chlamydia only)
- Whangarei Hospital Laboratory, Northland (Chlamydia only)
- Dargaville Hospital Laboratory, Northland (Chlamydia only)
- North Shore Hospital Laboratory, Waitemata (Chlamydia only)
- LabPlus, Auckland
- Labtests, Auckland (The contract for chlamydia & gonorrhoea testing transferred from Diagnostic Medlab to Labtests in August 2009)
- Diagnostic Medlab, Auckland (The contract for chlamydia & gonorrhoea testing transferred from Diagnostic Medlab to Labtests in August 2009)
- Middlemore Hospital Laboratory, Counties-Manukau
- Medlab Hamilton, Waikato
- Pathlab Waikato, Waikato
- Waikato Hospital Laboratory, Waikato
- Te Kuiti Hospital, Waikato
- Thames Hospital, Waikato
- Tokoroa Hospital, Waikato
- Taumarunui Hospital, Waikato
- Laboratory Services Rotorua, Lakes
- Taupo Southern Community Laboratory, Lakes
- Pathlab Bay of Plenty, Bay of Plenty
- Whakatane Hospital Laboratory, Bay of Plenty
- Gisborne Hospital Laboratory, Tairāwhiti
- Taranaki Medlab, Taranaki
- Hawke's Bay Hospital, Hawke's Bay (Chlamydia only)
- Hawke's Bay Southern Community Laboratory, Hawke's Bay
- Medlab Whanganui, Whanganui
- Medlab Central, MidCentral
- Medlab Wairarapa, Wairarapa
- Hutt Hospital Laboratory, Hutt Valley
- Aotea Pathology, Capital & Coast (Gonorrhoea only)
- Grey Hospital Laboratory, West Coast
- Canterbury Health Laboratories, Canterbury
- Christchurch Southern Community Laboratory, Canterbury
- Ashburton Southern Community Laboratory, Canterbury
- Oamaru Southern Community Laboratory, Otago
- Dunstan Southern Community Laboratory, Otago
- Otago Southern Community Laboratory, Otago
- Balclutha Southern Community Laboratory, Otago
- Queenstown Southern Community Laboratory, Southland
- Gore Southern Community Laboratories, Southland
- Invercargill Southern Community Laboratory, Southland

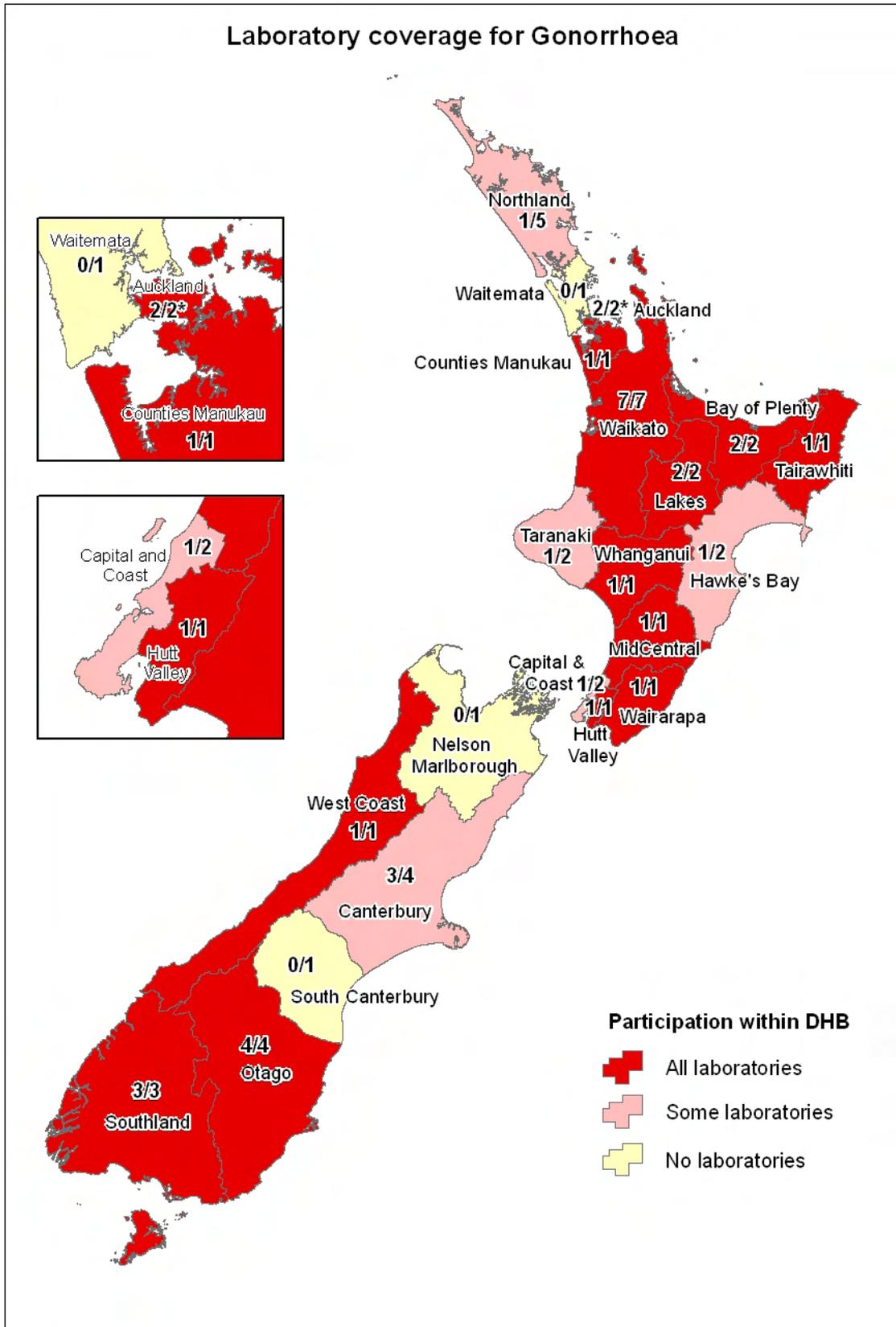
APPENDIX C: MAPS OF STI LABORATORY SURVEILLANCE COVERAGE FOR CHLAMYDIA AND GONORRHOEA, 2009

Figure 29. Laboratory surveillance coverage for chlamydia by DHB, 2009



* The contract for chlamydia testing transferred from Diagnostic Medlab to Labtests in August 2009

Figure 30. Laboratory surveillance coverage for gonorrhoea by DHB, 2009



* The contract for gonorrhoea testing transferred from Diagnostic Medlab to Labtests in August 2009

APPENDIX D: CLINIC-BASED SURVEILLANCE DATA

All clinic data

Table 20. Summary – disease rate by clinic type, 2009

<u>Clinic Type, by area</u>		<u>Total Clinic Visits¹</u>	<u>Chlamydia</u>	<u>Gonorrhoea</u>	<u>Genital Herpes^Δ</u>	<u>Genital Warts[^]</u>	<u>Syphilis[*]</u>
North							
Sexual Health Clinics	No.	24 543	1 365	250	228	969	32
	Rate ²		5.6%	1.0%	0.9%	3.9%	0.1%
Family Planning Clinics	No.	73 038	1 295	64	38	186	1
	Rate ²		1.8%	0.1%	0.1%	0.3%	0.0%
Student & Youth Health Clinics	No.	35 138	88	6	2	1	0
	Rate ²		0.3%	0.0%	0.0%	0.0%	0.0%
Subtotal North		132 719	2 748	320	268	1 156	33
Midland							
Sexual Health Clinics	No.	23 963	1 621	214	236	939	11
	Rate ²		6.8%	0.9%	1.0%	3.9%	0.0%
Family Planning Clinics	No.	30 072	825	70	25	70	0
	Rate ²		2.7%	0.2%	0.1%	0.2%	0.0%
Student & Youth Health Clinics	No.	46 977	78	2	5	12	0
	Rate ²		0.2%	0.0%	0.0%	0.0%	0.0%
Subtotal Midland		101 012	2 524	286	266	1 021	11
Central							
Sexual Health Clinics	No.	18 768	830	212	189	742	55
	Rate ²		4.4%	1.1%	1.0%	4.0%	0.3%
Family Planning Clinics	No.	40 951	800	29	70	115	1
	Rate ²		2.0%	0.1%	0.2%	0.3%	0.0%
Student & Youth Health Clinics	No.	74 109	443	21	47	92	3
	Rate ²		0.6%	0.0%	0.1%	0.1%	0.0%
Subtotal Central		133 828	2 073	262	306	949	59
South							
Sexual Health Clinics	No.	16 690	645	138	220	640	40
	Rate ²		3.9%	0.8%	1.3%	3.8%	0.2%
Family Planning Clinics	No.	46 594	536	37	66	175	0
	Rate ²		1.2%	0.1%	0.1%	0.4%	0.0%
Student & Youth Health Clinics	No.	87 856	256	12	49	140	1
	Rate ²		0.3%	0.0%	0.1%	0.2%	0.0%
Subtotal South		151 140	1 437	187	335	955	41
All regions							
Sexual Health Clinics	No.	83 964	4 461	814	873	3 290	138
	Rate ²		5.3%	1.0%	1.0%	3.9%	0.2%
Family Planning Clinics	No.	190 655	3 456	200	199	546	2
	Rate ²		1.8%	0.1%	0.1%	0.3%	0.0%
Student & Youth Health Clinics	No.	244 080	865	41	103	245	4
	Rate ²		0.4%	0.0%	0.0%	0.1%	0.0%
Total	No.	518 699	8 782	1 055	1 175	4 081	144
	Rate²		1.7%	0.2%	0.2%	0.8%	0.0%

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

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

^Δ First presentation at that clinic.

^{*} Infectious syphilis (primary secondary and early latent)

Table 21. Summary – chlamydia site of infection, 2009

	<i>Confirmed</i>						Total ³ No. ¹
	Uncomplicated lower anogenital		PID/epididymitis		Other site		
	No. ⁴	% ⁵	No.	%	No.	%	
Sexual Health Clinics	4 453	97.8%	83	1.8%	19	0.4%	4 555
Family Planning Clinics	3 392	98.1%	62	1.8%	5	0.1%	3 459
Student & Youth Health Clinics	854	98.7%	9	1.0%	2	0.2%	865
Total	8 699	98.0%	154	1.7%	26	0.3%	8 879

Table 22. Summary – gonorrhoea site of infection, 2009

	<i>Confirmed</i>								Total No.		
	Uncomplicated infection				PID/ epididymitis	Extra-genital					
	Urogenital		Anorectal			Pharynx		Other site			
	No.	%	No.	%	No.	%	No.	%		No.	
Sexual Health Clinics	721	88.1%	35	4.3%	22	2.7%	31	3.8%	9	1.1%	818
Family Planning Clinics	193	96.0%	2	1.0%	6	3.0%	0	0.0%	0	0.0%	201
Student & Youth Health Clinic	41	97.6%	1	2.4%	0	0.0%	0	0.0%	0	0.0%	42
Total	955	90.0%	38	3.6%	28	2.6%	31	2.9%	9	0.8%	1 061

³ Total = total no. of cases by clinic type; note that some cases may be counted more than once if the disease was confirmed at more than one site.

⁴ No. = no. of cases by site

⁵ % = no. of cases by site/total no. of diagnoses by clinic type, expressed as percentage

Sexual health clinic data

Table 23. Chlamydia - number of cases and disease rates by SHCs 2008 to 2009

<u>Total Clinic Visits⁶</u>			<u>2008</u>		<u>2009</u>	
<u>2008</u>	<u>2009</u>	<u>Clinic</u>	<u>Total No.</u>	<u>Rate⁷</u>	<u>Total No.</u>	<u>Rate²</u>
2 581	2 682	Whangarei	205	7.9%	183	6.8%
637	591	Dargaville	21	3.3%	27	4.6%
302	331	Kaikohe	24	7.9%	21	6.3%
20 172	20 939	Auckland	1 058	5.2%	1 134	5.4%
23 692	24 543	North	1 308	5.5%	1 365	5.6%
9 008	9 163	Hamilton	638	7.1%	621	6.8%
7 755	9 281	Tauranga	541	7.0%	550	5.9%
1 080	1 167	Rotorua	54	5.0%	56	4.8%
1 738	2 003	Whakatane	170	9.8%	146	7.3%
2 332	2 349	New Plymouth	282	12.1%	248	10.6%
21 913	23 963	Midland	1 685	7.7%	1 621	6.8%
1 158	995	Napier	179	15.5%	147	14.8%
546	548	Hastings	147	26.9%	134	24.5%
903	1 089	Wanganui	44	4.9%	39	3.6%
4 380	5 275	Palmerston North/Levin/Dannevirke	237	5.4%	212	4.0%
8 130	6 723	Wellington	215	2.6%	190	2.8%
936	866	Lower Hutt	29	3.1%	25	2.9%
331	307	Porirua	21	6.3%	13	4.2%
2 207	2 230	Nelson	66	3.0%	54	2.4%
727	735	Wairau (Blenheim)	30	4.1%	16	2.2%
19 318	18 768	Central	968	5.0%	830	4.4%
492	382	Greymouth	34	6.9%	20	5.2%
490	491	Westport/Buller	44	9.0%	35	7.1%
10 071	10 631	Christchurch	337	3.3%	262	2.5%
106	86	Ashburton	5	4.7%	4	4.7%
685	617	Timaru	55	8.0%	60	9.7%
3 162	2 514	Dunedin	135	4.3%	108	4.3%
2470	1 969	Invercargill/Gore/Wyndham	199	8.1%	156	7.9%
17 476	16 690	South	809	4.6%	645	3.9%
82 399	83 964	Total	4 770	5.8%	4 461	5.3%

⁶ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

⁷ Rate = (total no. cases / total no. clinic visits), expressed as a percentage.

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

Table 24. Gonorrhoea - number of cases and disease rates by SHCs, 2008 to 2009

<u>Total Clinic Visits⁸</u>			<u>2008</u>		<u>2009</u>	
<u>2008</u>	<u>2009</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate⁹</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
2 581	2 682	Whangarei	32	1.2%	12	0.4%
637	591	Dargaville	0	0.0%	2	0.3%
302	331	Kaikohe	1	0.3%	1	0.3%
20 172	20 939	Auckland	244	1.2%	235	1.1%
23 692	24 543	North	277	1.2%	250	1.0%
9 008	9 163	Hamilton	100	1.1%	89	1.0%
7 755	9 281	Tauranga	48	0.6%	49	0.5%
1 080	1 167	Rotorua	13	1.2%	19	1.6%
1 738	2 003	Whakatane	13	0.7%	26	1.3%
2 332	2 349	New Plymouth	41	1.8%	31	1.3%
21 913	23 963	Midland	215	1.0%	214	0.9%
1 158	995	Napier	47	4.1%	43	4.3%
546	548	Hastings	38	7.0%	30	5.5%
903	1 089	Wanganui	6	0.7%	14	1.3%
4 380	5 275	Palmerston North/Levin/Dannevirke	23	0.5%	32	0.6%
8 130	6 723	Wellington	65	0.8%	70	1.0%
936	866	Lower Hutt	13	1.4%	8	0.9%
331	307	Porirua	7	2.1%	3	1.0%
2 207	2 230	Nelson	6	0.3%	10	0.4%
727	735	Wairau (Blenheim)	1	0.1%	2	0.3%
19 318	18 768	Central	206	1.1%	212	1.1%
492	382	Greymouth	6	1.2%	4	1.0%
490	491	Westport/Buller	0	0.0%	0	0.0%
10 071	10 631	Christchurch	81	0.8%	60	0.6%
106	86	Ashburton	2	1.9%	3	3.5%
685	617	Timaru	14	2.0%	27	4.4%
3 162	2 514	Dunedin	14	0.4%	10	0.4%
2 470	1 969	Invercargill/Gore/Wyndham	49	2.0%	34	1.7%
17 476	16 690	South	166	0.9%	138	0.8%
82 399	83 964	Total	864	1.0%	814	1.0%

⁸ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

⁹ Rate = (total no. cases / total no. clinic visits), expressed as a percentage.

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

Table 25. Genital Herpes (first presentation) - number of cases and disease rates by SHCs, 2008 to 2009

<u>Total Clinic Visits¹⁰</u>			<u>2008</u>		<u>2009</u>	
<u>2008</u>	<u>2009</u>	<u>Clinic</u>	<u>Total No.</u>	<u>Rate¹¹</u>	<u>Total No.</u>	<u>Rate²</u>
2 581	2 682	Whangarei	26	1.0%	28	1.0%
637	591	Dargaville	2	0.3%	0	0.0%
302	331	Kaikohe	1	0.3%	2	0.6%
20 172	20 939	Auckland	166	0.8%	198	0.9%
23 692	24 543	North	195	0.8%	228	0.9%
9 008	9 163	Hamilton	103	1.1%	89	1.0%
7 755	9 281	Tauranga	65	0.8%	92	1.0%
1 080	1 167	Rotorua	7	0.6%	3	0.3%
1 738	2 003	Whakatane	6	0.3%	9	0.4%
2 332	2 349	New Plymouth	22	0.9%	43	1.8%
21 913	23 963	Midland	203	0.9%	236	1.0%
1 158	995	Napier	31	2.7%	21	2.1%
546	548	Hastings	13	2.4%	13	2.4%
903	1 089	Wanganui	12	1.3%	7	0.6%
4 380	5 275	Palmerston North/Levin/Dannevirke	36	0.8%	34	0.6%
8 130	6 723	Wellington	74	0.9%	48	0.7%
936	866	Lower Hutt	7	0.7%	12	1.4%
331	307	Porirua	3	0.9%	1	0.3%
2 207	2 230	Nelson	28	1.3%	44	2.0%
727	735	Wairau (Blenheim)	8	1.1%	9	1.2%
19 318	18 768	Central	212	1.1%	189	1.0%
492	382	Greymouth	8	1.6%	7	1.8%
490	491	Westport/Buller	7	1.4%	2	0.4%
10 071	10 631	Christchurch	116	1.2%	125	1.2%
106	86	Ashburton	1	0.9%	3	3.5%
685	617	Timaru	7	1.0%	3	0.5%
3 162	2 514	Dunedin	44	1.4%	35	1.4%
2 470	1 969	Invercargill/Gore/Wyndham	34	1.4%	45	2.3%
17 476	16 690	South	217	1.2%	220	1.3%
82 399	83 964	Total	827	1.0%	873	1.0%

¹⁰ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

¹¹ Rate = (total no. cases / total no. clinic visits), expressed as a percentage.

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

Table 26. Genital Warts (first presentation) - number of cases and disease rates by SHCs, 2008 to 2009

<u>Total Clinic Visits¹²</u>			<u>2008</u>		<u>2009</u>	
<u>2008</u>	<u>2009</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate¹³</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
2 581	2 682	Whangarei	86	3.3%	84	3.1%
637	591	Dargaville	8	1.3%	5	0.8%
302	331	Kaikohe	0	0.0%	3	0.9%
20 172	20 939	Auckland	963	4.8%	877	4.2%
23 692	24 543	North	1 057	4.5%	969	3.9%
9 008	9 163	Hamilton	482	5.4%	425	4.6%
7 755	9 281	Tauranga	247	3.2%	270	2.9%
1 080	1 167	Rotorua	80	7.4%	58	5.0%
1 738	2 003	Whakatane	37	2.1%	38	1.9%
2 332	2 349	New Plymouth	128	5.5%	148	6.3%
21 913	23 963	Midland	974	4.4%	939	3.9%
1 158	995	Napier	69	6.0%	72	7.2%
546	548	Hastings	55	10.1%	47	8.6%
903	1 089	Wanganui	48	5.3%	16	1.5%
4 380	5 275	Palmerston North/Levin/Dannevirke	142	3.2%	98	1.9%
8 130	6 723	Wellington	319	3.9%	255	3.8%
936	866	Lower Hutt	55	5.9%	60	6.9%
331	307	Porirua	21	6.3%	31	10.1%
2 207	2 230	Nelson	116	5.3%	78	3.5%
727	735	Wairau (Blenheim)	97	13.3%	85	11.6%
19 318	18 768	Central	922	4.8%	742	4.0%
492	382	Greymouth	17	3.5%	21	5.5%
490	491	Westport/Buller	12	2.4%	10	2.0%
10 071	10 631	Christchurch	378	3.8%	319	3.0%
106	86	Ashburton	8	7.5%	9	10.5%
685	617	Timaru	36	5.3%	32	5.2%
3 162	2 514	Dunedin	158	5.0%	125	5.0%
2 470	1 969	Invercargill/Gore/Wyndham	164	6.6%	124	6.3%
17 476	16 690	South	773	4.4%	640	3.8%
82 399	83 964	Total	3 726	4.5%	3 290	3.9%

¹² Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

¹³ Rate = (total no. cases / total no. clinic visits), 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 27. Syphilis - number of cases and disease rates by SHCs, 2008 to 2009

Total Clinic Visits¹⁴			2008		2009	
2008	2009	Clinic	Total No.	Rate¹⁵	Total No.	Rate²
2 581	2 682	Whangarei	1	0.0%	1	0.0%
637	591	Dargaville	0	0.0%	0	0.0%
302	331	Kaikohe	0	0.0%	0	0.0%
20 172	20 939	Auckland	34	0.2%	31	0.1%
23 692	24 543	North	35	0.1%	32	0.1%
9 008	9 163	Hamilton	6	0.1%	4	0.0%
7 755	9 281	Tauranga	5	0.1%	5	0.1%
1 080	1 167	Rotorua	0	0.0%	0	0.0%
1 738	2 003	Whakatane	0	0.0%	0	0.0%
2 332	2 349	New Plymouth	0	0.0%	2	0.1%
21 913	23 963	Midland	11	0.1%	11	0.0%
1 158	995	Napier	0	0.0%	2	0.2%
546	548	Hastings	2	0.4%	1	0.2%
903	1 089	Wanganui	1	0.1%	1	0.1%
4 380	5 275	Palmerston North/Levin/Dannevirke	6	0.1%	4	0.1%
8 130	6 723	Wellington	16	0.2%	31	0.5%
936	866	Lower Hutt	3	0.3%	10	1.2%
331	307	Porirua	0	0.0%	4	1.3%
2 207	2 230	Nelson	1	0.0%	1	0.0%
727	735	Wairau (Blenheim)	2	0.3%	1	0.1%
19 318	18 768	Central	31	0.2%	55	0.3%
492	382	Greymouth	0	0.0%	2	0.5%
490	491	Westport/Buller	0	0.0%	0	0.0%
10 071	10 631	Christchurch	6	0.1%	30	0.3%
106	86	Ashburton	0	0.0%	1	1.2%
685	617	Timaru	0	0.0%	0	0.0%
3 162	2 514	Dunedin	7	0.2%	5	0.2%
2 470	1 969	Invercargill/Gore/Wyndham	2	0.1%	2	0.1%
17 476	16 690	South	15	0.1%	40	0.2%
82 399	83 964	Total	92	0.1%	138	0.2%

¹⁴ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

¹⁵ Rate = (total no. cases / total no. clinic visits), 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 28. NSU (males only) - number of cases and disease rates by SHCs, 2008 to 2009

<u>Total Clinic Visits for males¹⁶</u>			<u>2008</u>		<u>2009</u>	
<u>2008</u>	<u>2009</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate¹⁷</u>	<u>Total</u>	<u>Rate²</u>
			<u>No.</u>		<u>No.</u>	
640	770	Whangarei	2	0.3%	0	0.0%
20	44	Dargaville	0	0.0%	0	0.0%
19	35	Kaikohe	2	10.5%	0	0.0%
10 070	10 239	Auckland	367	3.6%	355	3.5%
10 749	11 088	North	371	3.5%	355	3.2%
3 714	3 743	Hamilton	46	1.2%	45	1.2%
1 720	2 003	Tauranga	47	2.7%	61	3.0%
395	580	Rotorua	1	0.3%	0	0.0%
244	261	Whakatane	3	1.2%	3	1.1%
981	1 033	New Plymouth	49	5.0%	64	6.2%
7 054	7 620	Midland	146	2.1%	173	2.3%
258	239	Napier	0	0.0%	0	0.0%
104	111	Hastings	0	0.0%	0	0.0%
302	421	Wanganui	6	2.0%	0	0.0%
1 901	2 197	Palmerston North/Levin/Dannevirke	59	3.1%	47	2.1%
4 475	3 741	Wellington	35	0.8%	44	1.2%
465	477	Lower Hutt	3	0.6%	7	1.5%
147	132	Porirua	0	0.0%	0	0.0%
1 039	1 064	Nelson	17	1.6%	13	1.2%
367	340	Wairau (Blenheim)	0	0.0%	0	0.0%
9 058	8 722	Central	120	1.3%	111	1.3%
191	164	Greymouth	0	0.0%	0	0.0%
151	132	Westport/Buller	1	0.7%	2	1.5%
5 257	5 612	Christchurch	71	1.4%	69	1.2%
49	40	Ashburton	0	0.0%	0	0.0%
322	295	Timaru	0	0.0%	0	0.0%
1 032	894	Dunedin	4	0.4%	5	0.6%
1 147	957	Invercargill/Gore/Wyndham	25	2.2%	18	1.9%
8 149	8 094	South	101	1.2%	94	1.2%
35 010	35 524	Total	738	2.1%	733	2.1%

¹⁶ Total No. Clinic Visits = total no. clinic visits for the report period for any reason.

¹⁷ Rate = (total no. cases / total no. clinic visits), 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 29. Number of cases and disease rates¹⁸ by age, sex and ethnicity SHCs, 2009

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Chlamydia</i>											
Males	European/Pakeha	0	200	382	210	105	63	39	60	0	1059
		0.0	8.7	6.5	4.8	3.5	2.5	2.0	1.5	0.0	4.4
	Māori	2	197	214	88	37	18	8	6	0	570
		3.6	19.3	14.6	10.9	6.6	4.2	3.5	2.5	0.0	11.9
	Pacific Peoples	0	47	101	63	17	5	4	1	0	238
		0.0	29.0	23.2	17.9	6.7	3.3	3.7	0.7	-	14.7
	Other	0	12	40	37	25	10	4	10	0	138
		0.0	6.8	5.5	3.9	3.6	2.0	1.1	1.8	-	3.5
	Unknown	0	5	15	5	5	4	0	4	0	38
		0.0	8.3	7.5	3.0	5.1	3.4	0.0	1.8	0.0	3.9
Total		<u>2</u>	<u>461</u>	<u>752</u>	<u>403</u>	<u>189</u>	<u>100</u>	<u>55</u>	<u>81</u>	<u>0</u>	<u>2043</u>
		<u>1.2</u>	<u>12.4</u>	<u>8.6</u>	<u>6.1</u>	<u>4.1</u>	<u>2.7</u>	<u>2.0</u>	<u>1.6</u>	<u>0.0</u>	<u>5.8</u>
Females	European/Pakeha	22	493	297	116	31	17	12	7	0	995
		4.7	5.8	3.6	2.7	1.1	0.8	0.9	0.3	0.0	3.3
	Māori	37	583	282	107	42	18	4	4	0	1077
		10.8	13.9	9.5	7.3	4.5	3.0	1.2	1.2	0.0	9.5
	Pacific Peoples	0	60	93	16	16	5	1	4	0	195
		0.0	14.9	13.4	4.9	6.8	5.8	1.6	2.9	-	10.0
	Other	1	38	40	31	11	2	3	4	0	130
		7.1	8.1	4.3	2.7	2.0	0.5	1.1	0.8	0.0	3.1
	Unknown	0	7	8	2	2	1	0	1	0	21
		0.0	3.4	3.5	1.4	1.6	1.3	0.0	1.0	0.0	2.1
Total		<u>60</u>	<u>1181</u>	<u>720</u>	<u>272</u>	<u>102</u>	<u>43</u>	<u>20</u>	<u>20</u>	<u>0</u>	<u>2418</u>
		<u>7.0</u>	<u>8.6</u>	<u>5.5</u>	<u>3.7</u>	<u>2.1</u>	<u>1.3</u>	<u>1.0</u>	<u>0.6</u>	<u>0.0</u>	<u>5.0</u>
<i>Gonorrhoea</i>											
Males	European/Pakeha	0	30	64	41	20	13	13	23	0	204
		0.0	1.3	1.1	0.9	0.7	0.5	0.7	0.6	0.0	0.8
	Māori	2	56	62	32	14	7	3	1	0	177
		3.6	5.5	4.2	4.0	2.5	1.6	1.3	0.4	0.0	3.7
	Pacific Peoples	0	7	29	18	5	3	6	0	0	68
		0.0	4.3	6.7	5.1	2.0	2.0	5.5	0.0	-	4.2
	Other	0	5	10	13	2	5	3	3	0	41
		0.0	2.8	1.4	1.4	0.3	1.0	0.8	0.5	-	1.0
	Unknown	0	0	6	2	2	0	2	0	0	12
		0.0	0.0	3.0	1.2	2.0	0.0	2.0	0.0	0.0	1.2
Total		<u>2</u>	<u>98</u>	<u>171</u>	<u>106</u>	<u>43</u>	<u>28</u>	<u>27</u>	<u>27</u>	<u>0</u>	<u>502</u>
		<u>1.2</u>	<u>2.6</u>	<u>2.0</u>	<u>1.6</u>	<u>0.9</u>	<u>0.8</u>	<u>1.0</u>	<u>0.5</u>	<u>0.0</u>	<u>1.4</u>
Females	European/Pakeha	2	40	40	10	15	2	2	1	0	112
		0.4	0.5	0.5	0.2	0.5	0.1	0.2	0.0	0.0	0.4
	Māori	2	73	44	23	8	4	2	1	0	157
		0.6	1.7	1.5	1.6	0.9	0.7	0.6	0.3	0.0	1.4
	Pacific Peoples	0	10	10	3	6	2	0	0	0	31
		0.0	2.5	1.4	0.9	2.6	2.3	0.0	0.0	-	1.6
	Other	1	2	1	3	1	0	0	0	0	8
		7.1	0.4	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.2
	Unknown	0	1	2	0	1	0	0	0	0	4
		0.0	0.5	0.9	0.0	0.8	0.0	0.0	0.0	0.0	0.4
Total		<u>5</u>	<u>126</u>	<u>97</u>	<u>39</u>	<u>31</u>	<u>8</u>	<u>4</u>	<u>2</u>	<u>0</u>	<u>312</u>
		<u>0.6</u>	<u>0.9</u>	<u>0.7</u>	<u>0.5</u>	<u>0.7</u>	<u>0.2</u>	<u>0.2</u>	<u>0.1</u>	<u>0.0</u>	<u>0.6</u>

¹⁸ Rate = (total number of cases / total number of visits), expressed as a percentage

Table 29. Cont. number of cases and disease rates¹⁹ by age, sex and ethnicity SHCs, 2009

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44			>44
<i>Genital Herpes (first presentation)</i>											
Males	European/Pakeha	0	22	77	57	48	23	19	41	0	287
		0.0	1.0	1.3	1.3	1.6	0.9	1.0	1.0	0.0	1.2
	Māori	0	8	15	8	5	6	1	3	0	46
		0.0	0.8	1.0	1.0	0.9	1.4	0.4	1.3	0.0	1.0
	Pacific Peoples	0	1	4	3	0	2	1	1	0	12
		0.0	0.6	0.9	0.9	0.0	1.3	0.9	0.7	-	0.7
	Other	0	3	6	11	6	5	2	8	0	41
	0.0	1.7	0.8	1.2	0.9	1.0	0.6	1.5	-	1.0	
Unknown	0	1	4	3	0	1	0	2	0	11	
	0.0	1.7	2.0	1.8	0.0	0.9	0.0	0.9	0.0	1.1	
Total		0	35	106	82	59	37	23	55	0	397
		0.0	0.9	1.2	1.2	1.3	1.0	0.8	1.1	0.0	1.1
Females	European/Pakeha	3	86	92	48	32	20	19	33	0	333
		0.6	1.0	1.1	1.1	1.1	0.9	1.5	1.6	0.0	1.1
	Māori	2	36	17	6	6	8	1	3	0	79
		0.6	0.9	0.6	0.4	0.6	1.3	0.3	0.9	0.0	0.7
	Pacific Peoples	0	1	7	2	0	1	0	0	0	11
		0.0	0.2	1.0	0.6	0.0	1.2	0.0	0.0	-	0.6
	Other	0	5	17	5	5	2	4	3	0	41
	0.0	1.1	1.8	0.4	0.9	0.5	1.5	0.6	0.0	1.0	
Unknown	0	1	4	1	2	1	1	2	0	12	
	0.0	0.5	1.8	0.7	1.6	1.3	1.2	2.1	0.0	1.2	
Total		5	129	137	62	45	32	25	41	0	476
		0.6	0.9	1.0	0.8	0.9	1.0	1.2	1.3	0.0	1.0
<i>Genital Warts (first presentation)</i>											
Males	European/Pakeha	1	145	388	240	148	95	63	90	1	1171
		1.1	6.3	6.6	5.5	4.9	3.8	3.2	2.2	3.8	4.8
	Māori	1	68	94	34	24	9	11	7	0	248
		1.8	6.7	6.4	4.2	4.3	2.1	4.8	2.9	0.0	5.2
	Pacific Peoples	0	19	15	12	7	2	3	1	0	59
		0.0	11.7	3.4	3.4	2.8	1.3	2.8	0.7	-	3.7
	Other	0	6	32	38	20	11	6	6	0	119
	0.0	3.4	4.4	4.0	2.9	2.2	1.7	1.1	-	3.0	
Unknown	0	4	10	5	2	5	3	7	0	36	
	0.0	6.7	5.0	3.0	2.0	4.3	2.9	3.2	0.0	3.7	
Total		2	242	539	329	201	122	86	111	1	1633
		1.2	6.5	6.2	5.0	4.3	3.3	3.1	2.1	2.2	4.6
Females	European/Pakeha	12	414	361	149	71	37	27	33	0	1104
		2.5	4.9	4.4	3.4	2.4	1.7	2.1	1.6	0.0	3.7
	Māori	11	177	96	25	18	11	3	5	0	346
		3.2	4.2	3.2	1.7	1.9	1.8	0.9	1.4	0.0	3.1
	Pacific Peoples	0	24	26	6	12	1	1	3	0	73
		0.0	5.9	3.8	1.8	5.1	1.2	1.6	2.2	-	3.7
	Other	0	12	31	31	12	2	2	7	0	97
	0.0	2.6	3.3	2.7	2.1	0.5	0.7	1.4	0.0	2.3	
Unknown	1	12	10	9	2	2	0	1	0	37	
	5.3	5.8	4.4	6.3	1.6	2.6	0.0	1.0	0.0	3.7	
Total		24	639	524	220	115	53	33	49	0	1657
		2.8	4.7	4.0	3.0	2.4	1.6	1.6	1.5	0.0	3.4

¹⁹ Rate = (total number of cases / total number of visits), expressed as a percentage

Table 29. Cont. number of cases and disease rates²⁰ by age, sex and ethnicity SHCs, 2009

		Age group (years)									
		<u><15</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30-34</u>	<u>35-39</u>	<u>40-44</u>	<u>>44</u>	<u>Unk</u>	<u>Total</u>
<u>Syphilis</u>											
Males	European/Pakeha	0	1	4	13	6	8	7	23	0	62
		0.0	0.0	0.1	0.3	0.2	0.3	0.4	0.6	0.0	0.3
	Māori	0	0	1	3	0	2	1	1	0	8
		0.0	0.0	0.1	0.4	0.0	0.5	0.4	0.4	0.0	0.2
	Pacific Peoples	0	0	0	0	1	3	0	5	0	9
		0.0	0.0	0.0	0.0	0.4	2.0	0.0	3.5	-	0.6
	Other	0	1	2	2	4	5	4	8	0	26
		0.0	0.6	0.3	0.2	0.6	1.0	1.1	1.5	-	0.7
Unknown	0	1	1	0	0	1	2	2	0	7	
	0.0	1.7	0.5	0.0	0.0	0.9	2.0	0.9	0.0	0.7	
Total		<u>0</u>	<u>3</u>	<u>8</u>	<u>18</u>	<u>11</u>	<u>19</u>	<u>14</u>	<u>39</u>	<u>0</u>	<u>112</u>
		<u>0.0</u>	<u>0.1</u>	<u>0.1</u>	<u>0.3</u>	<u>0.2</u>	<u>0.5</u>	<u>0.5</u>	<u>0.8</u>	<u>0.0</u>	<u>0.3</u>
Females	European/Pakeha	0	0	3	0	2	4	0	1	0	10
		0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0
	Māori	0	0	0	0	0	1	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
	Pacific Peoples	0	1	1	0	0	0	2	2	0	6
		0.0	0.2	0.1	0.0	0.0	0.0	3.3	1.4	-	0.3
	Other	0	0	1	1	1	1	1	2	0	7
		0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.4	0.0	0.2
Unknown	0	0	1	0	0	0	0	1	0	2	
	0.0	0.0	0.4	0.0	0.0	0.0	0.0	1.0	0.0	0.2	
Total		<u>0</u>	<u>1</u>	<u>6</u>	<u>1</u>	<u>3</u>	<u>6</u>	<u>3</u>	<u>6</u>	<u>0</u>	<u>26</u>
		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>0.2</u>	<u>0.1</u>	<u>0.2</u>	<u>0.0</u>	<u>0.1</u>
<u>NSU (Males Only)</u>											
Males	European/Pakeha	0	35	119	105	79	53	51	76	0	518
		0.0	1.5	2.0	2.4	2.6	2.1	2.6	1.9	0.0	2.1
	Māori	0	23	24	19	13	13	3	2	0	97
		0.0	2.3	1.6	2.3	2.3	3.0	1.3	0.8	0.0	2.0
	Pacific Peoples	0	2	6	9	4	5	4	1	0	31
		0.0	1.2	1.4	2.6	1.6	3.3	3.7	0.7	-	1.9
	Other	0	6	17	20	14	8	3	3	0	71
		0.0	3.4	2.4	2.1	2.0	1.6	0.8	0.5	-	1.8
Unknown	0	0	2	2	4	2	1	5	0	16	
	0.0	0.0	1.0	1.2	4.1	1.7	1.0	2.3	0.0	1.6	
Total		<u>0</u>	<u>66</u>	<u>168</u>	<u>155</u>	<u>114</u>	<u>81</u>	<u>62</u>	<u>87</u>	<u>0</u>	<u>733</u>
		<u>0.0</u>	<u>1.8</u>	<u>1.9</u>	<u>2.3</u>	<u>2.5</u>	<u>2.2</u>	<u>2.2</u>	<u>1.7</u>	<u>0.0</u>	<u>2.1</u>

²⁰ Rate = (total number of cases / total number of visits), expressed as a percentage

Family planning clinic data

Table 30. Number of cases and disease rates²¹ by age, sex and ethnicity FPCs, 2009

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Chlamydia</i>											
Unknown	Māori	0	0	2	1	0	0	0	0	0	3
		0.0	0.0	22.2	14.3	0.0	0.0	0.0	0.0	0.0	5.2
	Unknown	0	1	0	0	0	0	0	0	0	1
		0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1
Total		0	1	2	1	0	0	0	0	0	4
		0.0	1.4	7.4	4.8	0.0	0.0	0.0	0.0	0.0	2.7
Males	European/Pakeha	0	47	158	42	13	2	1	0	0	263
		0.0	3.1	6.6	4.4	2.8	0.4	0.3	0.0	0.0	4.0
	Māori	0	52	73	18	4	2	0	1	0	150
		0.0	9.0	13.3	11.7	4.9	2.8	0.0	3.4	-	9.9
	Pacific Peoples	0	13	34	10	1	1	0	0	0	59
		0.0	10.4	14.2	11.6	3.2	3.3	0.0	0.0	-	11.0
	Other	0	0	7	2	4	0	0	0	0	13
		0.0	0.0	5.2	2.2	6.6	0.0	0.0	0.0	-	2.7
Total	Unknown	0	9	12	8	1	0	0	0	0	30
		0.0	4.9	4.8	6.1	1.3	0.0	0.0	0.0	0.0	3.7
	0	121	284	80	23	5	1	1	0	515	
	0.0	4.9	8.0	5.6	3.2	0.8	0.2	0.2	0.0	5.2	
Females	European/Pakeha	4	536	725	145	54	22	10	6	0	1502
		1.7	1.9	1.7	0.8	0.5	0.3	0.2	0.1	0.0	1.3
	Māori	2	377	401	80	26	9	4	2	0	901
		1.0	4.1	4.5	2.4	1.3	0.7	0.5	0.3	0.0	3.4
	Pacific Peoples	0	95	149	40	19	3	3	0	0	309
		0.0	4.2	4.6	2.9	2.2	0.5	0.9	0.0	-	3.5
	Other	0	17	42	30	10	7	3	2	0	111
		0.0	1.1	1.1	1.1	0.5	0.5	0.3	0.2	-	0.8
Total	Unknown	0	38	44	18	9	2	3	0	0	114
		0.0	1.7	1.5	0.9	0.6	0.2	0.4	0.0	0.0	1.0
	6	1063	1361	313	118	43	23	10	0	2937	
	1.2	2.4	2.2	1.1	0.7	0.4	0.3	0.1	0.0	1.6	
<i>Gonorrhoea</i>											
Males	European/Pakeha	0	4	9	3	0	1	0	0	0	17
		0.0	0.3	0.4	0.3	0.0	0.2	0.0	0.0	0.0	0.3
	Māori	0	6	6	1	0	0	0	0	0	13
		0.0	1.0	1.1	0.6	0.0	0.0	0.0	0.0	-	0.9
	Pacific Peoples	0	0	3	2	0	1	0	0	0	6
		0.0	0.0	1.3	2.3	0.0	3.3	0.0	0.0	-	1.1
Total	Unknown	0	0	0	0	1	0	0	0	0	1
		0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.1
	0	10	18	6	1	2	0	0	0	37	
	0.0	0.4	0.5	0.5	0.2	0.3	0.0	0.0	0.0	0.4	
Females	European/Pakeha	0	21	21	4	3	2	1	0	0	52
		0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Māori	0	32	36	4	4	2	0	0	0	78
		0.0	0.3	0.4	0.1	0.2	0.2	0.0	0.0	0.0	0.3
	Pacific Peoples	0	13	9	1	3	0	0	0	0	26
		0.0	0.6	0.3	0.1	0.3	0.0	0.0	0.0	-	0.3
	Other	0	2	0	0	0	0	0	0	0	2
		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Total	Unknown	0	2	2	0	1	0	0	0	0	5
		0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
	0	70	68	9	11	4	1	0	0	163	
	0.0	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	

²¹ Rate = (total number of cases / total number of visits, expressed as a percentage)

Table 30. Cont. number of cases and disease rates²² by age, sex and ethnicity FPCs, 2009

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44			>44
<i>Genital Herpes (first presentation)</i>											
Males	European/Pakeha	0	3	8	5	3	1	1	0	0	21
		0.0	0.2	0.3	0.5	0.6	0.2	0.3	0.0	0.0	0.3
	Māori	0	2	5	0	1	0	0	0	0	8
		0.0	0.3	0.9	0.0	1.2	0.0	0.0	0.0	-	0.5
	Other	0	0	1	2	0	0	0	0	0	3
		0.0	0.0	0.7	2.2	0.0	0.0	0.0	0.0	-	0.6
	Unknown	0	0	2	0	0	1	0	0	0	3
	0.0	0.0	0.8	0.0	0.0	1.7	0.0	0.0	0.0	0.4	
Total		0	5	16	7	4	2	1	0	0	35
		0.0	0.2	0.5	0.5	0.6	0.3	0.2	0.0	0.0	0.4
Females	European/Pakeha	0	40	41	14	6	7	7	2	0	117
		0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
	Māori	0	9	10	1	3	1	0	0	0	24
		0.0	0.1	0.1	0.0	0.2	0.1	0.0	0.0	0.0	0.1
	Pacific Peoples	0	1	3	0	2	0	0	0	0	6
		0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	-	0.1
	Other	0	2	3	0	3	0	2	0	0	10
	0.0	0.1	0.1	0.0	0.1	0.0	0.2	0.0	-	0.1	
Unknown	0	2	0	1	1	1	0	2	0	7	
	0.0	0.1	0.0	0.1	0.1	0.1	0.0	0.2	0.0	0.1	
Total		0	54	57	16	15	9	9	4	0	164
		0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1
<i>Genital Warts (first presentation)</i>											
Unknown	European/Pakeha	0	1	0	0	0	0	0	0	0	1
		0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Total		0	1	0	1						
		0.0	0.9	0.0	0.5						
Males	European/Pakeha	0	7	56	24	3	2	0	1	0	93
		0.0	0.5	2.4	2.5	0.6	0.4	0.0	0.3	0.0	1.4
	Māori	0	5	15	3	0	1	0	0	0	24
		0.0	0.9	2.7	1.9	0.0	1.4	0.0	0.0	-	1.6
	Pacific Peoples	0	1	1	0	1	0	0	0	0	3
		0.0	0.8	0.4	0.0	3.2	0.0	0.0	0.0	-	0.6
	Other	0	0	4	4	0	0	0	0	0	8
	0.0	0.0	3.0	4.4	0.0	0.0	0.0	0.0	-	1.6	
Unknown	0	1	8	3	0	0	0	0	0	12	
	0.0	0.5	3.2	2.3	0.0	0.0	0.0	0.0	0.0	1.5	
Total		0	14	84	34	4	3	0	1	0	140
		0.0	0.6	2.4	2.4	0.6	0.5	0.0	0.2	0.0	1.4
Females	European/Pakeha	0	73	142	33	15	5	7	1	0	276
		0.0	0.3	0.3	0.2	0.2	0.1	0.1	0.0	0.0	0.2
	Māori	0	34	30	3	2	1	0	1	0	71
		0.0	0.4	0.3	0.1	0.1	0.1	0.0	0.2	0.0	0.3
	Pacific Peoples	0	4	6	2	0	0	0	1	0	13
		0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.4	-	0.1
	Other	0	5	9	4	0	1	0	0	0	19
	0.0	0.3	0.2	0.1	0.0	0.1	0.0	0.0	-	0.1	
Unknown	0	7	11	6	1	1	0	0	0	26	
	0.0	0.3	0.4	0.3	0.1	0.1	0.0	0.0	0.0	0.2	
Total		0	123	198	48	18	8	7	3	0	405
		0.0	0.3	0.3	0.2	0.1	0.1	0.1	0.0	0.0	0.2

²² Rate = (total number of cases / total number of visits), expressed as a percentage

Table 30. Cont. number of cases and disease rates²³ by age, sex and ethnicity FPCs, 2009

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44			>44
<i>Syphilis</i>											
Males	European/Pakeha	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Females	Other	0	0	0	0	0	0	0	1	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-	0.0
	Total	0	0	0	0	0	0	0	1	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
<i>NSU (Males Only)</i>											
Males	European/Pakeha	0	0	4	0	0	0	0	0	0	4
		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Māori	0	1	0	0	0	0	0	0	0	1
		0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	-	0.1
	Unknown	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Total	0	1	5	0	0	0	0	0	0	6
		0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.1

²³ Rate = (total number of cases / total number of visits), expressed as a percentage

Student & youth health clinic data

Table 31. Number of cases and disease rates²⁴ by age, sex and ethnicity SYHCs, 2009

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44			>44
<i>Chlamydia</i>											
Males	European/Pakeha	0	49	80	11	0	0	2	0	0	142
		0.0	0.7	0.6	0.3	0.0	0.0	0.5	0.0	0.0	0.5
	Māori	0	12	25	3	0	0	0	0	0	40
		0.0	1.8	1.5	0.9	0.0	0.0	0.0	0.0	-	1.1
	Pacific Peoples	0	2	6	1	1	0	0	0	0	10
		0.0	1.0	1.2	0.7	0.7	0.0	0.0	0.0	-	0.7
	Other	0	7	6	3	1	0	0	0	0	17
		0.0	0.3	0.1	0.1	0.1	0.0	0.0	0.0	-	0.1
Unknown	0	3	3	0	1	0	0	0	0	7	
	0.0	1.0	0.4	0.0	1.1	0.0	0.0	0.0	0.0	0.0	
Total		<u>0</u>	<u>73</u>	<u>120</u>	<u>18</u>	<u>3</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>216</u>
		<u>0.0</u>	<u>0.7</u>	<u>0.5</u>	<u>0.3</u>	<u>0.1</u>	<u>0.0</u>	<u>0.2</u>	<u>0.0</u>	<u>0.0</u>	<u>0.3</u>
Females	European/Pakeha	1	208	165	16	0	0	0	0	0	390
		0.3	1.0	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.5
	Māori	7	105	53	3	2	1	0	0	1	172
		10.0	3.8	1.3	0.3	0.3	0.3	0.0	0.0	-	1.8
	Pacific Peoples	0	8	27	7	0	0	0	0	0	42
		0.0	1.2	2.0	1.4	0.0	0.0	0.0	0.0	-	1.3
	Other	1	12	19	3	0	0	2	0	0	37
		0.4	0.3	0.1	0.1	0.0	0.0	0.4	0.0	0.0	0.1
Unknown	0	3	4	0	1	0	0	0	0	8	
	0.0	0.5	0.3	0.0	0.6	0.0	0.0	0.0	0.0	0.0	
Total		<u>9</u>	<u>336</u>	<u>268</u>	<u>29</u>	<u>3</u>	<u>1</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>649</u>
		<u>1.4</u>	<u>1.1</u>	<u>0.5</u>	<u>0.2</u>	<u>0.1</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.4</u>
<i>Gonorrhoea</i>											
Males	European/Pakeha	0	2	8	0	0	1	0	0	0	11
		0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0
	Māori	2	2	1	0	0	0	0	0	0	5
		2.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	-	0.1
	Pacific Peoples	0	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	-	0.1
	Other	0	1	1	1	0	0	0	0	0	3
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Unknown	0	1	0	0	0	0	0	0	0	1	
	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total		<u>2</u>	<u>6</u>	<u>10</u>	<u>2</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>21</u>
		<u>0.3</u>	<u>0.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.1</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>
Females	European/Pakeha	0	8	3	0	0	0	0	0	0	11
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Māori	0	4	2	1	0	0	0	0	0	7
		0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-	0.1
	Other	0	1	1	0	0	0	0	0	0	2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total		<u>0</u>	<u>13</u>	<u>6</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>20</u>
		<u>0.0</u>									

²⁴ Rate = (total number of cases / total number of visits), expressed as a percentage

Table 31. Cont. number of cases and disease rates²⁵ by age, sex and ethnicity SYHCs, 2009

		Age group (years)							Unk	Total	
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<i>Genital Herpes (first presentation)</i>											
Males	European/Pakeha	0	4	8	1	0	0	1	0	0	14
		0.0	0.1	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0
	Māori	0	1	4	0	0	0	0	0	0	5
		0.0	0.2	0.2	0.0	0.0	0.0	0.0	0.0	-	0.1
	Other	0	0	1	1	0	0	0	0	0	2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
Females	European/Pakeha	0	20	36	2	0	2	0	0	0	60
		0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1
	Māori	0	3	3	2	1	0	0	0	0	9
		0.0	0.1	0.1	0.2	0.2	0.0	0.0	0.0	-	0.1
	Other	0	2	5	1	0	0	0	0	0	8
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	Unknown	0	1	2	0	0	0	0	0	0	3
		0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0	6	15	2	0	0	1	0	0	24
		0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
<i>Genital Warts (first presentation)</i>											
Males	European/Pakeha	0	9	57	0	1	1	0	0	0	68
		0.0	0.1	0.4	0.0	0.1	0.1	0.0	0.0	0.0	0.2
	Māori	0	2	7	0	0	0	0	0	1	10
		0.0	0.3	0.4	0.0	0.0	0.0	0.0	0.0	-	0.3
	Pacific Peoples	0	1	1	0	0	0	0	0	0	2
		0.0	0.5	0.2	0.0	0.0	0.0	0.0	0.0	-	0.1
Females	Other	0	0	4	1	1	0	0	0	0	6
		0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	-	0.0
	Unknown	0	1	2	0	0	0	0	0	0	3
		0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0	13	71	1	2	1	0	0	1	89
		0.0	0.1	0.3	0.0	0.1	0.1	0.0	0.0	0.0	0.1
Total	European/Pakeha	0	50	72	6	0	0	0	0	2	130
		0.0	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.2
	Māori	0	9	2	1	0	0	0	0	0	12
		0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0	-	0.1
	Pacific Peoples	0	1	1	0	0	0	0	0	0	2
		0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	-	0.1
Total	Other	0	4	6	1	0	0	0	0	0	11
		0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Unknown	0	0	1	0	0	0	0	0	0	1
		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0	64	82	8	0	0	0	0	2	156
		0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1

²⁵ Rate = (total number of cases / total number of visits), expressed as a percentage

Table 31. Cont. number of cases and disease rates¹ by age, sex and ethnicity SYHCs, 2009

		Age group (years)							Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44		
<i>Syphilis</i>										
Males	European/Pakeha	0	0	1	1	0	0	0	0	2
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Māori	0	0	0	0	0	0	1	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	-
	Total	0	0	1	1	0	0	1	0	3
		0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Females	Pacific Peoples	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-
	Total	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
<i>NSU (Males Only)</i>										
Males	European/Pakeha	0	4	10	0	1	0	0	0	15
		0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0
	Māori	0	0	0	1	0	0	0	0	1
		0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	-
	Other	0	0	1	0	0	0	0	0	1
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
	Total	0	4	11	1	1	0	0	0	17
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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