

A light blue map of New Zealand is overlaid on the top half of the cover, showing the North and South Islands.

**SURVEILLANCE** REPORT

A light blue map of New Zealand is overlaid on the bottom half of the cover, showing the North and South Islands.

# Sexually transmitted infections in New Zealand 2010

Prepared as part of a Ministry of Health contract for scientific services by the STI Surveillance Team, Institute of Environmental Science and Research Limited

May 2011

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## SUMMARY



## SUMMARY

In New Zealand, sexually transmitted infections (STIs) are not notifiable. Therefore, surveillance efforts are based on the 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 provide the most comprehensive information on the epidemiology of STIs. The reasons for this include, 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 health care practitioners.

Laboratories receive specimens from all health providers, and supply a useful, complementary source of STI data. In 2010, it was estimated that laboratory surveillance reported approximately four-times the number of chlamydia cases and approximately three-times the number of gonorrhoea cases reported by clinic surveillance.

Improvements to the reporting of laboratory surveillance data were implemented during 2009. These improvements have enabled the reporting of 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. In 2010, the number of DHBs meeting the inclusion criteria for calculation of the restricted national rate and DHB trend analyses has improved on that reported in 2009. However, 2010 DHB rates could not be calculated for a number of DHBs (four for chlamydia and three for gonorrhoea) due to a lack of data.

### Chlamydia

Chlamydia was the most commonly reported STI in 2010. A national chlamydia rate (based on 15 DHBs) of 782 per 100 000 population was estimated from laboratory surveillance data. Over 70% of cases reported through laboratory surveillance data were aged between 15 and 24 years, and there were 104 cases of chlamydia in infants.

In SHCs, over 50% of cases were from non-European ethnic groups (Māori, Pacific Peoples and Other). Of the 15 DHBs meeting the laboratory selection criteria for analysis in 2010, Tairāwhiti, Lakes and Hawke's Bay DHBs reported the highest chlamydia rates.

For both SHCs and SYHCs, the clinic visit rate for chlamydia and the number of reported cases of chlamydia increased from 2006 to 2010. This was supported by the laboratory surveillance data which showed a statistically significant increase of 13.1% in the chlamydia restricted national rate between 2007 and 2010 (based on 10 DHBs). In contrast, FPCs reported a decrease in the chlamydia clinic visit rate and number of cases over the same time period.

### Gonorrhoea

In 2010, a national gonorrhoea rate (based on 17 DHBs) of 65 per 100 000 population was estimated from laboratory surveillance data. Over 60% of cases reported by laboratories were aged between 15 and 24 years, and there were three cases of gonorrhoea in infants. In SHCs, over 60% of cases were from non-European ethnic groups (Māori, Pacific Peoples and Other ethnic groups), and included 327 (43.3%) Māori cases. Of the 17 DHBs meeting the laboratory selection criteria for analysis in 2010, Tairāwhiti and Hawke's Bay DHBs reported the highest gonorrhoea rates.

From 2006 to 2010, SHCs and SYHCs reported an increase in the clinic visit rate for gonorrhoea and the number of gonorrhoea cases, while FPCs reported a decrease in both. In comparison, there was a statistically significant decrease of 20.3% in the gonorrhoea restricted national rate between 2007 and 2010, estimated from laboratory data (based on 13 DHBs).

### Syphilis

The number of cases of syphilis reported by SHCs decreased from 138 cases in 2009 to 119 cases in 2010. One additional case was reported by a FPC and two cases were reported by SYHCs. The SHC cases were predominantly male (79.0%) and occurred most commonly in the 40+ age group. Fifty percent of the cases were European and 25.7% of the cases were from the Other ethnic group. 2010 was the first year in recent times to show a decline in reported syphilis cases.

### Other STIs

From 2009 to 2010, SHCs reported a decrease in the genital herpes, genital warts and non-specific urethritis (NSU) clinic visit rates (by 2.7%, 15.8% and 4.7%, respectively). In contrast, the five-year trend for genital herpes, genital warts and NSU showed an increase of 37.4%, 1.4%, and 28.0%, respectively.

No cases of chancroid, granuloma inguinale and lymphogranuloma venereum were reported in 2010.



# INTRODUCTION



## INTRODUCTION

In New Zealand, sexually transmitted infections (STIs) are not notifiable. Therefore, surveillance efforts rely on the voluntary provision of data. Data for this report were sourced from clinics and laboratories. Clinic-based data were derived from sexual health clinics (SHCs), family planning clinics (FPCs) and student and youth health clinics (SYHCs), throughout New Zealand. Laboratory-based data were derived from laboratories throughout New Zealand and provide a limited dataset for chlamydia and gonorrhoea only.

Surveillance has traditionally been based on data from specialist SHCs. SHCs provide a free and confidential sexual health service. SHCs provide the most comprehensive source of information on the epidemiology of STIs in New Zealand. The reasons for this include 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. However, a significant proportion of the general population attends other health care settings for their sexual health. Since mid-1998, surveillance has been progressively expanded to include data from FPCs and SYHCs to provide a more comprehensive picture of the STI 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 health care practitioners. Laboratories receive specimens from all health providers, and so, provide a useful, complementary source of STI data.

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. Laboratory-based surveillance data has been reported by DHB since 2009.

In areas where both clinic and laboratory surveillance data are collected, laboratory surveillance data aggregated across DHBs in 2010 reported approximately four-times the number of chlamydia and three-times the number of gonorrhoea cases compared with that reported by STI clinic surveillance. This estimate may vary by region.

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.

This report summarises the epidemiology of STIs in 2010, and examines trends since 2006. 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). This report is divided into clinic-based and laboratory sections because of the marked differences between clinic-based and laboratory-based surveillance.

Individual diseases are presented separately under clinic surveillance and laboratory surveillance. The AIDS Epidemiology Group (AEG) within the University of Otago carries out national HIV/AIDS surveillance, and a summary of HIV/AIDS data for 2010 is included in this report.



## METHODS



## METHODS

All results and analyses are based on data submitted prior to 19 April 2011. Any data submitted after this date are not included in this report due to time constraints.

### Data collection

#### Clinics

Clinics record anonymous data on the age, sex and ethnicity (Māori, Pacific Peoples, European, Other, or unknown) 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.

The list of STIs under clinic-based surveillance and the case definitions 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 the case definitions are presented in Appendix A.

#### 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 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 had multiple positive specimens. If this was not possible, 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 are entered onto a database by ESR staff.

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

**Table 1: STIs under clinic-based surveillance**

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

PID: pelvic inflammatory disease

## Analysis methods

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

### 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 were fewer than five cases in any category. Calculating rates from fewer than five cases produces rates that are unstable for the purpose of comparison. Care should also be exercised when interpreting and comparing rates based on fewer than 20 cases.

Readers are also advised to consider the absolute number of cases in the categories analysed by rate 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 variations in geographical distribution.

### Statistical tests

The Pearson chi-square test or, where necessary, Fisher's Exact tests were used to determine statistical significance. P-values less than 0.05 are considered to be significant at the 95% level of confidence.

## Data completeness

### Clinic participation

In 2010, 27 SHCs, 35 FPCs, and 16 SYHCs across New Zealand voluntarily participated in the STI surveillance programme. Of these, 26 SHCs, 33 FPCs and 15 SYHCs provided complete data to ESR for at least 10 out of the 12 months (the required number of months to be included in the analysis). FPCs and SYHCs included some clinics based in schools or tertiary institutions that may have been closed during holiday periods.

### Laboratory participation

In 2010, 40 laboratories across 18 DHBs in New Zealand voluntarily participated in the STI surveillance programme. Of these, 39 laboratories provided chlamydia data and 38 laboratories provided gonorrhoea data. As laboratories began 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 had to be met for each analysis type.

1. Annual analysis: Each laboratory in the DHB must have provided data for the 12 months of 2010.

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 the 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 the 12 months of each year for at least three of the last five years

Where a community laboratory carried out testing for more than one DHB, these DHBs have been combined for reporting purposes, that is, Auckland, Waitemata and Counties Manukau DHBs (Labtests), and Hutt Valley and Capital and Coast DHBs (Aotea Pathology).

Table 2 summarises which DHBs met the inclusion criteria for the various analyses.

**Table 2: Selected/excluded DHBs by analysis type and STI**

District Health Board	Annual analysis 2010		Restricted national rate trend analysis		Individual DHB trend analysis	
	Chlamydia	Gonorrhoea	Chlamydia	Gonorrhoea	Chlamydia	Gonorrhoea
Northland	✓	✓	✓	✓	✓ <sup>1</sup>	✓ <sup>1</sup>
Auckland region <sup>a</sup>	✓	✓	✓	✓	✓	✓
Waikato	✓	✓	✓	✓	✓	✓
Lakes	✓	✓	✓	✓	✓	✓
Bay of Plenty	✓	✓	✓	✓	✓	✓
Tairāwhiti	✓	✓	×	×	✓ <sup>2</sup>	✓ <sup>3</sup>
Taranaki	✓	✓	✓	✓	✓	✓
Hawke's Bay	✓	✓	✓	✓	✓	✓
Whanganui	✓	✓	×	×	×	×
MidCentral	✓	✓	×	✓	✓ <sup>4</sup>	✓
Wellington region <sup>b</sup>	×	✓	×	✓	×	✓ <sup>1</sup>
Wairarapa	✓	✓	×	×	×	×
Nelson Marlborough	×	×	×	×	×	×
West Coast	✓	✓	✓	✓	✓	✓
Canterbury	×	×	×	×	×	×
South Canterbury	×	×	×	×	×	×
Southern	✓	✓	×	×	✓ <sup>4</sup>	✓ <sup>4</sup>

<sup>a</sup> Includes Waitemata, Auckland and Counties Manukau DHBs

<sup>b</sup> Includes Hutt Valley and Capital & Coast DHBs

✓ = Selected      × = Excluded

<sup>1</sup> 2007–2010 only    <sup>2</sup> 2006, 2009, 2010 only    <sup>3</sup> 2006, 2008–2010 only    <sup>4</sup> 2008–2010 only

## 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 subcontracted to their laboratory from outside their region. The diagnostic tests used for chlamydia are not standardised, with some laboratories using nucleic acid amplification and others using 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 they 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 2006 to 2010, the number of clinic data sources has been relatively stable. However, the participating clinics are not always able to provide data for all of the months of the year. Clinic data for 2006 to 2009 are included if a clinic met the 10 out of 12 month inclusion criteria for 2010; the completeness of a clinic's data over the previous four years is not considered. Therefore, year-on-year comparisons for this period are reasonably valid, although caution is advised.

For the laboratory data trend analyses, DHBs were only reported if their data were considered complete according to a series of selection criteria (see data completeness section). Similarly, the New Zealand rates (restricted national rates) reported for 2007 to 2010 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.

## CLINIC SURVEILLANCE



## 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 2010.

### Sexual health clinics

#### SHC attendees

SHCs reported 85 070 clinic visits during 2010, 760.1% (51 088 visits) of which were by females. Between 2009 and 2010, the number of clinic visits increased by 0.5% (from 84 643 visits in 2009 to 85 070 visits in 2010).

Age and ethnicity were recorded for 99.8% (84 934/85 070) and 98.2% (83 542/85 070) of clinic attendees, respectively. Where information about age and ethnicity was provided, 49.4% (41 940 visits) of attendees were aged less than 25 years, 64.1% (53 536 visits) were European, 21.7% (18 153 visits) were Māori, 9.8% (8152 visits) were of Other ethnicity and 4.4% (3701 visits) were Pacific Peoples.

#### STIs reported by SHCs

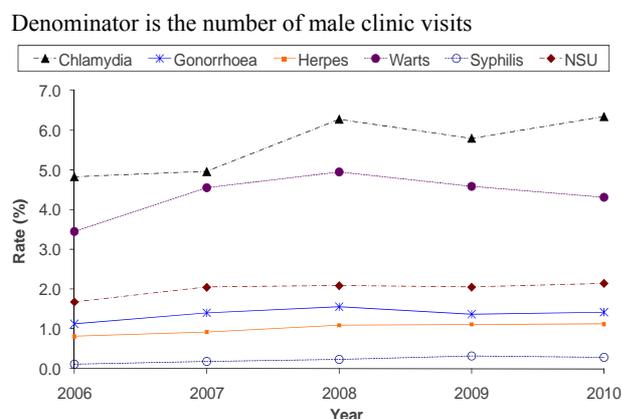
In 2010, a total of 10 124 STI cases were reported by SHCs, representing a clinic visit rate of 11.9% in SHC attendees.

Chlamydia was the most commonly reported STI (Table 3) with 4858 cases, followed by 774 cases of gonorrhoea and 119 cases of syphilis. No cases of chancroid, GI or LGV were reported by SHCs during 2010.

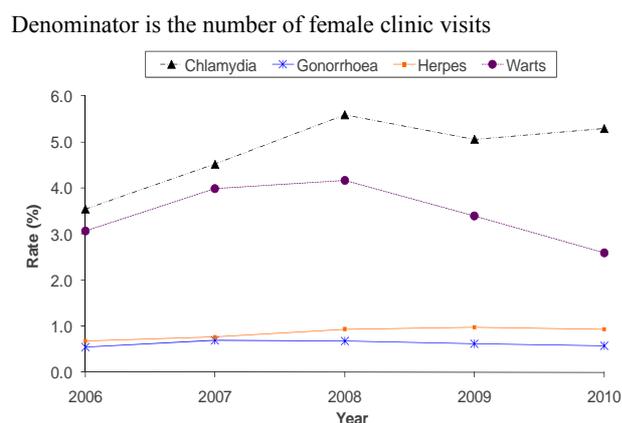
Figure 1 and Figure 2 show the clinic visit rates for the main STIs reported by SHCs from 2006 to 2010 by sex. Between 2006 and 2010, clinic visit rates increased for all STIs and for both sexes, except for

the clinic visit rate for genital warts in females which decreased over the same time period.

**Figure 1: Male STI clinic visit rates reported by SHCs, 2006 to 2010**



**Figure 2: Female STI clinic visit rates reported by SHCs, 2006 to 2010**



**Table 3: Number of cases, clinic visit rates and age comparisons for STIs reported by SHCs, 2010**

Infection	Number of cases	Clinic visit rate (%)	Mean age (years)	Age range (years)
Chlamydia	4 858	5.7	23.5	12–74
Gonorrhoea	744	0.9	25.6	13–74
Genital herpes (first presentation)	856	1.0	28.7	11–78
Genital warts (first presentation)	2 787	3.3	26.3	11–78
Syphilis	119	0.1	39.6	16–74
Non-specific urethritis (males only)	730	2.1	31.7	14–73
<b>Total STI cases</b>	<b>10 124</b>	<b>11.9</b>		
<b>Total clinic visits</b>	<b>85 070</b>			

## Family planning clinics

### FPC attendees

FPCs reported 183 136 clinic visits during 2010, 95.4% (174 647 visits) of which were by females. Between 2009 and 2010, the number of clinic visits decreased by 3.8% (from 190 347 visits in 2009 to 183 136 visits in 2010).

Age and ethnicity were recorded for 99.98% (183 105/183 136) and 93.8% (171 739/183 136) of clinic attendees, respectively. Where age and ethnicity information was provided, 59.8% (109 509 visits) of attendees were aged less than 25 years, 71.4% (122 634 visits) were European, 15.5% (26 665 visits) were Māori, 5.1% (8741 visits) were Pacific Peoples and 8.0% (13 699 visits) were of Other ethnicity.

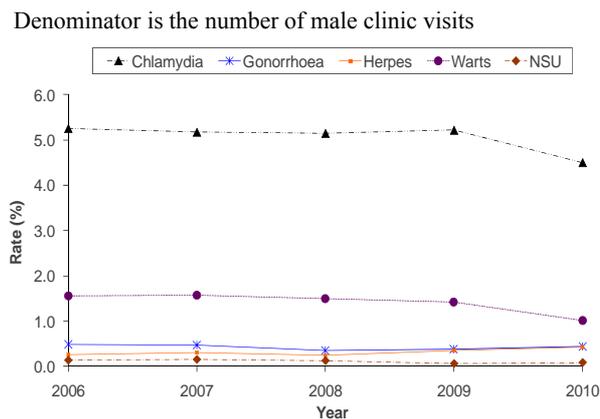
### STIs reported by FPCs

In 2010, a total of 3135 cases were reported by FPCs, representing a clinic visit rate of 1.7% in FPC attendees.

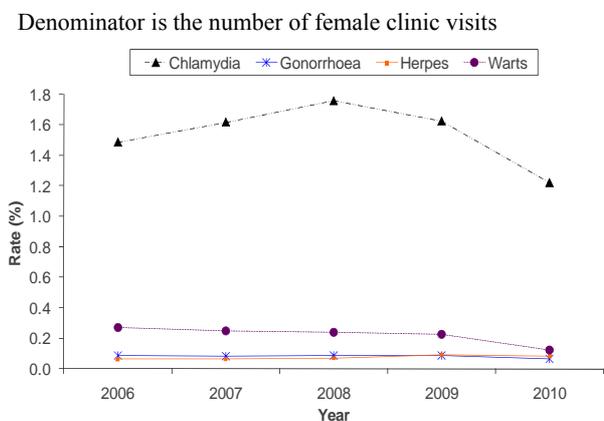
Chlamydia was the most commonly reported STI (Table 4) with 2500 cases, followed by 152 cases of gonorrhoea and one case of syphilis. No cases of chancroid, GI or LGV were reported by FPCs during 2010.

Figure 3 and Figure 4 show the clinic visit rates for the main STIs reported by FPCs from 2006 to 2010 by sex. Over this time period, the clinic visit rates for the majority of STIs in both sexes either decreased or remained relatively steady.

**Figure 3: Male STI clinic visit rates reported by FPCs, 2006 to 2010**



**Figure 4: Female STI clinic visit rates reported by FPCs, 2006 to 2010**



**Table 4: Number of cases, clinic visit rates and age comparisons for STIs reported by FPCs, 2010**

Infection	Number of cases	Clinic visit rate (%)	Mean age (years)	Age range (years)
Chlamydia	2 500	1.4	21.3	13–54
Gonorrhoea	152	0.1	20.5	15–39
Genital herpes (first presentation)	180	0.1	24.4	13–69
Genital warts (first presentation)	295	0.2	22.5	14–63
Syphilis	1	-	-	-
Non-specific urethritis (males only)	7	0.1	21.1	17–27
<b>Total STI cases</b>	<b>3 135</b>	<b>1.7</b>		
<b>Total clinic visits</b>	<b>183 136</b>			

## Student and youth health clinics

### SYHC attendees

SYHCs reported 237 944 clinic visits during 2010, 68.7% (163 542 visits) of which were by females. Between 2009 and 2010, the number of clinic visits increased by 0.5% (from 236 716 visits in 2009 to 237 944 visits in 2010).

Age and ethnicity were recorded for 64.7% (153 859/237 944) and 63.4% (150 954/237 944) of clinic attendees, respectively. Demographics of SYHC attendees are not routinely collected, and factors including lack of computerisation and time constraints further limit data collection and collation capability. Where age and ethnicity information was provided, 74.9% (115 164 visits) of attendees were aged less than 25 years, 59.7% (90 065 visits) were European, 10.6% (15 964 visits) were Māori, 3.3% (4999 visits) were Pacific Peoples and 26.4% (39 926 visits) were of Other ethnicity.

### STIs reported by SYHCs

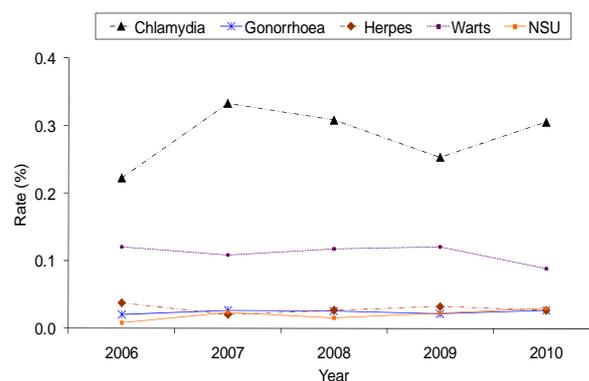
In 2010, a total of 1296 STI cases were reported by SYHCs, representing a clinic visit rate of 0.5% in SYHC attendees.

Chlamydia was the most commonly reported STI (Table 4) with 971 cases, followed by 41 cases of gonorrhoea and two cases of syphilis. No cases of chancroid, GI or LGV were reported by SYHCs during 2010.

Figure 5 and Figure 6 show the clinic visit rates for the main STIs reported by SYHCs from 2006 to 2010 by sex. Changes in clinic visit rates for STIs reported through SYHCs are problematic due to small case numbers relative to the number of clinic visits. However, a decrease in the chlamydia clinic visit rate between 2007 and 2009 followed by an increase in 2010 is evident for both sexes. A decrease in the genital wart clinic visit rate was observed for both sexes between 2009 and 2010.

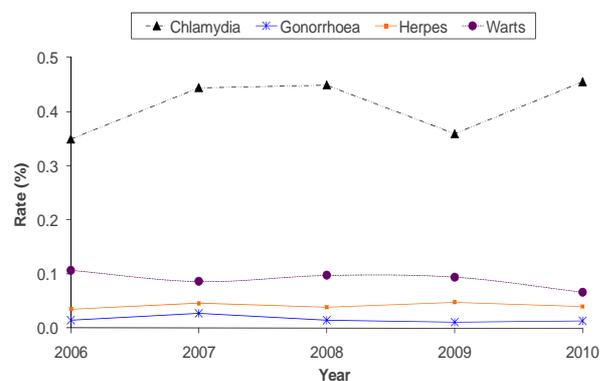
**Figure 5: Male STI clinic visit rates reported by SYHCs, 2006 to 2010**

Denominator is the number of male clinic visits



**Figure 6: Female STI clinic visit rates reported by SYHCs, 2006 to 2010**

Denominator is the number of female clinic visits



**Table 5: Number of cases, clinic visit rates and age comparisons for STIs reported by SYHCs, 2010**

Infection	Number of cases	Clinic visit rate (%)	Mean age (years)	Age range (years)
Chlamydia	971	0.4	19.9	10–59
Gonorrhoea	41	0.02	20.3	14–34
Genital herpes (first presentation)	85	0.04	21.5	16–43
Genital warts (first presentation)	175	0.1	21.3	14–45
Syphilis	2	-	28.0	18–38
Non-specific urethritis (males only)	22	0.03	22.5	18–41
<b>Total STI cases</b>	<b>1 296</b>	<b>0.5</b>		
<b>Total clinic visits</b>	<b>237 944</b>			

## Chlamydia

In 2010, genital chlamydia infection was the most commonly reported STI in New Zealand. Chlamydia infection is asymptomatic in approximately 25% of male cases 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].

### Annual 2010 analysis

The chlamydia clinic visit rates reported by SHCs, FPCs and SYHCs were 5.7% (4858 cases), 1.4% (2500 cases) and 0.4% (971 cases), respectively.

Higher clinic visit rates were reported in males attending both SHCs and FPCs compared with females, with rates 1.2-times and 3.8-times higher, respectively (Table 6). Males are more likely to be symptomatic and are more likely to seek treatment at SHCs. It is important to note that the high rate ratio observed in FPCs, relates to the low numbers of males who attend these clinics, and that almost six-times more females were 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.

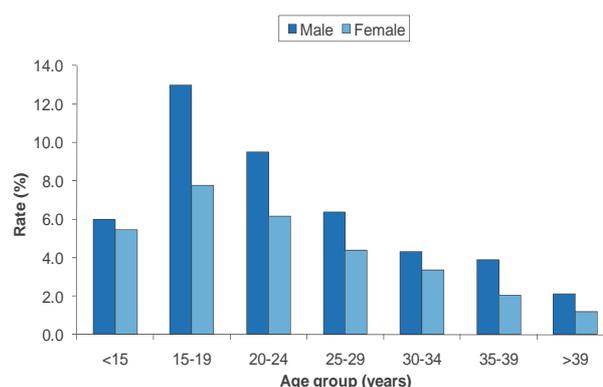
Age was recorded for 99.98% (4857/4858) of SHC, 100.0% (2500/2500) of FPC, and 99.8% (969/971) of SYHC reported cases of chlamydia in 2010. A large proportion of the reported cases of chlamydia were aged less than 25 years, 68.6% (3332/4857) at SHCs, 82.8% (2069/2500) at FPCs and 94.1% (912/969) at SYHCs. The mean age of cases of chlamydia was 23.5 years in SHCs, 21.3 years in FPCs and 19.9 years in SYHCs.

Across all clinic types the number of males with chlamydia was highest in the 20 to 24 years age group (790 cases in SHCs, 157 cases in FPCs and 149 cases in SYHCs). For females, the highest

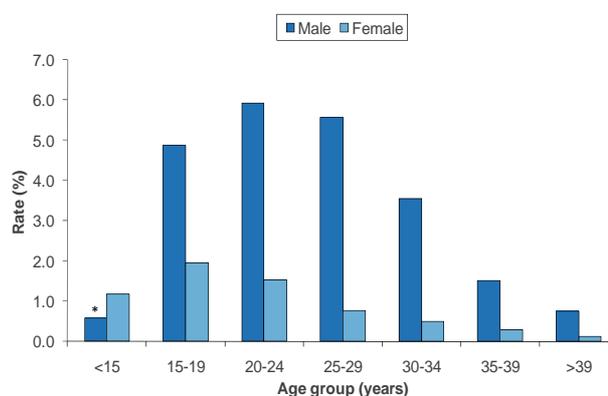
numbers were in the 15 to 19 years age group (1146 cases in SHCs, 926 cases in FPCs and 365 cases in SYHCs).

Figure 7 to Figure 9 present the clinic visit rates of chlamydia by age group and sex for each clinic type for 2010.

**Figure 7: Clinic visit rates for chlamydia reported by SHCs by age group and sex, 2010**



**Figure 8: Clinic visit rates for chlamydia reported by FPCs by age group and sex, 2010**



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

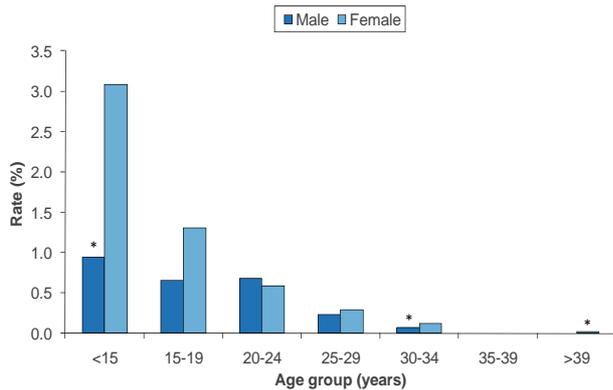
Note: In FPCs the male to female ratio of attendees is 1:21.

**Table 6: Number of cases and clinic visit rates of chlamydia by sex and clinic type, 2010**

Clinic type	Number of cases			Clinic visit rate <sup>1</sup> (%)		
	Male	Female	Total <sup>2</sup>	Male	Female	Total
SHC	2151	2706	4858	6.3	5.3	5.7
FPC	369	2130	2500	4.5	1.2	1.4
SYHC	227	744	971	0.3	0.5	0.4

<sup>1</sup> Cases / total number of clinic visits.

<sup>2</sup> Total includes cases with unknown sex.

**Figure 9: Clinic visit rates for chlamydia reported by SYHCs by age group and sex, 2010**

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

Ethnicity was recorded by SHCs for 98.7% (4795/4858) of the reported cases of chlamydia. The highest percentage of cases in SHCs were of European ethnicity (44.0%, 2108 cases), followed by Māori (39.0%, 1872 cases), Pacific Peoples (11.2%, 539 cases) and Other ethnicity (5.8%, 276 cases). Ethnicity was recorded by FPCs for 96.4% (2410/2500) of the reported cases. The highest percentage of cases in FPCs were of European ethnicity (51.2%, 1234 cases), followed by Māori (33.2%, 799 cases), Pacific Peoples (12.2%, 294 cases) and Other ethnicity (3.4%, 83 cases). Ethnicity was recorded by SYHCs for 97.9% (951/971) of the reported cases. The highest percentage of cases in SYHCs were of European ethnicity (54.9%, 522 cases), followed by Māori (32.4%, 308 cases), Pacific Peoples (6.7%, 64 cases) and Other ethnicity (6.0%, 57 cases).

In all health care settings, the clinic visit rates for chlamydia varied by ethnic group. Māori chlamydia clinic visit rates were approximately three-times European rates in all clinic settings (SHCs – 10.3% vs. 3.9%, FPCs – 3.0% vs. 1.0% and SYHCs – 1.9% vs. 0.6%). Similarly, Pacific Peoples' chlamydia clinic visit rates were 2.2- to 3.7-times higher than European rates across the clinic types (SHCs – 14.6% vs. 3.9%, FPCs – 3.4% vs. 1.0% and SYHCs – 1.3% vs. 0.6%).

In 2010, chlamydia was most commonly confirmed from a lower anogenital site for cases in all clinic types, as follows: 94.2% of SHC cases (4577 cases), 96.9% of FPC cases (2422 cases), and 97.2% of SYHC cases (944 cases) (Table 21 in Appendix D).

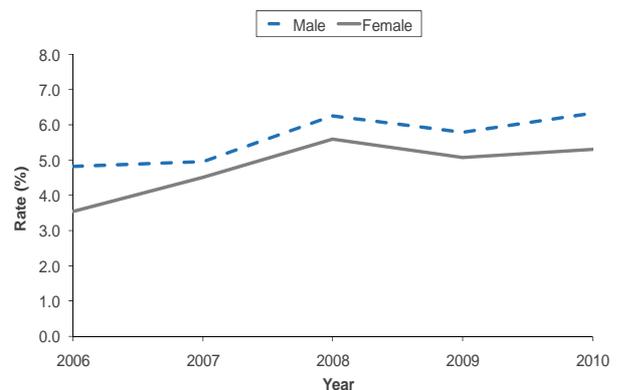
Complicated infections (epididymitis in males and PID in females) were reported for 5.4% (264/4858) of cases of chlamydia in SHCs, 2.4% (59/2500) in

FPCs and 1.5% (15/971) in SYHCs (Table 21 in Appendix D). A total of 80 males (73 in SHCs, 5 in FPCs, and 2 in SYHCs) were reported with epididymitis, 50.0% (40 cases) of whom were aged less than 25 years. Of the 79 cases (98.8%) where ethnicity was recorded, the highest percentage of cases were of European ethnicity (51.9%, 41 cases), followed by Māori (24.1%, 19 cases), Pacific Peoples (16.5%, 13 cases) and Other ethnicity (7.6%, 6 cases). A total of 258 females (191 in SHCs, 54 in FPCs and 13 in SYHCs) were reported with PID, 70.5% (182 cases) of whom were aged less than 25 years. Of the 256 cases (99.2%) where ethnicity was recorded, the highest percentage of cases were of Māori ethnicity (44.5%, 114 cases), followed by European (41.4%, 106 cases), Pacific Peoples (10.5%, 27 cases) and Other ethnicity (3.5%, 9 cases).

### Recent trends

Between 2009 and 2010, the chlamydia clinic visit rate increased by 6.4% in SHCs (from 4544/84 643 to 4858/85 070) and by 25.1% in SYHCs (from 772/236 716 to 971/237 944). In FPCs, the chlamydia clinic visit rate decreased by 24.5% (from 3441/190 347 to 2500/183 136).

From 2006 to 2010, the chlamydia clinic visit rate increased by 39.9% in SHCs (from 3489/85 485 to 4858/85 070) and by 31.1% in SYHCs (from 595/191 202 to 971/237 944). In contrast, the chlamydia clinic visit rate decreased by 17.8% in FPCs (from 2875/173 077 to 2500/183 136). During this period, the chlamydia clinic visit rate at SHCs increased by 31.2% in males (from 1743/36 121 to 2151/33 982) and by 49.8% in females (from 1746/49 364 to 2706/51 088) (Figure 10).

**Figure 10: Clinic visit rates of chlamydia reported by SHCs, 2006 to 2010**

## 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 PID in females, epididymo-orchitis in males and severe conjunctivitis in neonates [2].

### Annual 2010 analysis

In 2010, the gonorrhoea clinic visit rates reported by SHCs, FPCs and SYHCs were 0.9% (774 cases), 0.1% (152 cases) and 0.02% (41 cases), respectively.

Higher clinic visit rates were reported in males attending all clinic settings compared with females, with rates 2.3- to 4-times higher (Table 7). Males are more likely than females to be symptomatic and to seek treatment particularly at SHCs, but less likely to seek care at FPCs.

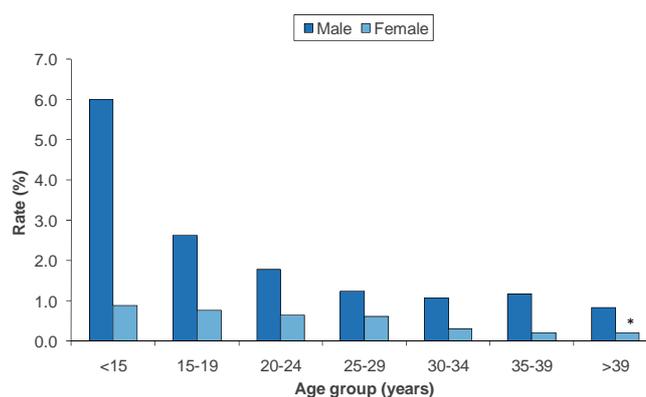
Age was recorded for all gonorrhoea cases in 2010. A large proportion of the reported cases of gonorrhoea were aged less than 25 years, 59.7% (462/774) in SHCs, 88.2% (134/152) in FPCs and 92.7% (38/41) in SYHCs. The mean age of cases of gonorrhoea was 25.6 years in SHCs, 20.6 years in FPCs and 20.3 years in SYHCs.

Across all clinic types the number of males with gonorrhoea was highest in the 20 to 24 years age group (149 cases in SHCs, 16 cases in FPCs, and 11 cases in SYHCs). For females, the highest numbers of cases with gonorrhoea were in the 15 to 19 years age group (113 cases in SHCs, 60 cases in FPCs and 13 cases in SYHCs). Figure 11 and Figure 12 present the clinic visit rates by age group and sex for 2010. The clinic visit rates may be unreliable for the less than 15 years age group due to the small number of cases and clinic visits.

Ethnicity was recorded by SHCs for 97.5% (755/774) of the reported cases of gonorrhoea. The highest percentage of cases in SHCs were of Māori ethnicity (43.3%, 327 cases), followed by European (38.7%, 292 cases), Pacific Peoples (13.5%, 102 cases) and Other ethnicity (4.5%, 34 cases). Ethnicity was recorded by FPCs for 96.7% (147/152) of the

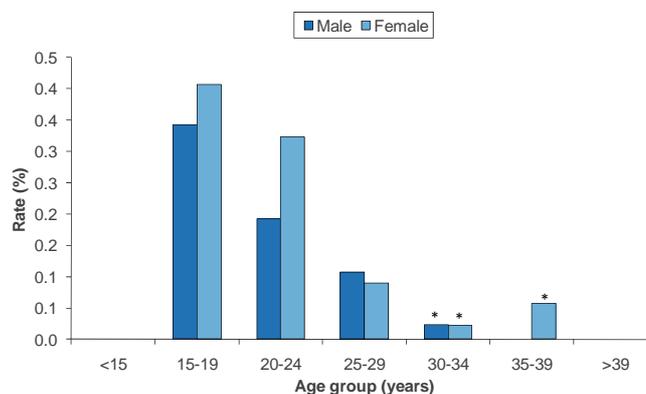
reported cases. The highest percentage of cases in FPCs were of Māori ethnicity (52.4%, 77 cases), followed by European (36.7%, 54 cases), Pacific Peoples (8.8%, 13 cases) and Other ethnicity (2.0%, 3 cases). Ethnicity was recorded by SYHCs for 97.6% (40/41) of the reported cases. The highest percentage of cases in SYHCs were of European ethnicity (52.5%, 21 cases), followed by Māori (32.5%, 13 cases), Pacific Peoples and Other ethnicity (7.5%, 3 cases each).

**Figure 11: Clinic visit rates of gonorrhoea reported by SHCs by age group and sex, 2010**



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

**Figure 12: Clinic visit rates of gonorrhoea reported by FPCs by age group and sex, 2010**



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

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

**Table 7: Number of cases and clinic visit rates of gonorrhoea by sex and clinic type, 2010**

Clinic type	Number of cases			Clinic visit rate <sup>1</sup> (%)		
	Male	Female	Total <sup>2</sup>	Male	Female	Total
SHC	480	294	774	1.4	0.6	0.9
FPC	36	116	152	0.4	0.1	0.1
SYHC	20	21	41	0.03	0.01	0.02

<sup>1</sup> Cases / total number of clinic visits.

<sup>2</sup> Total includes cases with unknown sex.

In 2010, gonorrhoea was most commonly confirmed from a urogenital site for cases in all clinic types, as follows: 92.0% of SHC cases (712 cases), 92.8% of FPC cases (141 cases), and 92.7% of SYHC cases (38 cases). In SHCs, the next most common site was anorectal at 4.7% (36 cases); followed by the pharynx at 4.0% (31 cases) (Table 22 in Appendix D).

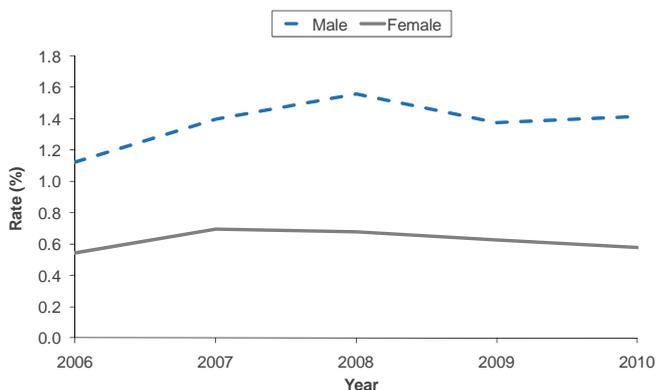
Complicated infections (epididymitis in males and PID in females) were reported for 1.6% (12/774) of cases of gonorrhoea in SHCs, 6.6% (10/152) in FPCs and no cases in SYHCs (Table 22 in Appendix D). A total of six males (4 in SHCs and 2 in FPCs) were reported with epididymitis, 33.3% (2 cases) of whom were aged less than 25 years. Ethnicity was recorded for all six cases, with the highest percentage of cases being of Māori ethnicity (83.3%, 5 cases), followed by European ethnicity (16.7%, 1 case). A total of 16 females (8 in SHCs and 8 in FPCs) were reported with PID, 87.5% (14 cases) of whom were aged less than 25 years. Ethnicity was recorded for all 16 cases, with an equal number of cases reported as Māori and as European (8 cases each).

## Recent trends

Between 2009 and 2010, the gonorrhoea clinic visit rate decreased by 3.3% in SHCs (from 796/84 643 to 774/85 070) and by 19.4% in FPCs (from 196/190 347 to 152/183 136). In SYHCs, the gonorrhoea clinic visit rate increased by 23.6% (from 33/236 716 to 41/237 944).

From 2006 to 2010, the gonorrhoea clinic visit rate increased by 15.6% in SHCs (from 673/85 485 to 774/85 070) and by 3.0% in SYHCs (from 32/191 202 to 41/237 944). In contrast, the gonorrhoea clinic visit rate decreased by 21.1% in FPCs (from 182/173 077 to 152/183 136). During this period, the gonorrhoea clinic visit rate at SHCs increased by 26.0% in males (from 405/36 121 to 480/33 982), and increased by 6.0% in females (from 268/49 364 to 294/51 088) (Figure 13).

**Figure 13: Clinic visit rates of gonorrhoea reported by SHCs, 2006 to 2010**

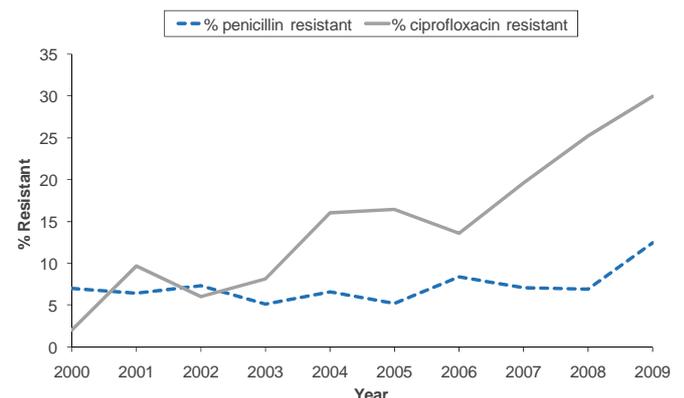


## Antibiotic resistance

The latest data available are for 2009. In that year, the prevalence of resistance to penicillin and ciprofloxacin among *N. gonorrhoeae* isolates was 12.4% and 29.9%, respectively. Ciprofloxacin resistance ranged from 73.9% in Whanganui DHB (46 isolates tested) to 12.5% in Nelson Marlborough DHB (8 isolates tested). Penicillin resistance ranged from 26.1% in Auckland and Whanganui DHBs (234 and 46 isolates tested, respectively) to 0.0% in Northland (18 isolates tested). Data were not available for West Coast and Southland DHBs (Table 8 and Figure 14).

Ceftriaxone is now considered the first-line treatment for gonorrhoea. No ceftriaxone resistance has been identified among *N. gonorrhoeae* isolates in New Zealand to date, although resistance and associated treatment failures are beginning to be reported from overseas.

**Figure 14: Prevalence of penicillin and ciprofloxacin resistance among *N. gonorrhoeae* isolates, 2000 to 2009**



**Table 8: Ciprofloxacin and penicillin resistance among *N. gonorrhoeae* isolates by district health board, 2009**

District Health Board <sup>1</sup>	Ciprofloxacin		Penicillin	
	Number tested	% resistant	Number tested	% resistant
Northland	46	30.4	18	0.0
Auckland region <sup>2</sup>	800	28.9	234	26.1
Waikato	601	18.5	105	3.8
Lakes	64	57.8	52	13.5
Bay of Plenty	115	35.7	112	10.7
Tairāwhiti	142	54.2	94	4.3
Taranaki	31	45.2	-	-
Hawke's Bay	169	43.2	169	20.1
MidCentral	115	31.3	114	11.4
Whanganui	46	73.9	46	26.1
Wellington region <sup>3</sup>	296	23.6	281	6.4
Nelson Marlborough	8	12.5	8	12.5
Canterbury region <sup>4</sup>	237	30.0	234	8.5
Otago	76	13.2	76	6.6
<b>Total<sup>1</sup></b>	<b>2746</b>	<b>29.9</b>	<b>1543</b>	<b>12.4</b>

<sup>1</sup> No data available for West Coast or Southland DHBs

<sup>2</sup> Auckland region includes Waitemata, Auckland and Counties Manukau DHBs

<sup>3</sup> Wellington region includes Hutt Valley and Capital and Coast DHBs

<sup>4</sup> Canterbury region includes Canterbury and South Canterbury DHBs

## 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, particularly among younger women[4]. The prevalence of HSV-2 antibodies in the Dunedin birth cohort was 3.4% at 21 years, 11% at 26 years and 18.4% at 32 years [5].

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 in those who are immune suppressed [1]. The ulcerative lesions of HSV facilitate the transmission of HIV infection [6].

### Annual 2010 analysis

In 2010, the clinic visit rates for genital herpes (first presentation) reported by SHCs, FPCs and SYHCs were 1.0% (856 cases), 0.1% (180 cases) and 0.04% (85 cases), respectively.

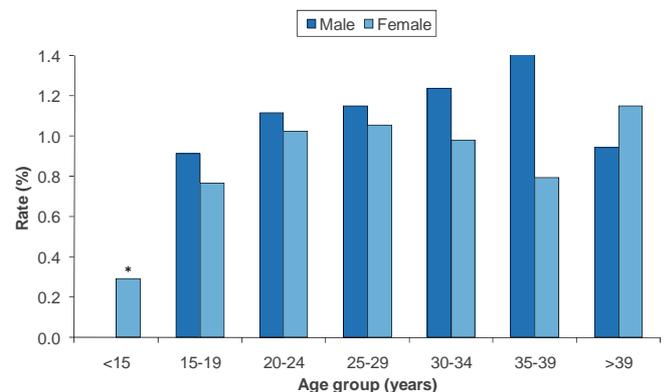
Higher clinic visit rates were reported in males attending both SHCs and FPCs compared with females, with rates 1.2- and 4-times higher, respectively (Table 9).

In 2010, age was recorded for 99.9% (855/856) of genital herpes cases reported by SHCs and all FPC and SYHC genital herpes cases. The proportion of cases of genital herpes aged less than 25 years varied by clinic type with 45.3% (387/855) at SHCs, 70.0% (126/180) at FPCs and 90.6% (77/85) at SYHCs. The mean age of cases of genital herpes was 28.7 years at SHCs, 24.4 years in FPCs and 21.5 years at SYHCs.

Across all clinic types the number of males with genital herpes was highest in the 20 to 24 years age group (93 cases in SHCs, 16 cases in FPCs and 11 cases in SYHCs). For females, the highest numbers were also in the 20 to 24 years age group (146 cases in SHCs, 56 cases in FPCs and 33 cases in SYHCs). Figure 15 and Figure 16 present the clinic visit rates by age group and sex for 2010.

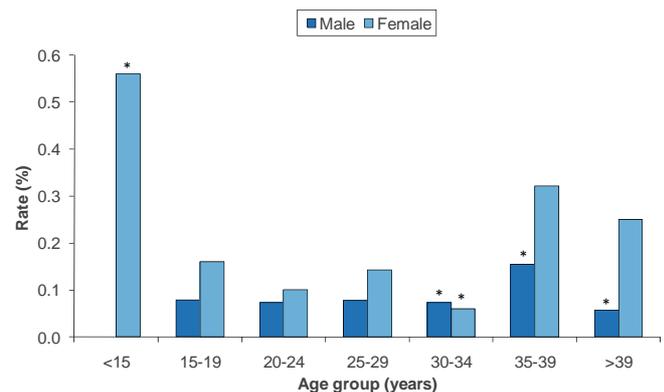
Ethnicity was recorded for 97.4% (834/856) of the reported cases of genital herpes in SHCs, 95.6% (172/180) in FPCs and 96.5% (82/85) in SYHCs. Of these, the majority of cases of genital herpes were of European ethnicity in all clinic types, as follows: SHCs – 75.5% (630 cases), FPCs – 84.3% (145 cases) and SYHCs – 73.2% (60 cases). The ethnic group with the second highest number of genital herpes cases in all clinic types was Māori (113, 18, and 13 cases for SHCs, FPCs, and SYHCs respectively).

**Figure 15: Clinic visit rates of genital herpes (first presentation) reported by SHCs by age group and sex, 2010**



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

**Figure 16: Clinic visit rates of genital herpes (first presentation) reported by FPCs by age group and sex, 2010**



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

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

**Table 9: Number of cases and clinic visit rates of genital herpes (first presentation) by sex and clinic type, 2010**

Clinic type	Number of cases			Clinic visit rate <sup>1</sup> (%)		
	Male	Female	Total <sup>2</sup>	Male	Female	Total
SHC	380	476	856	1.1	0.9	1.0
FPC	35	144	180	0.4	0.1	0.1
SYHC	20	65	85	0.03	0.04	0.04

<sup>1</sup> Cases/number of clinic visits

<sup>2</sup> Total includes cases with unknown sex.

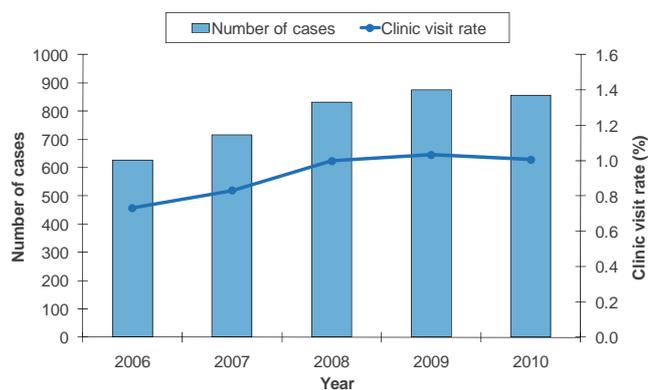
## Recent trends

Between 2009 and 2010, the genital herpes clinic visit rates decreased by 2.7% in SHCs (from 875/84 643 to 856/85 070), by 6.0% in FPCs (from 199/190 347 to 180/183 136) and by 17.1% in SYHCs (from 102/236 716 to 85/237 944).

From 2006 to 2010, the genital herpes clinic visit rates increased by 37.4% in SHCs (from 626/85 485 to 856/85 070) and by 36.1% in FPCs (from 125/173 077 to 180/183 136), and decreased by 1.0% in SYHCs (from 69/191 202 to 85/237 944) (Figure 17).

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

**Figure 17: Numbers of cases and clinic visit rates of genital herpes (first presentation) reported by SHCs, 2006 to 2010**



## Genital Warts (first presentation)

Genital warts, a visible manifestation of human papillomavirus (HPV) infection, 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]. In September 2008, an HPV immunisation programme using a quadrivalent vaccine (covering types 6, 11, 16 and 18) commenced for girls born on or after 1 January 1990. This vaccine is now part of the routine immunisation schedule for girls aged 12 years.

### Annual analysis 2010

In 2010, genital warts was the most commonly reported viral STI in New Zealand. The clinic visit rates for genital warts (first presentation) reported by SHCs, FPCs and SYHCs were 3.3% (2787 cases), 0.2% (295 cases) and 0.1% (175 cases), respectively.

Higher clinic visit rates were reported in males attending SHCs and FPCs compared with females, with rates 1.7- and 10.0-times higher, respectively (Table 10).

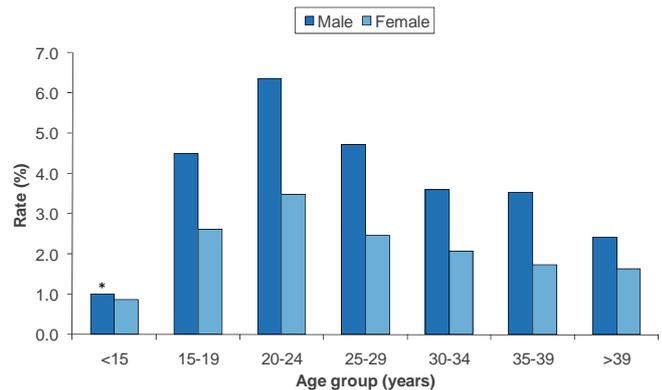
In 2010, age was recorded for 99.9% (2784/2787) of genital warts cases reported by SHCs and all FPC and SYHC genital warts cases. The proportion of reported cases of genital warts aged less than 25 years varied by clinic type with 56.7% (1579/2784) in SHCs, 78.0% (230/295) in FPCs and 93.1% (163/175) in SYHCs. The mean age of cases of genital warts was 26.3 years in SHCs, 22.4 years in FPCs and 21.3 years in SYHCs.

Across all clinic types the number of males with genital warts was highest in the 20 to 24 years age group (529 cases in SHCs, 46 cases in FPCs and 50 cases in SYHCs). For females, the highest numbers were also reported in the 20 to 24 years age group (497 cases in SHCs, 98 cases in FPCs and 75 cases in SYHCs). Figure 18 and Figure 19 present the clinic visit rates by age group and sex for 2010.

Ethnicity was recorded for 97.9% (2728/2787) of the reported cases of genital warts in SHCs, 96.9% (286/295) in FPCs and 97.7% (171/175) in SYHCs.

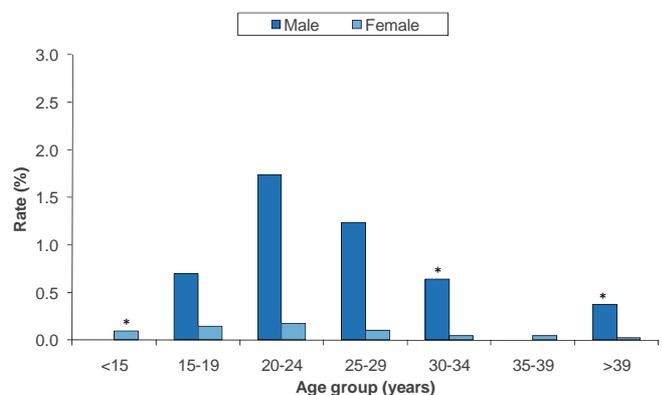
Of these, the majority of cases of genital warts were of European ethnicity in all clinic types as follows: SHCs – 70.7% (1928 cases), FPCs – 71.3% (204 cases) and SYHCs – 78.4% (134 cases). The ethnic group with the second highest number of genital warts cases in all clinic types was Māori (479, 53, and 18 cases for SHCs, FPCs, and SYHCs respectively).

**Figure 18: Clinic visit rates of genital warts (first presentation) reported by SHCs by age group and sex, 2010**



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

**Figure 19: Clinic visit rates of genital warts (first presentation) reported by FPCs by age group and sex, 2010**



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

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

**Table 10: Number of cases and clinic visit rates of genital warts (first presentation) by sex and clinic type, 2010**

Clinic type	Number of cases			Clinic visit rate <sup>1</sup> (%)		
	Male	Female	Total <sup>2</sup>	Male	Female	Total
SHC	1462	1324	2787	4.3	2.6	3.3
FPC	83	212	295	1.0	0.1	0.2
SYHC	66	109	175	0.1	0.1	0.1

<sup>1</sup> Cases/number of clinic visits

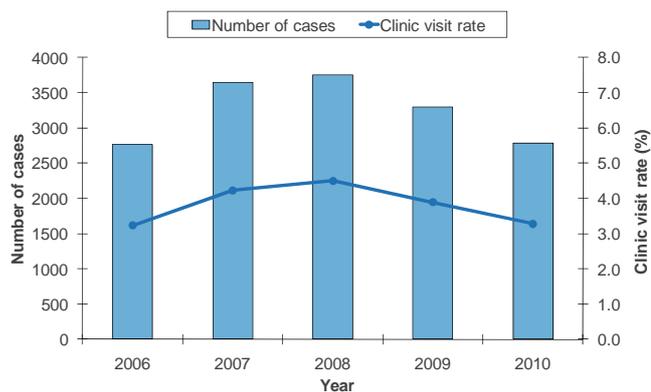
<sup>2</sup> Total includes cases with unknown sex.

## Recent trends

Between 2009 and 2010, the genital warts clinic visit rate decreased by 15.8% in SHCs (from 3294/84 643 to 2787/85 070), by 43.8% in FPCs (from 546/190 347 to 295/183 136) and by 28.4% in SYHCs (from 243/236 716 to 175/237 944).

From 2006 to 2010, the genital warts clinic visit rate increased by 1.4% in SHCs (from 2762/85 485 to 2787/85 070 cases) (Figure 20).

**Figure 20: Number of cases and clinic visit rates of genital warts (first presentation) reported by SHCs, 2006 to 2010**



## 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, that is, from mother to baby, can occur for at least four years, whereas sexual transmission usually occurs for one year [8]. Only cases of infectious syphilis (primary, secondary and early latent) are reported by clinics for surveillance purposes.

### Annual analysis 2010

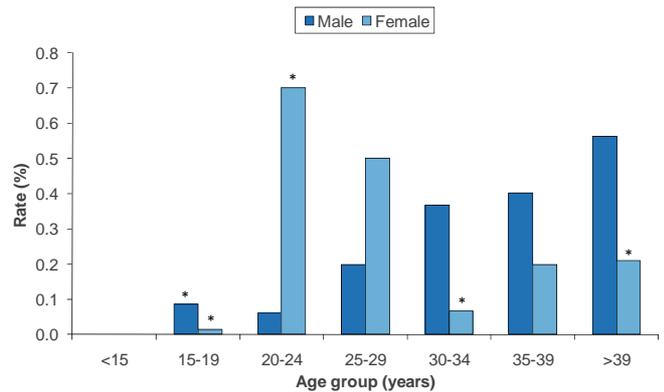
In 2010, the infectious syphilis clinic visit rate reported by SHCs was 0.1% (119 cases). One case of infectious syphilis was reported by FPCs and two cases were reported by SYHCs.

Of the 119 cases of syphilis reported by SHCs in 2010, 79.0% (94 cases) were male and 21.0% (25 cases) were female. The mean age of cases of syphilis was 39.3 years (range 16 to 74 years). Most cases of syphilis (73.1%) were reported by clinics in the Auckland (64 cases) and Wellington (23 cases) regions.

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 older than 39 years age group (males – 43 cases, with a clinic visit rate of 0.6%, females – 11 cases, with a clinic visit rate of 0.2%).

Ethnicity was recorded for 95.0% (113/119) of the reported cases of syphilis in SHCs. Of these, the highest percentage of cases were of European ethnicity (49.6%, 56 cases), followed by Other (25.7%, 29 cases), Pacific Peoples (15.0%, 17 cases) and Māori (9.7%, 11 cases) ethnicities.

**Figure 21: Clinic visit rates of syphilis reported by SHCs by age group and sex, 2010**



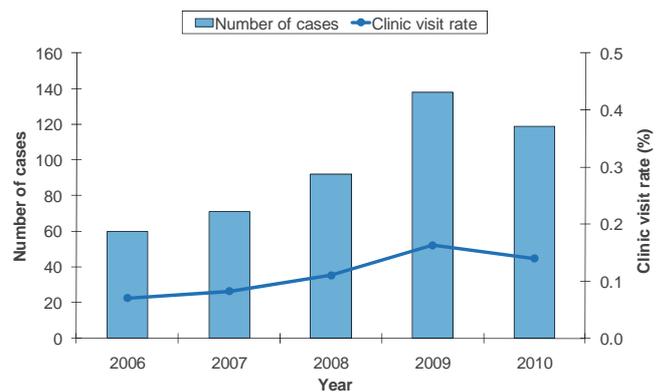
\*Clinic visit rates may be unreliable as the case numbers are less than five.

### Recent trends

Between 2009 and 2010, the infectious syphilis clinic visit rate reported by SHCs decreased by 14.2% (from 138/84 643 to 119/85 070).

From 2006 to 2010, the infectious syphilis clinic visit rate reported by SHCs increased by 99.3% (from 60/85 485 to 119/85 070). Although the overall number of cases of syphilis remained low compared with other STIs, case numbers and clinic visit rates increased steadily between 2006 and 2009 before decreasing in 2010 (Figure 22).

**Figure 22: Number of cases and clinic visit rates of syphilis reported by SHCs, 2006 to 2010**



## 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.

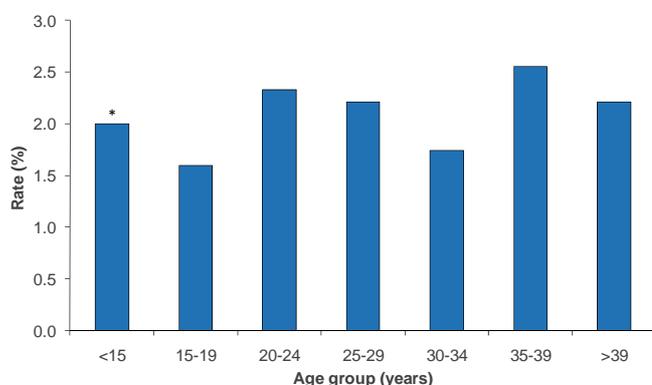
### Annual analysis 2010

In 2010, the clinic visit rates for NSU reported by SHCs, FPCs and SYHCs were 2.1% (730 cases), 0.1% (7 cases) and 0.03% (22 cases), respectively.

The mean age of NSU cases was 31.7 years in SHCs, 21.1 years in FPCs and 22.5 years in SYHCs.

In SHCs, the highest number of NSU cases was in the 20 to 24 years age group (194 cases) (Figure 23).

**Figure 23: Clinic visit rates of NSU reported by SHCs by age group, 2010**



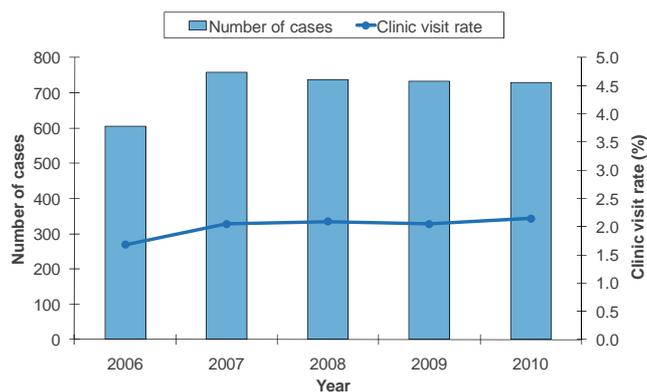
\*Clinic visit rates may be unreliable as the case numbers are less than five.

### Recent trends

Between 2009 and 2010, the clinic visit rate for NSU reported by SHCs decreased by 4.7% (from 733/84 643 to 730/85 070).

From 2006 to 2010, the clinic visit rate for NSU reported by SHCs increased by 28.0% (from 606/85 485 to 730/85 070) (Figure 24).

**Figure 24: Number of cases and clinic visit rates of NSU reported by SHCs, 2006 to 2010**



## Multiple Sexually Transmitted Infections

This section of the report refers to data received from SHCs only. Some SHC 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 identification 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 underestimate the true number of multiple infections, due to a number of factors, including inconsistent recording of a patient's details during different visits, and the analysis not accounting for diagnoses made in a different year or a patient attending different health care settings.

It is not possible to determine the proportion of clinic attendees who 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 2010, SHCs reported 598 attendees with concurrent infections. Of these, 579 attendees (96.8%) were reported with two infections and 19 attendees (3.2%) were reported with three infections.

Table 11 compares the sex of attendees with one or concurrent STIs reported by SHCs. Proportions of male and female attendees were similar whether they had one STI or concurrent infections.

**Table 11: Comparison of the sex of attendees with one or concurrent STIs reported by SHCs, 2010**

Age group (years)	One STI		Two or more STIs	
	Cases	%	Cases	%
Male	4655	52.3	316	52.8
Female	4252	47.7	282	47.2
Unknown	2	0.0	-	-
<b>Total</b>	<b>8909</b>	<b>100.0</b>	<b>598</b>	<b>100.0</b>

A significantly higher proportion of those with concurrent infections were young people. Almost 70% of those with concurrent infections were aged less than 25 years, compared with 58% of those with a single infection (Table 12).

**Table 12: Comparison of the age group of attendees with one or concurrent STIs reported by SHCs, 2010**

Age group (years)	One STI		Two or more STIs	
	Cases	%	Cases	%
<15	72	0.8	10	1.7
15 to 19	2147	24.1	200	33.4
20 to 24	2964	33.3	203	33.9
25 to 29	1524	17.1	86	14.4
30 to 34	766	8.6	39	6.5
35 to 39	589	6.6	20	3.3
>39	844	9.5	39	6.5
Unknown	3	0.0	1	0.2
<b>Total</b>	<b>8909</b>	<b>100.0</b>	<b>598</b>	<b>100.0</b>

A greater proportion of Māori or Pacific Peoples attendees had concurrent infections (Table 13), compared with attendees of other ethnicities.

**Table 13: Comparison of the ethnicity of attendees with one or concurrent STIs reported by SHCs, 2010**

Ethnicity	Total cases	One STI (%)	Two or more STIs (%)
European	5262	95.6	4.4
Māori	2656	91.0	9.0
Pacific Peoples	755	88.7	11.3
Other	659	95.8	4.2
Unknown	175	93.7	6.3
<b>Total</b>	<b>9507</b>	<b>-</b>	<b>-</b>

The different combinations of STIs reported for attendees who had two infections are shown in Table 14.

The combination of chlamydia and gonorrhoea accounted for 49.6% (287/579) of concurrent infections in SHC attendees presenting with two STIs. Chlamydia and genital warts accounted for a further 28.8% (167/579) of concurrent infections.

In those SHC attendees presenting with three reported STIs, the combination of chlamydia, gonorrhoea and genital warts accounted for 63.2% (12/19) of concurrent infections. Two attendees presented with chlamydia, gonorrhoea and genital herpes. The remaining five attendees with three reported STIs had unique disease combinations.

**Table 14 Number of attendees with two concurrent STIs reported by SHCs, 2010<sup>1</sup>**

STI	Chlamydia	Gonorrhoea	Genital herpes	Genital warts	Syphilis
Chlamydia					
Gonorrhoea	287				
Genital herpes	52	2			
Genital warts	167	6	16		
Syphilis	7	3	0	1	
NSU	n/a	n/a	7	17	1

<sup>1</sup> Excludes 7 cases reported with chlamydia and NSU and 6 cases reported with gonorrhoea and NSU

## Subsequent infections

In 2010, SHCs reported 10 124 STI cases involving 9042 attendees. Five percent of attendees (423 attendees) were reported to have subsequent infections, that is, they had STIs diagnosed in more than one month of the year. Of these 423 attendees with subsequent infections, 91.3% (386 attendees) were reported with an STI twice, and a further 8.7% (37 attendees) were reported with an STI on three or more separate occasions within 2010.

Information on sex was available for 99.98% (9040/9042) of SHC attendees, including 100.0% (423/423) of those with subsequent infections. The proportion of male (4.8%, 227/4719) and female (4.5%, 196/4321) attendees with subsequent infections was similar.

Age group information was available for 99.96% (9038/9042) of SHC attendees, including 100.0% (423/423) of those with subsequent infections. The age groups with the highest percentage of attendees presenting with subsequent infections were the 20 to 24 years (36.4%, 154 attendees), 15 to 19 years (24.6%, 104 attendees) and 25 to 29 years (13.7%, 58 attendees) age groups.

Ethnicity information was available for 98.1% (8873/9042) of SHC attendees, including 98.8% (418/423) of those with subsequent infections. Pacific Peoples had the highest proportion of attendees with subsequent infections at 6.5% (45/697). This compares with 4.8% for Māori and the Other ethnic group (122/2521 and 30/625, respectively) and 4.4% (221/5030) for people of European ethnicity.

The highest percentage of SHC attendees with subsequent infections reported chlamydia as one of the STIs diagnosed (74.0%, 313 attendees), followed by genital warts (26.0%, 110 attendees), NSU (17.5%, 74 attendees), gonorrhoea (15.6%, 66 attendees), genital herpes (11.3%, 48 attendees) and syphilis (1.7%, 7 attendees).

The highest percentage of attendees reported with subsequent infections had the same single STI on all occasions (57.0%, 241 attendees), followed by those with two different STIs (40.0%, 169 attendees) (Table 15). Of the attendees who were diagnosed and reported with two different STIs, 70.4% (119 attendees) had only single infection episodes and 29.6% (50 attendees) had at least one concurrent infection episode.

Of the 13 attendees who were diagnosed and reported with three different STIs, 69.2% (9 attendees) had only single infection episodes and 30.8% (4 attendees) had at least one concurrent infection episode.

**Table 15: Number of attendees with subsequent infections and number of different STIs reported by SHCs, 2010**

No. of different STIs*	Attendees	
	No.	%
1	241	57.0
2	169	40.0
3	13	3.1
<b>Total</b>	<b>423</b>	<b>100.0</b>

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

# LABORATORY SURVEILLANCE



## LABORATORY SURVEILLANCE

### Chlamydia

#### Annual 2010 analysis

In 2010, 39 laboratories provided chlamydia data. Of these, 35 laboratories from 15 DHBs met the selection criteria for reporting. Laboratories in these DHBs tested 288 248 specimens for chlamydia, of which 9.0% (25 937 specimens) tested positive from 25 239 patients. The national chlamydia rate, based on 15 DHBs, was 782 per 100 000 population (25 239 cases). Table 16 presents the percentage of specimens tested for chlamydia that were positive, the number of test-positive chlamydia cases and the chlamydia population rates by DHB and sex for 2010.

The highest rate of chlamydia was reported for Tairāwhiti DHB (1309 per 100 000 population, 607 cases), followed by Lakes (1192 per 100 000 population, 1241 cases) and Hawke's Bay (991 per 100 000 population, 1533 cases) DHBs.

Age and sex information was recorded for 98.7% (24 906/25 239) and 99.8% (25 187/25 239) of cases of chlamydia, respectively. The national rate for females (1191 per 100 000 population, 18 884 cases) was more than three-times the national rate for males (384 per 100 000 population, 6303 cases).

The mean age of cases of chlamydia was 22.4 years (median age 20 years, range 0 to 76 years). Seventy-one percent (17 882) 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 (1848 per 100 000 population, 2190 cases), almost 2.5-times the national rate. For females, the highest age-specific rate occurred in the 15 to 19 years age group (6514 per 100 000 population, 7664 cases), over eight-times the national rate. The highest DHB age-specific rate was in the 15 to 19 years age group from Lakes DHB (7462 per 100 000 population, 566 cases). Table 17 presents the number of test-positive chlamydia cases and chlamydia population rates by DHB and age group for 2010.

In 2010, 104 (45 male, 57 female and 2 sex unknown) cases of chlamydia were reported for the less than 1 year age group. The majority of these cases (66.3%, 69 cases) came from the combined DHBs of Auckland, Counties Manukau and Waitemata. Age-specific rates by DHB could not be calculated separately for this age group, as estimated population data were not available.

**Table 16: Percentage of specimens tested for chlamydia that were positive, number of test-positive chlamydia cases and chlamydia rates by DHB and sex, 2010**

District Health Board	Specimens tested positive (%)	Number of test-positive cases				Rate per 1000 population		
		Male	Female	Unknown	Total	Male	Female	Total
Northland	11.9	302	1 129	-	1431	3.8	14.6	9.1
Auckland region <sup>a</sup>	7.8	2 751	7 825	8	10 584	3.7	10.8	7.2
Waikato	9.8	726	2 133	2	2 861	3.9	11.9	7.9
Lakes	12.0	251	988	2	1 241	4.7	19.3	11.9
Bay of Plenty	10.3	414	1 465	12	1 891	3.8	14.3	9.0
Tairāwhiti	13.4	140	466	1	607	5.9	20.6	13.1
Taranaki	8.7	203	505	4	712	3.7	9.4	6.5
Hawke's Bay	11.9	352	1 181	-	1 533	4.4	15.7	9.9
Whanganui	11.6	103	361	3	467	3.3	11.9	7.5
MidCentral	11.4	375	945	5	1 325	4.4	11.6	7.9
Wairarapa	11.8	50	207	2	259	2.4	10.5	6.4
West Coast	11.5	68	146	4	218	4.3	8.8	6.7
Southern	7.4	568	1 533	9	2 110	3.7	10.2	7.0
Other <sup>b</sup>	12.5	523	1 032	-	1 555	-	-	-
<b>Total<sup>c</sup></b>	<b>9.0</b>	<b>6 303</b>	<b>18 884</b>	<b>52</b>	<b>25 239</b>	<b>3.8</b>	<b>11.9</b>	<b>7.8</b>

<sup>a</sup> Includes Waitemata, Auckland and Counties Manukau DHBs

<sup>b</sup> Data from DHBs where selection criteria were not met

<sup>c</sup> Total and rate calculations include only cases and population for DHBs meeting the selection criteria

Table 17: Number of test-positive chlamydia cases and chlamydia population rates by DHB and age group, 2010

District Health Board	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	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
Northland	6	52	0	-	40	338	694	6 255	452	5 308	122	1 753	53	720	30	323	34	43	0	-	1 431	910
Auckland region <sup>a</sup>	69	63	3	-	134	133	3 203	2 879	3 679	3 201	1 723	1 486	820	792	442	403	503	82	8	-	10 584	716
Waikato	13	47	0	-	47	178	1 119	4 012	1 012	3 892	354	1 551	170	808	75	320	70	43	1	-	2 861	786
Lakes	0	-	0	-	31	387	566	7 462	391	6 034	121	2 068	72	1 204	24	348	35	74	1	-	1 241	1 192
Bay of Plenty	7	47	0	-	57	378	815	5 529	596	5 217	197	1 842	88	799	63	479	50	48	18	-	1 891	900
Tairāwhiti	1	-	1	-	26	684	264	7 344	148	5 103	64	2 510	33	1 352	26	883	10	49	34	-	607	1309
Taranaki	3	-	0	-	10	133	198	2 566	190	2 901	54	896	33	552	13	186	15	28	196	-	712	652
Hawke's Bay	1	-	2	-	36	307	695	6 236	470	5 266	191	2 442	69	849	41	417	28	37	0	-	1 533	991
Whanganui	0	-	2	-	8	178	178	3 929	135	3 457	45	1 442	13	448	10	275	8	26	68	-	467	755
MidCentral	3	-	3	-	15	130	543	4 069	510	3 862	119	1 171	67	752	31	301	34	44	0	-	1 325	792
Wairarapa	1	-	0	-	4	-	127	4 820	81	4 060	19	1 064	14	773	7	297	5	23	1	-	259	643
West Coast	0	-	0	-	3	-	109	4 943	61	3 599	21	1 317	8	472	8	386	8	47	0	-	218	670
Southern	4	-	0	-	25	140	857	3 621	789	3 092	269	1 369	81	459	43	220	36	25	6	-	2 110	697
Other <sup>b</sup>	5	-	3	-	25	-	492	-	635	-	208	-	87	-	44	-	56	-	0	-	1 555	-
<b>Total<sup>c</sup></b>	<b>108</b>	<b>46</b>	<b>11</b>	<b>5</b>	<b>436</b>	<b>195</b>	<b>9 368</b>	<b>3 881</b>	<b>8 514</b>	<b>3 669</b>	<b>3 299</b>	<b>1 534</b>	<b>1 521</b>	<b>767</b>	<b>813</b>	<b>369</b>	<b>836</b>	<b>58</b>	<b>333</b>	<b>-</b>	<b>25 239</b>	<b>782</b>

<sup>a</sup> Includes Waitemata, Auckland and Counties Manukau DHBs

<sup>b</sup> Data from DHBs where selection criteria were not met

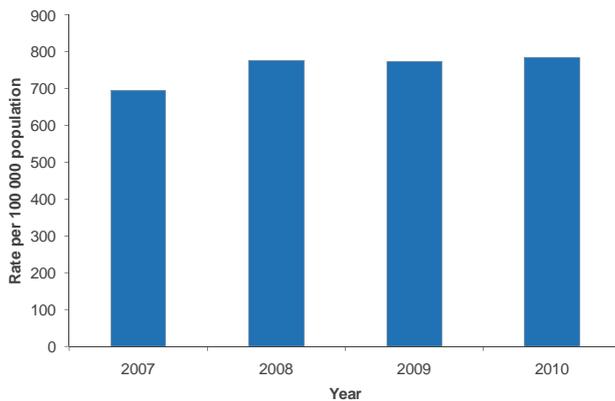
<sup>c</sup> Total and rate calculations include only cases and population for DHBs meeting the selection criteria

## Recent trends

### Restricted national rate trend analysis

Ten DHBs met the selection criteria for the restricted national rate trend analysis for chlamydia. Between 2009 and 2010, the chlamydia restricted national rate increased by 1.5% (from 773 per 100 000 to 784 per 100 000 population), which is not significant. From 2007 to 2010, the chlamydia restricted national rate increased significantly by 13.1% (from 694 per 100 000 to 784 per 100 000 population). The chlamydia restricted national rates for 2007 to 2010 are shown in Figure 25).

**Figure 25: Chlamydia restricted national rate, 2007 to 2010**

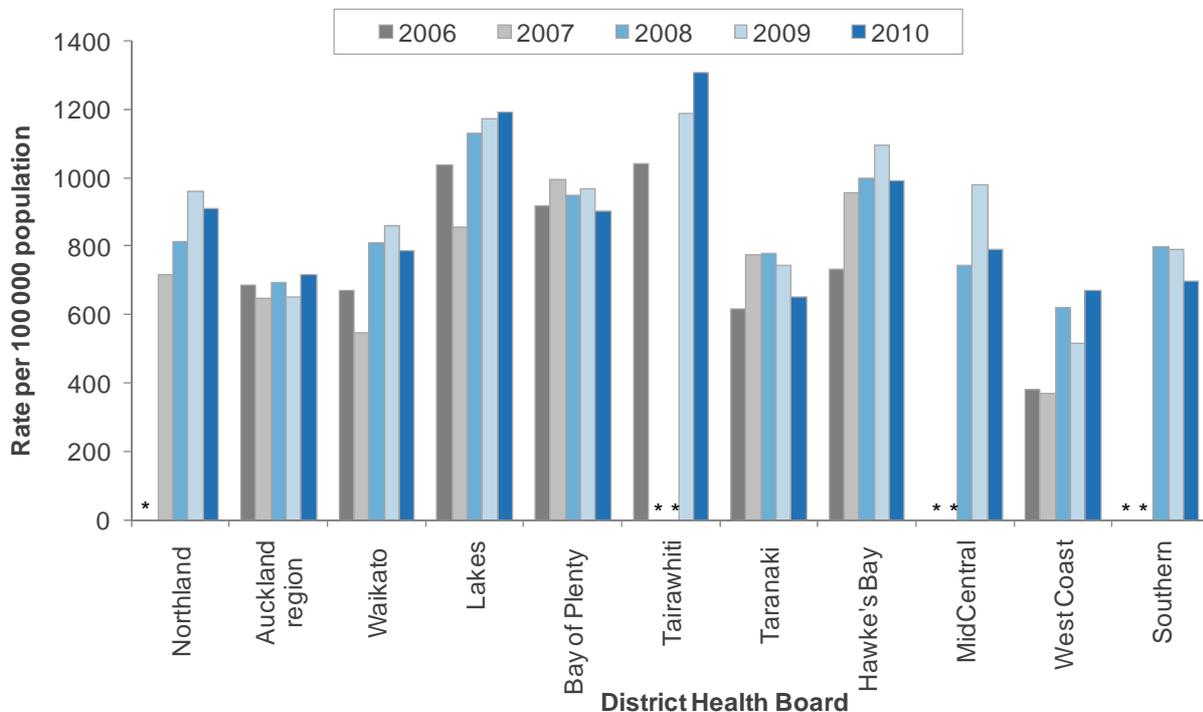


### Individual DHB trend analysis

Thirteen DHBs met the selection criteria for the individual DHB trend analysis. A significant increase in the chlamydia rate between 2009 and 2010 was observed for the Auckland region and West Coast DHBs. Waikato, Bay of Plenty, Taranaki, Hawke's Bay, MidCentral and Southern DHBs experienced significant decreases in the chlamydia rate between 2009 and 2010.

From 2006 to 2010, the chlamydia rate increased in all DHBs, except Bay of Plenty which decreased slightly from 918 to 900 per 100 000 population. The trend for MidCentral and Southern DHBs could not be assessed due to incomplete data. The percentage increase varied widely and the highest percentage increase in rate was reported for West Coast DHB (which rose from 380 per 100 000 population to 670 per 100 000 population), followed by Hawke's Bay DHB (733 per 100 000 population to 991 per 100 000 population). The change from 2006 to 2010 was statistically significant in all regions, except in Bay of Plenty and Taranaki DHBs. Figure 26 presents chlamydia rates by DHB for 2006 to 2010.

**Figure 26: Chlamydia rates by DHB<sup>1</sup>, 2006 to 2010**



<sup>1</sup> Auckland region includes Waitemata, Auckland and Counties Manukau DHBs

\* Data incomplete

## Gonorrhoea

### Annual 2010 analysis

In 2010, 38 laboratories provided gonorrhoea data. Of these, 35 laboratories from 17 DHBs met the selection criteria for gonorrhoea reporting. Laboratories in these DHBs tested 341 191 specimens for gonorrhoea, of which 0.8% (2742 specimens) tested positive from 2386 patients. The national gonorrhoea rate, based on 17 DHBs, was 65 per 100 000 population (2386 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 2010.

The highest rate of gonorrhoea was reported for Tairāwhiti DHB (360 per 100 000 population, 167 cases) followed by Hawke's Bay DHB (124 per 100 000 population, 191 cases).

Age and sex information was recorded for 99.3% (2370/2386) and 99.9% (2383/2386) of cases of gonorrhoea, respectively. The national rate for males (71 per 100 000 population, 1330 cases) was 1.2-times the national rate for females (59 per 100 000 population, 1053 cases).

The mean age of cases of gonorrhoea was 24.5 years (median age 21 years, range 0 to 74 years). Sixty-one percent (1462) 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 (305 per 100 000 population, 415 cases), nearly five-times the national rate. For females the highest age-specific rate occurred in the 15 to 19 years age group (301 per 100 000 population, 400 cases), over 4.5-times the national rate. The highest DHB age-specific rate was in the 15 to 19 years age group from Tairāwhiti DHB (1947 per 100 000 population, 70 cases). Table 19 presents the number of test-positive gonorrhoea cases, and gonorrhoea population rates by DHB and age group for 2010.

Three (2 male and 1 female) cases of gonorrhoea were reported for the less than 1 year age group. Age-specific rates by DHB could not be calculated separately for this age group, as estimated population data were not available.

**Table 18: Percentage of specimens tested for gonorrhoea that were positive, number of test-positive gonorrhoea cases and gonorrhoea rates by DHB and sex, 2010**

District Health Board	Specimens tested positive (%)	Number of test-positive cases				Rate per 100 000 population		
		Male	Female	Unknown	Total	Male	Female	Total
Northland	0.5	46	37	-	83	58	48	53
Auckland region <sup>a</sup>	0.6	554	410	-	964	74	57	65
Waikato	0.7	125	72	-	197	68	40	54
Lakes	0.9	43	28	-	71	81	55	68
Bay of Plenty	1.1	63	80	-	143	59	78	68
Tairāwhiti	4.3	85	82	-	167	358	363	360
Taranaki	0.4	11	17	-	28	20	32	26
Hawke's Bay	4.2	97	94	-	191	122	125	124
Whanganui	1.4	25	9	-	34	79	30	55
MidCentral	1.2	59	55	1	115	69	67	69
Wellington region <sup>b</sup>	1.0	169	96	-	265	76	45	61
Wairarapa	1.6	11	14	-	25	53	71	62
West Coast	0.5	8	6	-	14	50	36	43
Southern	0.7	34	53	2	89	22	35	29
Other <sup>c</sup>	1.5	58	50	-	108	-	-	-
<b>Total<sup>d</sup></b>	<b>0.8</b>	<b>1330</b>	<b>1053</b>	<b>3</b>	<b>2386</b>	<b>71</b>	<b>59</b>	<b>65</b>

a Includes Waitemata, Auckland and Counties Manukau DHBs

b Includes Hutt Valley and Capital and Coast DHBs

c Data from DHBs where selection criteria were not met

d Total and rate calculations include only cases and population for DHBs meeting the selection criteria

Table 19: Number of test-positive gonorrhoea cases and gonorrhoea population rates by DHB and age group, 2010

District Health Board	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	-	2	-	39	352	28	329	7	101	5	68	0	-	2	-	0	-	83	53
Auckland region <sup>a</sup>	4	-	2	-	11	11	210	189	290	252	189	163	87	84	59	54	111	18	1	-	964	65
Waikato	0	-	0	-	2	-	66	237	70	269	27	118	17	81	11	47	4	-	0	-	197	54
Lakes	0	-	0	-	1	-	32	422	22	340	7	120	4	-	1	-	4	-	0	-	71	68
Bay of Plenty	0	-	0	-	5	33	56	380	37	324	23	215	4	-	9	68	9	9	0	-	143	68
Tairāwhiti	1	-	3	-	8	211	70	1947	46	1586	20	784	7	287	8	272	4	-	0	-	167	360
Taranaki	0	-	0	-	1	-	8	104	7	107	4	-	5	84	2	-	0	-	1	-	28	26
Hawke's Bay	0	-	0	-	6	51	72	646	56	627	33	422	15	185	3	-	6	8	0	-	191	124
Whanganui	1	-	0	-	0	-	9	199	4	-	4	-	3	-	1	-	1	-	11	-	34	55
MidCentral	1	-	0	-	1	-	49	367	39	295	13	128	7	79	3	-	2	-	0	-	115	69
Wellington region <sup>b</sup>	1	-	0	-	4	-	68	219	88	246	40	121	19	62	15	46	30	16	0	-	265	61
Wairarapa	0	-	0	-	0	-	14	531	8	401	2	-	0	-	1	-	0	-	0	-	25	62
West Coast	0	-	0	-	0	-	3	-	6	354	2	-	1	-	0	-	2	-	0	-	14	43
Southern	0	-	0	-	0	-	29	123	36	141	7	36	5	28	4	-	6	4	2	-	89	29
Other <sup>c</sup>	0	-	0	-	2	-	25	-	33	-	14	-	10	-	11	-	12	-	1	-	108	-
<b>Total<sup>d</sup></b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>41</b>	<b>16</b>	<b>725</b>	<b>266</b>	<b>737</b>	<b>275</b>	<b>378</b>	<b>152</b>	<b>179</b>	<b>78</b>	<b>117</b>	<b>46</b>	<b>181</b>	<b>11</b>	<b>15</b>	<b>-</b>	<b>2386</b>	<b>65</b>

a Includes Waitemata, Auckland and Counties Manukau DHBs

b Includes Hutt Valley and Capital and Coast DHBs

c Data from DHBs where selection criteria were not met

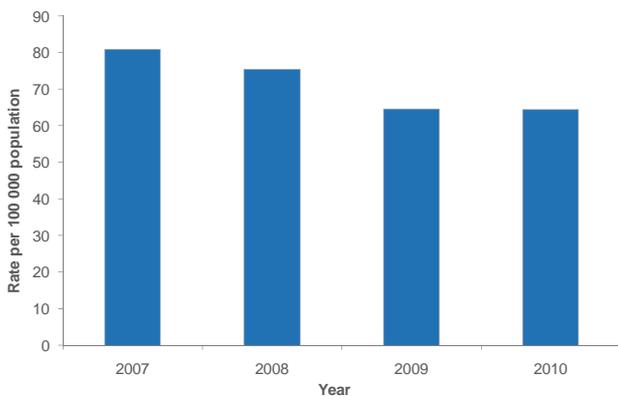
d Total and rate calculations include only cases and population for DHBs meeting the selection criteria

## Recent trends

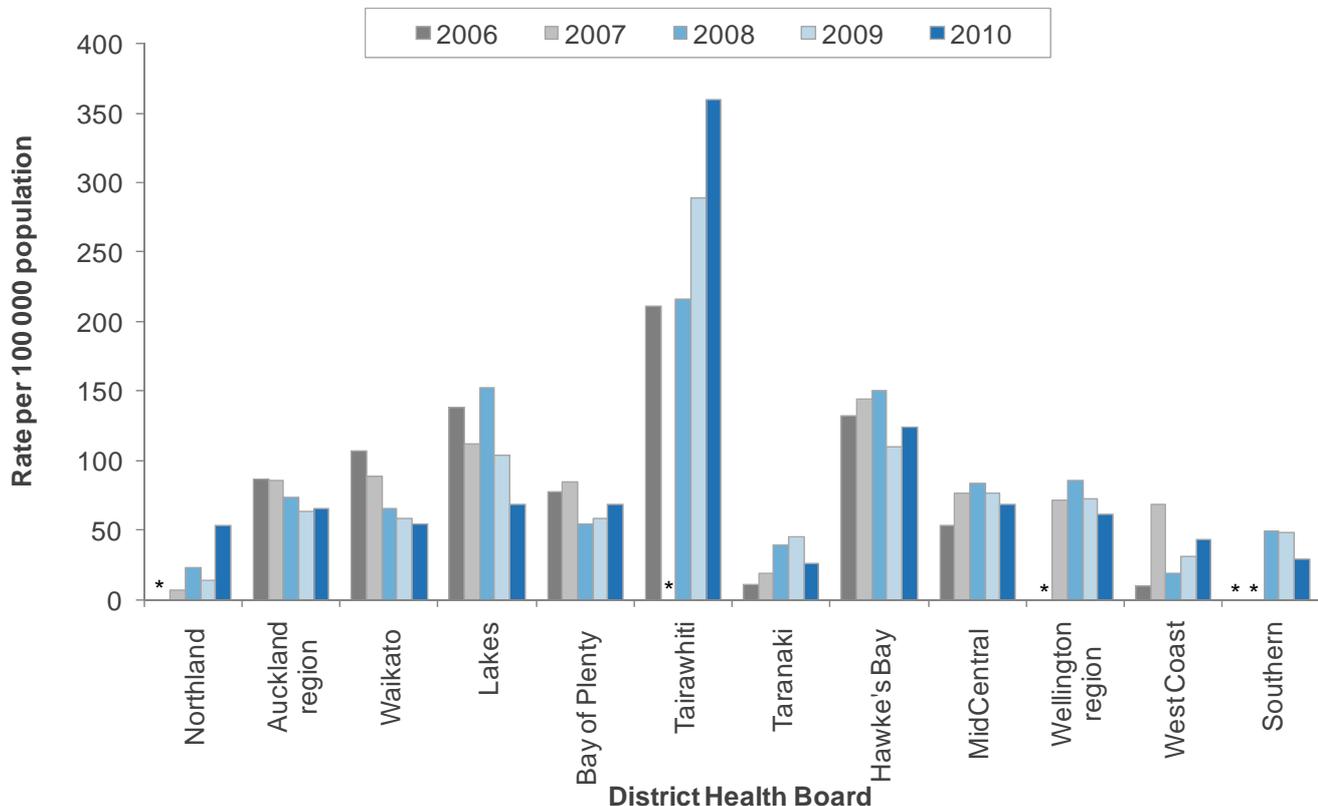
### Restricted national rate trend analysis

Thirteen DHBs met the selection criteria for the restricted national rate trend analysis for gonorrhoea. Between 2009 and 2010, the gonorrhoea restricted national rate decreased by 0.2% (65 per 100 000 population to 64 per 100 000 population), which is not significant. From 2007 to 2010, the gonorrhoea restricted national rate decreased significantly by 20.3% (81 per 100 000 population to 64 per 100 000 population). Figure 27 presents the gonorrhoea restricted national rate for 2007 to 2010.

**Figure 27: Gonorrhoea restricted national rate, 2007 to 2010**



**Figure 28: Gonorrhoea rates by DHB<sup>1</sup>, 2006 to 2010**



<sup>1</sup>Auckland region includes Waitemata, Auckland and Counties Manukau DHBs, Wellington region includes Hutt Valley and Capital and Coast DHBs

\* Data incomplete

### Individual DHB trend analysis

Fifteen DHBs met the selection criteria for the individual DHB trend analysis. Between 2009 and 2010, eight DHBs reported an increase and seven reported a decrease in the gonorrhoea rate. Northland and Tairāwhiti DHBs recorded significant increases. Lakes, Taranaki, Wellington region and Southern DHBs recorded significant decreases. From 2006 to 2010, 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 West Coast DHB (which rose from 9 per 100 000 population to 43 per 100 000 population). The largest percentage decrease in rate was reported for Lakes DHB (which decreased from 138 per 100 000 population to 68 per 100 000 population). The change from 2006 to 2010 was significant in all regions except Bay of Plenty, Hawke's Bay and Southern DHBs. Figure 28 presents gonorrhoea rates by DHB from 2006 to 2010.

# HUMAN IMMUNODEFICIENCY VIRUS & ACQUIRED IMMUNE DEFICIENCY SYNDROME



# HUMAN IMMUNODEFICIENCY VIRUS AND ACQUIRED IMMUNE DEFICIENCY SYNDROME

AIDS, but not HIV infection, is a notifiable disease in New Zealand. The AEG within the University of Otago carries out national HIV/AIDS surveillance and it is their data that are reported here. More detailed information is available on the AEG's website

<http://dnmeds.otago.ac.nz/departments/psm/research/aids/newsletters.html>

## Human immunodeficiency virus

In 2010, a total of 185 people were reported to the AEG as having HIV infection. This number was comprised of 149 people diagnosed through antibody testing in New Zealand and 36 people who were reported as being infected with HIV through viral load testing (most of whom had previously been diagnosed overseas).

Of the 149 people diagnosed through antibody testing in 2010, 90 were men infected through sex with other men, 35 (17 men and 18 women) through heterosexual contact, and one child through mother-to-child transmission. The means of infection was unknown or information is pending for the remaining 23 people.

Amongst the 36 people reported through viral load testing, 20 were men infected through sex with other men, four (1 man and 3 women) through heterosexual contact, and one through injecting drug use overseas. The means of infection was unknown or information is pending for the remaining 11 people.

## Acquired immune deficiency syndrome

In 2010, 39 cases of AIDS were reported to the AEG compared with 28 cases in 2009. The 2010 AIDS notification rate (0.9 per 100 000) was not significantly higher than the 2009 rate (0.6 per 100 000).

Twenty-five cases (64.1%) were men infected through sex with other men, 11 (28.2%) were infected through heterosexual contact (6 men and 5 women), one was infected overseas through injecting drug use, and the mode of infection was unknown for two cases.

The distribution of the 2010 cases according to ethnicity was 23 (59.0%) of European, eight (20.5%) of Māori, five (12.8%) of Other and three of Asian (7.7%) ethnicity. The cases ranged from 23 to 69 years of age, with a mean age of 44.9 years.

Eight deaths due to AIDS were reported to the AEG as having occurred in 2010. However, this number is likely to increase due to late notifications.



## DISCUSSION



## DISCUSSION

### Chlamydia

Chlamydia was the most commonly reported STI in New Zealand in 2010. For SHCs and SYHCs case numbers and clinic visit rates have increased over the last five years, whereas case numbers and the clinic visit rate decreased in FPCs. The trend shown by the SHCs and SYHCs is supported by a steady increase in the restricted national chlamydia rate estimated from laboratory data. This contrast in trends between different clinics types demonstrates the importance of the laboratory surveillance for understanding the actual trend in chlamydia detection in New Zealand. As laboratory data provide the most comprehensive set of chlamydia-positive results from a range of health care providers, including GPs, it is more likely than clinic-based surveillance to reflect actual trends.

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 [9]. These guidelines include recommendations for opportunistic testing for 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 13 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 2010. 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 the 40+ years age group had the higher disease burden. The STI clinic visit rates were frequently higher in non-European ethnic groups, especially for chlamydia and gonorrhoea. STI rates by ethnicity can only be calculated from clinic data as ethnicity data are 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 disproportionately affected. Similarly, these population groups were over-represented in the cases with complicated chlamydia and gonorrhoea infection, that is, those resulting in PID or epididymitis.

Neonatal chlamydia and gonorrhoea cases continue to occur with laboratory data reporting 104 chlamydia cases and three gonorrhoea cases aged less than 1 year in 2010. 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 [9]. The New Zealand College of Midwives has also made a consensus statement that promotes discussion between midwives and women on the risks of STIs during pregnancy and the offer of screening for STIs [10].

The laboratory surveillance data identified considerable variation in chlamydia and gonorrhoea detection by region. In particular, Tairāwhiti, Hawke's Bay and Lakes DHBs stand out as regions with higher rates of chlamydia and gonorrhoea. It is impossible to untangle the possible reasons for the higher burden of these diseases in these regions from the current surveillance data, although it would be useful to be able to compare testing rates by age and sex between regions.

## International comparisons

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

- The collection methods for STI surveillance data vary widely among 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 2010 (782 per 100 000 population) was approximately two- to three-times higher than the national chlamydia rates most recently published for Australia (286 per 100 000 population in 2009), the United Kingdom (349 per 100 000 population in 2009) and the United States (409 per 100 000 population in 2009). For gonorrhoea, the estimated national rate for New Zealand in 2010 (65 per 100 000 population) was approximately twice the national rates observed in Australia (37 per 100 000 population in 2009) and the United Kingdom (28 per 100 000 population in 2009), but just two-thirds of the 2009 United States rate (99 per 100 000 population) [11-13].

## Emerging/re-emerging STIs

Trends in syphilis case numbers are important because they are a marker for behaviours associated with HIV transmission. In addition, syphilitic lesions make it easier to transmit and acquire HIV infection [15]. Although there was a decrease in the number of syphilis cases detected through SHCs from 2009 to 2010, the general trend over the last five years has been an increase in cases. Case numbers doubled between 2006 and 2010 (from 60 to 119), with cases detected predominantly in Auckland and Wellington.

Syphilis cases diagnosed outside of the participating clinics (e.g., general practices, hospitals) are not captured in current syphilis surveillance. Therefore, the syphilis numbers reported here will underestimate the true disease burden.

## Limitations of current surveillance system

This is the second year that population-based rates of chlamydia and gonorrhoea have been reported for New Zealand and by DHB. This is a considerable improvement on previous STI reporting. However, the New Zealand rate remains an estimate because the laboratory dataset is not yet complete. DHB reporting is still not possible for five DHBs for chlamydia and three DHBs for gonorrhoea.

As STIs are not notifiable, the STI surveillance system relies on the voluntary involvement of SHCs, FPCs and SHYCs, as well as diagnostic laboratories. Although making it a legal requirement for laboratories to notify certain STIs would assist with surveillance, laboratory notification alone would not supply 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. Therefore, finding alternative solutions to improve STI surveillance may be more sensible. This could include collecting more comprehensive data from sentinel clinics and laboratories.

## 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 syphilis are relatively low, there has been an increase in recent years which may indicate a possible increase in behaviours associated with HIV transmission. There may be early signs of a positive effect of the HPV immunisation programme with a decline in genital warts cases, although a direct relationship cannot be confirmed from the existing data.

The national STI surveillance system relies on data voluntarily provided by SHCs, FPCs, SHYCs and diagnostic laboratories. While there are issues with the quality, generalisability, and sensitivity of the data, trends and at-risk groups can be identified. STI surveillance could be improved by a combination of compulsory laboratory notification plus reporting of enhanced data from sentinel clinics and laboratories.

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## REFERENCES

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## APPENDICES



## Appendix A: STI surveillance case definitions

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

## Appendix B: List of participating laboratories

In 2010 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
- 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, 2010

Figure 29: Laboratory surveillance coverage for chlamydia by DHB, 2010

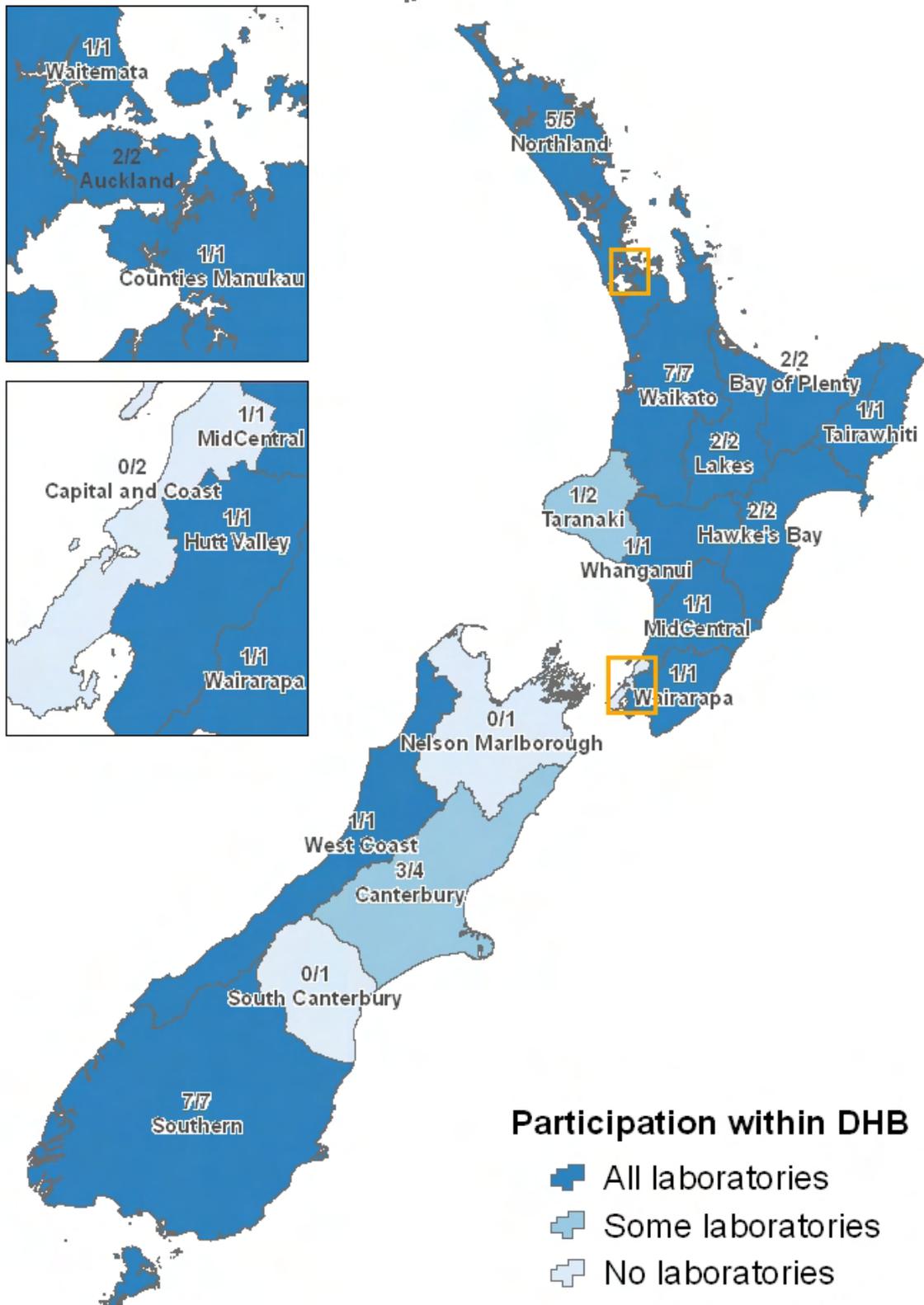
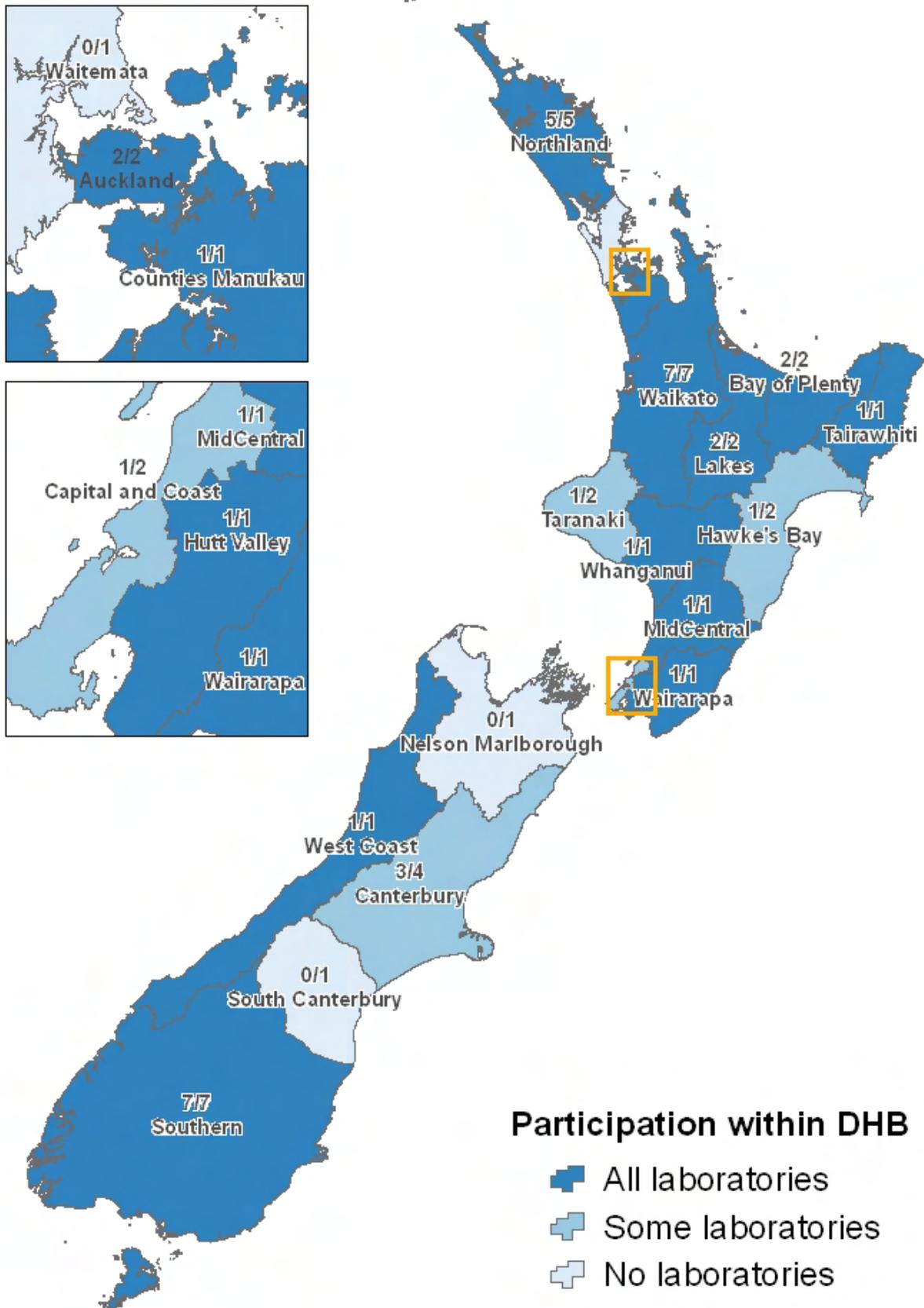


Figure 30: Laboratory surveillance coverage for gonorrhoea by DHB, 2010



## Appendix D: Clinic surveillance data

### All clinic data

Table 20: Summary – disease rate by clinic type, 2010

<u>Clinic type, by area</u>		<u>Total clinic visits<sup>1</sup></u>	<u>Chlamydia</u>	<u>Gonorrhoea</u>	<u>Genital herpes<sup>2</sup></u>	<u>Genital warts<sup>2</sup></u>	<u>Syphilis<sup>3</sup></u>
<b>North</b>							
Sexual health clinics	No.	24 118	1779	342	229	940	66
	Rate <sup>4</sup>		7.4%	1.4%	0.9%	3.9%	0.3%
Family planning clinics	No.	64 814	820	39	25	74	0
	Rate <sup>4</sup>		1.3%	0.1%	0.0%	0.1%	0.0%
Student & youth health clinics	No.	28 048	126	3	10	1	0
	Rate <sup>4</sup>		0.4%	0.0%	0.0%	0.0%	0.0%
<b>Subtotal North</b>		<b>116 980</b>	<b>2725</b>	<b>384</b>	<b>264</b>	<b>1015</b>	<b>66</b>
<b>Midland</b>							
Sexual health clinics	No.	28 132	1718	189	265	768	11
	Rate <sup>4</sup>		6.1%	0.7%	0.9%	2.7%	0.0%
Family planning clinics	No.	30 859	615	36	27	43	0
	Rate <sup>4</sup>		2.0%	0.1%	0.1%	0.1%	0.0%
Student & youth health clinics	No.	51 652	65	1	5	9	0
	Rate <sup>4</sup>		0.1%	0.0%	0.0%	0.0%	0.0%
<b>Subtotal Midland</b>		<b>110 643</b>	<b>2398</b>	<b>226</b>	<b>297</b>	<b>820</b>	<b>11</b>
<b>Central</b>							
Sexual health clinics	No.	18 231	794	169	187	595	32
	Rate <sup>4</sup>		4.4%	0.9%	1.0%	3.3%	0.2%
Family planning clinics	No.	40 471	611	48	81	82	1
	Rate <sup>4</sup>		1.5%	0.1%	0.2%	0.2%	0.0%
Student & youth health clinics	No.	73 756	592	32	30	80	0
	Rate <sup>4</sup>		0.8%	0.0%	0.0%	0.1%	0.0%
<b>Subtotal Central</b>		<b>132 458</b>	<b>1997</b>	<b>249</b>	<b>298</b>	<b>757</b>	<b>33</b>
<b>South</b>							
Sexual health clinics	No.	14 589	567	74	175	484	10
	Rate <sup>4</sup>		3.9%	0.5%	1.2%	3.3%	0.1%
Family planning clinics	No.	46 992	454	29	47	96	0
	Rate <sup>4</sup>		1.0%	0.1%	0.1%	0.2%	0.0%
Student & youth health clinics	No.	84 488	188	5	40	85	2
	Rate <sup>4</sup>		0.2%	0.0%	0.0%	0.1%	0.0%
<b>Subtotal South</b>		<b>146 069</b>	<b>1209</b>	<b>108</b>	<b>262</b>	<b>665</b>	<b>12</b>
<b>All regions</b>							
Sexual health clinics	No.	85 070	4858	774	856	2,787	119
	Rate <sup>4</sup>		5.7%	0.9%	1.0%	3.3%	0.1%
Family planning clinics	No.	183 136	2500	152	180	295	1
	Rate <sup>4</sup>		1.4%	0.1%	0.1%	0.2%	0.0%
Student & youth health clinics	No.	237 944	971	41	85	175	2
	Rate <sup>4</sup>		0.4%	0.0%	0.0%	0.1%	0.0%
<b>Total</b>	<b>No.</b>	<b>506 150</b>	<b>8329</b>	<b>967</b>	<b>1121</b>	<b>3257</b>	<b>122</b>
	<b>Rate<sup>4</sup></b>		<b>1.6%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.6%</b>	<b>0.0%</b>

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

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

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

<sup>4</sup> Rate = (total no. of confirmed cases/total no. of clinic visits) x 100, expressed as a percentage

**Table 21: Site of infection with chlamydia by clinic type, 2010**

	<i>Confirmed</i>						<b>Total<sup>1</sup></b> No. <sup>1</sup>
	<b>Uncomplicated lower anogenital</b>		<b>PID/epididymitis</b>		<b>Other site</b>		
	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	
Sexual health clinics	4577	94.2	264	5.4	22	0.5	<b>4858</b>
Family planning clinics	2422	96.9	59	2.4	1	0.0	<b>2500</b>
Student & youth health clinics	944	97.2	15	1.5	13	1.3	<b>971</b>
<b>Total</b>	<b>7943</b>	<b>95.5</b>	<b>338</b>	<b>4.1</b>	<b>36</b>	<b>0.4</b>	<b>8329</b>

**Table 22: Site of infection with gonorrhoea by clinic type, 2010**

	<i>Confirmed</i>										<b>Total<sup>1</sup></b> No. <sup>2</sup>
	<b>Uncomplicated infection</b>				<b>PID/epididymitis</b>		<b>Extra-genital</b>				
	<b>Urogenital</b>		<b>Anorectal</b>				<b>Pharynx</b>		<b>Other site</b>		
	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>	% <sup>3</sup>	No. <sup>2</sup>
Sexual health clinics	712	92.0	36	4.7	12	1.6	31	4.0	4	0.5	<b>774</b>
Family planning clinics	141	92.8	2	1.3	10	6.6	0	0.0	0	0.0	<b>152</b>
Student & youth health clinic	38	92.7	2	4.9	0	0.0	2	4.9	0	0.0	<b>41</b>
<b>Total</b>	<b>891</b>	<b>92.1</b>	<b>40</b>	<b>4.1</b>	<b>22</b>	<b>2.2</b>	<b>33</b>	<b>3.4</b>	<b>4</b>	<b>0.4</b>	<b>967</b>

<sup>1</sup> Total = total number of cases by clinic type. Cases with the infection confirmed at more than one site count are included in the tally for each site but are only counted once in the overall total.

<sup>2</sup> No. = number of cases by site

<sup>3</sup> % = number of cases by site/total no. of cases by clinic type, expressed as percentage

## Sexual health clinic data

Table 23: Chlamydia - number of cases and disease rates by SHCs 2009 to 2010

<u>Total clinic visits<sup>1</sup></u>			<u>2009</u>		<u>2010</u>	
<u>2009</u>	<u>2010</u>	<u>Clinic</u>	<u>Total</u> <u>No.</u>	<u>Rate<sup>2</sup></u>	<u>Total</u> <u>No.</u>	<u>Rate<sup>2</sup></u>
2682	3088	Whangarei	183	6.8%	270	8.7%
591	585	Dargaville	27	4.6%	20	3.4%
331	454	Kaikohe	21	6.3%	47	10.4%
20939	19991	Auckland	1120	5.3%	1442	7.2%
<b>24543</b>	<b>24118</b>	<b>North</b>	<b>1351</b>	<b>5.5%</b>	<b>1779</b>	<b>7.4%</b>
9163	9029	Hamilton	621	6.8%	552	6.1%
9281	9597	Tauranga	550	5.9%	604	6.3%
1167	941	Rotorua	56	4.8%	51	5.4%
2003	1880	Whakatane	146	7.3%	166	8.8%
679	4382	Taupo	97	14.3%	159	3.6%
2349	2303	New Plymouth	248	10.6%	186	8.1%
<b>24642</b>	<b>28132</b>	<b>Midland</b>	<b>1718</b>	<b>7.0%</b>	<b>1718</b>	<b>6.1%</b>
995	1026	Napier	147	14.8%	166	16.2%
548	704	Hastings	134	24.5%	149	21.2%
1089	1065	Wanganui	39	3.6%	47	4.4%
5275	4028	Palmerston North/Levin/Dannevirke	212	4.0%	137	3.4%
6723	6799	Wellington	190	2.8%	174	2.6%
866	658	Lower Hutt	25	2.9%	23	3.5%
307	324	Porirua	13	4.2%	17	5.2%
2230	3103	Nelson	54	2.4%	66	2.1%
735	524	Wairau (Blenheim)	16	2.2%	15	2.9%
<b>18768</b>	<b>18231</b>	<b>Central</b>	<b>830</b>	<b>4.4%</b>	<b>794</b>	<b>4.4%</b>
491	520	Westport/Buller	35	7.1%	49	9.4%
382	397	Greymouth	20	5.2%	25	6.3%
10631	8471	Christchurch	262	2.5%	226	2.7%
86	75	Ashburton	4	-	4	-
617	510	Timaru	60	9.7%	30	5.9%
2514	3017	Dunedin	108	4.3%	100	3.3%
1969	1599	Invercargill/Gore/Wyndham	156	7.9%	133	8.3%
<b>16690</b>	<b>14589</b>	<b>South</b>	<b>645</b>	<b>3.9%</b>	<b>567</b>	<b>3.9%</b>
<b>84643</b>	<b>85070</b>	<b>Total</b>	<b>4544</b>	<b>5.4%</b>	<b>4858</b>	<b>5.7%</b>

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

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

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

**Table 24: Gonorrhoea - number of cases and disease rates by SHCs, 2009 to 2010**

<u>Total clinic visits<sup>1</sup></u>			<u>2009</u>		<u>2010</u>	
<u>2009</u>	<u>2010</u>	<u>Clinic</u>	<u>Total</u> <u>No.</u>	<u>Rate<sup>2</sup></u>	<u>Total</u> <u>No.</u>	<u>Rate<sup>2</sup></u>
2682	3088	Whangarei	12	0.4%	51	1.7%
591	585	Dargaville	2	-	0	-
331	454	Kaikohe	1	-	0	-
20939	19991	Auckland	216	1.0%	291	1.5%
<b>24543</b>	<b>24118</b>	<b>North</b>	<b>231</b>	<b>0.9%</b>	<b>342</b>	<b>1.4%</b>
9163	9029	Hamilton	89	1.0%	79	0.9%
9281	9597	Tauranga	49	0.5%	39	0.4%
1167	941	Rotorua	19	1.6%	9	1.0%
2003	1880	Whakatane	26	1.3%	29	1.5%
679	4382	Taupo	2	-	6	0.1%
2349	2303	New Plymouth	31	1.3%	27	1.2%
<b>24642</b>	<b>28132</b>	<b>Midland</b>	<b>216</b>	<b>0.9%</b>	<b>189</b>	<b>0.7%</b>
995	1026	Napier	43	4.3%	23	2.2%
548	704	Hastings	30	5.5%	33	4.7%
1089	1065	Wanganui	14	1.3%	26	2.4%
5275	4028	Palmerston North/Levin/Dannevirke	32	0.6%	25	0.6%
6723	6799	Wellington	70	1.0%	36	0.5%
866	658	Lower Hutt	8	0.9%	2	-
307	324	Porirua	3	-	3	-
2230	3103	Nelson	10	0.4%	17	0.5%
735	524	Wairau (Blenheim)	2	-	4	-
<b>18768</b>	<b>18231</b>	<b>Central</b>	<b>212</b>	<b>1.1%</b>	<b>169</b>	<b>0.9%</b>
491	520	Westport/Buller	0	-	1	-
382	397	Greymouth	4	-	4	-
10631	8471	Christchurch	59	0.6%	34	0.4%
86	75	Ashburton	3	-	1	-
617	510	Timaru	27	4.4%	8	1.6%
2514	3017	Dunedin	10	0.4%	5	0.2%
1969	1599	Invercargill/Gore/Wyndham	34	1.7%	21	1.3%
<b>16690</b>	<b>14589</b>	<b>South</b>	<b>137</b>	<b>0.8%</b>	<b>74</b>	<b>0.5%</b>
<b>84643</b>	<b>85070</b>	<b>Total</b>	<b>796</b>	<b>0.9%</b>	<b>774</b>	<b>0.9%</b>

<sup>1</sup> Total no. clinic visits = total no. clinic visits for the report period for any reason.<sup>2</sup> Rate = (total no. cases / total no. clinic visits) x 100, expressed as a percentage.

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

**Table 25: Genital herpes (first presentation) - number of cases and disease rates by SHCs, 2009 to 2010**

<u>Total clinic visits<sup>1</sup></u>			<u>2009</u>		<u>2010</u>	
<u>2009</u>	<u>2010</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate<sup>2</sup></u>	<u>Total</u>	<u>Rate<sup>2</sup></u>
			<u>No.</u>		<u>No.</u>	
2682	3088	Whangarei	28	1.0%	21	0.7%
591	585	Dargaville	0	-	0	-
331	454	Kaikohe	2	-	0	-
20939	19991	Auckland	198	0.9%	208	1.0%
<b>24543</b>	<b>24118</b>	<b>North</b>	<b>228</b>	<b>0.9%</b>	<b>229</b>	<b>0.9%</b>
9163	9029	Hamilton	89	1.0%	113	1.3%
9281	9597	Tauranga	92	1.0%	89	0.9%
1167	941	Rotorua	3	-	5	0.5%
2003	1880	Whakatane	9	0.4%	3	-
679	4382	Taupo	2	-	5	0.1%
2349	2303	New Plymouth	43	1.8%	50	2.2%
<b>24642</b>	<b>28132</b>	<b>Midland</b>	<b>238</b>	<b>1.0%</b>	<b>265</b>	<b>0.9%</b>
995	1026	Napier	21	2.1%	24	2.3%
548	704	Hastings	13	2.4%	6	0.9%
1089	1065	Wanganui	7	0.6%	12	1.1%
5275	4028	Palmerston North/Levin/Dannevirke	34	0.6%	40	1.0%
6723	6799	Wellington	48	0.7%	50	0.7%
866	658	Lower Hutt	12	1.4%	6	0.9%
307	324	Porirua	1	-	1	-
2230	3103	Nelson	44	2.0%	39	1.3%
735	524	Wairau (Blenheim)	9	1.2%	9	1.7%
<b>18768</b>	<b>18231</b>	<b>Central</b>	<b>189</b>	<b>1.0%</b>	<b>187</b>	<b>1.0%</b>
491	520	Westport/Buller	2	-	6	1.2%
382	397	Greymouth	7	1.8%	3	-
10631	8471	Christchurch	125	1.2%	89	1.1%
86	75	Ashburton	3	-	3	-
617	510	Timaru	3	-	6	1.2%
2514	3017	Dunedin	35	1.4%	30	1.0%
1969	1599	Invercargill/Gore/Wyndham	45	2.3%	38	2.4%
<b>16690</b>	<b>14589</b>	<b>South</b>	<b>220</b>	<b>1.3%</b>	<b>175</b>	<b>1.2%</b>
<b>84643</b>	<b>85070</b>	<b>Total</b>	<b>875</b>	<b>1.0%</b>	<b>856</b>	<b>1.0%</b>

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

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

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

**Table 26: Genital warts (first presentation) - number of cases and disease rates by SHCs, 2009 to 2010**

<u>Total clinic visits<sup>1</sup></u>			<u>2009</u>		<u>2010</u>	
<u>2009</u>	<u>2010</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate<sup>2</sup></u>	<u>Total</u>	<u>Rate<sup>2</sup></u>
			<u>No.</u>		<u>No.</u>	
2682	3088	Whangarei	84	3.1%	74	2.4%
591	585	Dargaville	5	0.8%	2	-
331	454	Kaikohe	3	-	1	-
20939	19991	Auckland	877	4.2%	863	4.3%
<b>24543</b>	<b>24118</b>	<b>North</b>	<b>969</b>	<b>3.9%</b>	<b>940</b>	<b>3.9%</b>
9163	9029	Hamilton	425	4.6%	341	3.8%
9281	9597	Tauranga	270	2.9%	246	2.6%
1167	941	Rotorua	58	5.0%	33	3.5%
2003	1880	Whakatane	38	1.9%	26	1.4%
679	4382	Taupo	4	-	22	0.5%
2349	2303	New Plymouth	148	6.3%	100	4.3%
<b>24642</b>	<b>28132</b>	<b>Midland</b>	<b>943</b>	<b>3.8%</b>	<b>768</b>	<b>2.7%</b>
995	1026	Napier	72	7.2%	57	5.6%
548	704	Hastings	47	8.6%	36	5.1%
1089	1065	Wanganui	16	1.5%	7	0.7%
5275	4028	Palmerston North/Levin/Dannevirke	98	1.9%	76	1.9%
6723	6799	Wellington	255	3.8%	205	3.0%
866	658	Lower Hutt	60	6.9%	25	3.8%
307	324	Porirua	31	10.1%	29	9.0%
2230	3103	Nelson	78	3.5%	93	3.0%
735	524	Wairau (Blenheim)	85	11.6%	67	12.8%
<b>18768</b>	<b>18231</b>	<b>Central</b>	<b>742</b>	<b>4.0%</b>	<b>595</b>	<b>3.3%</b>
491	520	Westport/Buller	10	2.0%	21	4.0%
382	397	Greymouth	21	5.5%	14	3.5%
10631	8471	Christchurch	319	3.0%	237	2.8%
86	75	Ashburton	9	10.5%	7	9.3%
617	510	Timaru	32	5.2%	23	4.5%
2514	3017	Dunedin	125	5.0%	92	3.0%
1969	1599	Invercargill/Gore/Wyndham	124	6.3%	90	5.6%
<b>16690</b>	<b>14589</b>	<b>South</b>	<b>640</b>	<b>3.8%</b>	<b>484</b>	<b>3.3%</b>
<b>84643</b>	<b>85070</b>	<b>Total</b>	<b>3294</b>	<b>3.9%</b>	<b>2787</b>	<b>3.3%</b>

<sup>1</sup> Total no. clinic visits = total no. clinic visits for the report period for any reason.<sup>2</sup> Rate = (total no. cases / total no. clinic visits) x 100, expressed as a percentage.

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

Table 27: Syphilis - number of cases and disease rates by SHCs, 2009 to 2010

<u>Total clinic visits<sup>1</sup></u>			<u>2009</u>		<u>2010</u>	
<u>2009</u>	<u>2010</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate<sup>2</sup></u>	<u>Total</u>	<u>Rate<sup>2</sup></u>
			<u>No.</u>		<u>No.</u>	
2682	3088	Whangarei	1	-	2	-
591	585	Dargaville	0	-	0	-
331	454	Kaikohe	0	-	0	-
20939	19991	Auckland	31	0.1%	64	0.3%
<b>24543</b>	<b>24118</b>	<b>North</b>	<b>32</b>	<b>0.1%</b>	<b>66</b>	<b>0.3%</b>
9163	9029	Hamilton	4	-	2	-
9281	9597	Tauranga	5	0.1%	5	0.1%
1167	941	Rotorua	0	-	4	-
2003	1880	Whakatane	0	-	0	-
679	4382	Taupo	0	-	0	-
2349	2303	New Plymouth	2	-	0	-
<b>24642</b>	<b>28132</b>	<b>Midland</b>	<b>11</b>	<b>0.0%</b>	<b>11</b>	<b>0.0%</b>
995	1026	Napier	2	-	1	-
548	704	Hastings	1	-	0	-
1089	1065	Wanganui	1	-	0	-
5275	4028	Palmerston North/Levin/Dannevirke	4	-	5	0.1%
6723	6799	Wellington	31	0.5%	16	0.2%
866	658	Lower Hutt	10	1.2%	5	0.8%
307	324	Porirua	4	-	2	-
2230	3103	Nelson	1	-	3	-
735	524	Wairau (Blenheim)	1	-	0	-
<b>18768</b>	<b>18231</b>	<b>Central</b>	<b>55</b>	<b>0.3%</b>	<b>32</b>	<b>0.2%</b>
491	520	Westport/Buller	0	-	0	-
382	397	Greymouth	2	-	0	-
10631	8471	Christchurch	30	0.3%	8	0.1%
86	75	Ashburton	1	-	0	-
617	510	Timaru	0	-	0	-
2514	3017	Dunedin	5	0.2%	1	-
1969	1599	Invercargill/Gore/Wyndham	2	-	1	-
<b>16690</b>	<b>14589</b>	<b>South</b>	<b>40</b>	<b>0.2%</b>	<b>10</b>	<b>0.1%</b>
<b>84643</b>	<b>85070</b>	<b>Total</b>	<b>138</b>	<b>0.2%</b>	<b>119</b>	<b>0.1%</b>

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

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

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

**Table 28: NSU (males only) - number of cases and disease rates by SHCs, 2009 to 2010**

<u>Total clinic visits for males<sup>1</sup></u>			<u>2009</u>		<u>2010</u>	
<u>2009</u>	<u>2010</u>	<u>Clinic</u>	<u>Total</u>	<u>Rate<sup>2</sup></u>	<u>Total</u>	<u>Rate<sup>2</sup></u>
			<u>No.</u>		<u>No.</u>	
770	945	Whangarei	0	-	0	-
44	25	Dargaville	0	-	0	-
35	48	Kaikohe	0	-	0	-
10239	9736	Auckland	355	3.5%	373	3.8%
<b>11088</b>	<b>10754</b>	<b>North</b>	<b>355</b>	<b>3.2%</b>	<b>373</b>	<b>3.5%</b>
3743	3726	Hamilton	45	1.2%	53	1.4%
2003	1949	Tauranga	61	3.0%	69	3.5%
580	509	Rotorua	0	-	0	-
261	220	Whakatane	3	-	4	-
197	385	Taupo	0	-	0	-
1033	930	New Plymouth	64	6.2%	46	4.9%
<b>7817</b>	<b>7719</b>	<b>Midland</b>	<b>173</b>	<b>2.2%</b>	<b>172</b>	<b>2.2%</b>
239	225	Napier	0	-	1	-
111	167	Hastings	0	-	0	-
421	399	Wanganui	0	-	0	-
2197	1860	Palmerston North/Levin/Dannevirke	47	2.1%	37	2.0%
3741	3820	Wellington	44	1.2%	51	1.3%
477	367	Lower Hutt	7	1.5%	7	1.9%
132	162	Porirua	0	-	1	-
1064	1218	Nelson	13	1.2%	8	0.7%
340	300	Wairau (Blenheim)	0	-	0	-
<b>8722</b>	<b>8518</b>	<b>Central</b>	<b>111</b>	<b>1.3%</b>	<b>105</b>	<b>1.2%</b>
132	176	Westport/Buller	2	-	1	-
164	164	Greymouth	0	-	0	-
5612	4433	Christchurch	69	1.2%	50	1.1%
40	47	Ashburton	0	-	0	-
295	258	Timaru	0	-	0	-
894	1155	Dunedin	5	0.6%	2	-
957	758	Invercargill/Gore/Wyndham	18	1.9%	27	3.6%
<b>8094</b>	<b>6991</b>	<b>South</b>	<b>94</b>	<b>1.2%</b>	<b>80</b>	<b>1.1%</b>
<b>35721</b>	<b>33982</b>	<b>Total</b>	<b>733</b>	<b>2.1%</b>	<b>730</b>	<b>2.1%</b>

<sup>1</sup> Total no. clinic visits = total no. clinic visits for the report period for any reason.<sup>2</sup> Rate = (total no. cases / total no. clinic visits) x 100, expressed as a percentage.

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

Table 29: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by SHCs, 2010

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Chlamydia</i></b>											
<b>Males</b>	European/Pakeha	1	179	380	216	101	72	36	75	1	<b>1061</b>
		-	8.6	6.8	5.1	3.6	3.0	2.1	1.9	-	<b>4.6</b>
	Māori	5	200	219	97	46	30	17	7	0	<b>621</b>
		9.8	20.3	15.9	11.1	7.7	6.8	8.5	2.3	-	<b>12.8</b>
	Pacific Peoples	0	51	125	53	22	14	4	3	0	<b>272</b>
		-	24.3	26.9	16.1	10.0	9.5	-	-	-	<b>17.2</b>
	Other	0	14	60	40	19	11	6	7	0	<b>157</b>
		-	7.9	8.1	4.1	3.2	2.8	1.6	1.2	-	<b>4.1</b>
	Unknown	0	11	6	9	0	8	2	4	0	<b>40</b>
		-	-	-	-	-	-	-	-	-	<b>-</b>
<b>Total</b>		<b>6</b>	<b>455</b>	<b>790</b>	<b>415</b>	<b>188</b>	<b>135</b>	<b>65</b>	<b>96</b>	<b>1</b>	<b>2151</b>
		<b>6.0</b>	<b>13.0</b>	<b>9.5</b>	<b>6.4</b>	<b>4.3</b>	<b>3.9</b>	<b>2.6</b>	<b>1.9</b>	<b>-</b>	<b>6.3</b>
<b>Females</b>	European/Pakeha	11	445	349	129	60	30	11	12	0	<b>1047</b>
		2.4	5.2	4.0	2.9	2.3	1.3	0.9	0.6	-	<b>3.4</b>
	Māori	44	588	382	130	63	23	11	10	0	<b>1251</b>
		8.3	11.7	10.7	7.4	6.3	3.6	2.7	2.9	-	<b>9.4</b>
	Pacific Peoples	1	78	100	56	14	7	8	2	0	<b>266</b>
		-	15.4	14.5	13.7	6.5	5.8	10.8	-	-	<b>12.5</b>
	Other	0	26	42	24	10	10	4	3	0	<b>119</b>
		-	4.5	4.2	2.3	1.8	2.6	-	-	-	<b>2.8</b>
	Unknown	0	9	5	2	4	2	1	0	0	<b>23</b>
		-	-	-	-	-	-	-	-	-	<b>-</b>
<b>Total</b>		<b>56</b>	<b>1146</b>	<b>878</b>	<b>341</b>	<b>151</b>	<b>72</b>	<b>35</b>	<b>27</b>	<b>0</b>	<b>2706</b>
		<b>5.5</b>	<b>7.8</b>	<b>6.2</b>	<b>4.4</b>	<b>3.4</b>	<b>2.0</b>	<b>1.7</b>	<b>0.9</b>	<b>-</b>	<b>5.3</b>
<b><i>Gonorrhoea</i></b>											
<b>Males</b>	European/Pakeha	0	25	54	30	26	20	14	32	0	<b>201</b>
		-	1.2	1.0	0.7	0.9	0.8	0.8	0.8	-	<b>0.9</b>
	Māori	6	51	54	26	15	14	5	2	0	<b>173</b>
		11.8	5.2	3.9	3.0	2.5	3.2	2.5	-	-	<b>3.6</b>
	Pacific Peoples	0	10	33	15	2	3	1	1	0	<b>65</b>
		-	4.8	7.1	4.5	-	-	-	-	-	<b>4.1</b>
	Other	0	2	6	9	4	2	2	3	0	<b>28</b>
		-	-	0.8	0.9	-	-	-	-	-	<b>0.7</b>
	Unknown	0	4	2	1	0	2	1	3	0	<b>13</b>
		-	-	-	-	-	-	-	-	-	<b>-</b>
<b>Total</b>		<b>6</b>	<b>92</b>	<b>149</b>	<b>81</b>	<b>47</b>	<b>41</b>	<b>23</b>	<b>41</b>	<b>0</b>	<b>480</b>
		<b>6.0</b>	<b>2.6</b>	<b>1.8</b>	<b>1.2</b>	<b>1.1</b>	<b>1.2</b>	<b>0.9</b>	<b>0.8</b>	<b>-</b>	<b>1.4</b>
<b>Females</b>	European/Pakeha	3	32	31	17	2	3	2	1	0	<b>91</b>
		-	0.4	0.4	0.4	-	-	-	-	-	<b>0.3</b>
	Māori	6	66	45	20	9	3	3	2	0	<b>154</b>
		1.1	1.3	1.3	1.1	0.9	-	-	-	-	<b>1.2</b>
	Pacific Peoples	0	11	15	7	1	1	2	0	0	<b>37</b>
		-	2.2	2.2	1.7	-	-	-	-	-	<b>1.7</b>
	Other	0	1	1	1	2	0	0	1	0	<b>6</b>
		-	-	-	-	-	-	-	-	-	<b>0.1</b>
	Unknown	0	3	1	2	0	0	0	0	0	<b>6</b>
		-	-	-	-	-	-	-	-	-	<b>-</b>
<b>Total</b>		<b>9</b>	<b>113</b>	<b>93</b>	<b>47</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>294</b>
		<b>0.9</b>	<b>0.8</b>	<b>0.7</b>	<b>0.6</b>	<b>0.3</b>	<b>0.2</b>	<b>0.3</b>	<b>-</b>	<b>-</b>	<b>0.6</b>

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

**Table 29: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by SHCs, 2010**

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<b><i>Genital herpes (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	28	65	52	37	38	15	40	1	276
		-	1.3	1.2	1.2	1.3	1.6	0.9	1.0	-	1.2
	Māori	0	2	13	8	11	8	2	4	0	48
		-	-	0.9	0.9	1.8	1.8	-	-	-	1.0
	Pacific Peoples	0	0	5	5	1	0	1	0	0	12
		-	-	1.1	1.5	-	-	-	-	-	0.8
	Other	0	2	6	6	4	6	6	2	0	32
	-	-	0.8	0.6	-	1.5	1.6	-	-	0.8	
Unknown	0	0	4	4	1	1	1	1	0	12	
	-	-	-	-	-	-	-	-	-	1.4	
<b>Total</b>		<b>0</b>	<b>32</b>	<b>93</b>	<b>75</b>	<b>54</b>	<b>53</b>	<b>25</b>	<b>47</b>	<b>1</b>	<b>380</b>
		<b>=</b>	<b>0.9</b>	<b>1.1</b>	<b>1.1</b>	<b>1.2</b>	<b>1.5</b>	<b>1.0</b>	<b>0.9</b>	<b>=</b>	<b>1.1</b>
<b>Females</b>	European/Pakeha	2	91	109	56	30	20	19	27	0	354
		-	1.1	1.2	1.3	1.1	0.9	1.5	1.3	-	1.2
	Māori	1	20	22	9	7	3	2	1	0	65
		-	0.4	0.6	0.5	0.7	-	-	-	-	0.5
	Pacific Peoples	0	1	4	3	0	0	1	1	0	10
		-	-	-	-	-	-	-	-	-	0.5
	Other	0	1	9	12	6	2	3	4	0	37
	-	-	0.9	1.2	1.1	-	-	-	-	0.9	
Unknown	0	0	2	2	1	3	1	1	0	10	
	-	-	-	-	-	-	-	-	-	1.5	
<b>Total</b>		<b>3</b>	<b>113</b>	<b>146</b>	<b>82</b>	<b>44</b>	<b>28</b>	<b>26</b>	<b>34</b>	<b>0</b>	<b>476</b>
		<b>=</b>	<b>0.8</b>	<b>1.0</b>	<b>1.1</b>	<b>1.0</b>	<b>0.8</b>	<b>1.2</b>	<b>1.1</b>	<b>=</b>	<b>0.9</b>
<b><i>Genital warts (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	96	398	230	115	84	59	82	1	1065
		-	4.6	7.1	5.5	4.1	3.5	3.4	2.1	-	4.7
	Māori	0	40	79	27	18	22	5	9	0	200
		-	4.1	5.7	3.1	3.0	5.0	2.5	3.0	-	4.1
	Pacific Peoples	1	10	30	17	5	4	2	3	0	72
		-	4.8	6.5	5.2	2.3	-	-	-	-	4.6
	Other	0	9	17	25	17	10	9	10	0	97
	-	5.1	2.3	2.6	2.9	2.6	2.4	1.7	-	2.5	
Unknown	0	3	5	9	2	3	2	4	0	28	
	-	-	-	-	-	-	-	-	-	3.3	
<b>Total</b>		<b>1</b>	<b>158</b>	<b>529</b>	<b>308</b>	<b>157</b>	<b>123</b>	<b>77</b>	<b>108</b>	<b>1</b>	<b>1462</b>
		<b>=</b>	<b>4.5</b>	<b>6.4</b>	<b>4.7</b>	<b>3.6</b>	<b>3.5</b>	<b>3.1</b>	<b>2.1</b>	<b>=</b>	<b>4.3</b>
<b>Females</b>	European/Pakeha	2	232	337	130	59	47	21	32	2	862
		-	2.7	3.8	2.9	2.2	2.0	1.6	1.5	-	2.8
	Māori	5	125	91	29	13	6	6	4	0	279
		0.9	2.5	2.5	1.6	1.3	0.9	1.5	-	-	2.1
	Pacific Peoples	1	11	21	7	6	0	3	1	0	50
		-	2.2	3.0	1.7	2.8	-	-	-	-	2.4
	Other	1	11	30	21	15	7	4	13	0	102
	-	1.9	3.0	2.0	2.7	1.8	-	2.7	-	2.4	
Unknown	0	6	18	5	0	1	0	1	0	31	
	-	-	-	-	-	-	-	-	-	4.6	
<b>Total</b>		<b>9</b>	<b>385</b>	<b>497</b>	<b>192</b>	<b>93</b>	<b>61</b>	<b>34</b>	<b>51</b>	<b>2</b>	<b>1324</b>
		<b>0.9</b>	<b>2.6</b>	<b>3.5</b>	<b>2.5</b>	<b>2.1</b>	<b>1.7</b>	<b>1.6</b>	<b>1.6</b>	<b>=</b>	<b>2.6</b>

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

Table 29: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by SHCs, 2010

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Syphilis</i></b>											
<b>Males</b>	European/Pakeha	0	1	4	4	8	7	10	17	0	51
		-	-	-	-	0.3	0.3	0.6	0.4	-	0.2
	Māori	0	2	0	0	2	2	1	0	0	7
		-	-	-	-	-	-	-	-	-	0.1
	Pacific Peoples	0	0	0	4	2	2	1	2	0	11
		-	-	-	-	-	-	-	-	-	0.7
	Other	0	0	1	5	3	3	1	8	0	21
	-	-	-	0.5	-	-	-	1.4	-	0.5	
Unknown	0	0	0	0	1	0	2	1	0	4	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>0</b>	<b>3</b>	<b>5</b>	<b>13</b>	<b>16</b>	<b>14</b>	<b>15</b>	<b>28</b>	<b>0</b>	<b>94</b>
		-	-	<b>0.1</b>	<b>0.2</b>	<b>0.4</b>	<b>0.4</b>	<b>0.6</b>	<b>0.5</b>	-	<b>0.3</b>
<b>Females</b>	European/Pakeha	0	0	0	0	2	1	0	2	0	5
		-	-	-	-	-	-	-	-	-	0.0
	Māori	0	2	0	0	0	0	1	1	0	4
		-	-	-	-	-	-	-	0.3	-	-
	Pacific Peoples	0	0	1	0	0	3	0	-	0	6
		-	-	-	-	-	-	-0	2.2	-	0.3
	Other	0	0	1	0	1	2	0	4	0	8
	-	-	-	-	-	-	-	-	-	0.2	
Unknown	0	0	0	0	0	1	0	1	0	2	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>0</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>1</b>	<b>10</b>	<b>0</b>	<b>25</b>
		-	-	-	-	-	<b>0.2</b>	-	<b>0.3</b>	-	<b>0.0</b>
<b><i>NSU (Males Only)</i></b>											
<b>Males</b>	European/Pakeha	1	34	115	95	52	68	49	75	0	489
		-	1.6	2.1	2.3	1.8	2.8	2.8	1.9	-	2.1
	Māori	1	14	38	13	9	11	8	8	0	102
		-	1.4	2.8	1.5	1.5	2.5	4.0	2.7	-	2.1
	Pacific Peoples	0	4	18	10	1	4	5	0	0	42
		-	-	3.9	3.0	-	-	5.1	-	-	2.7
	Other	0	4	22	22	12	6	5	9	0	80
	-	-	3.0	2.3	2.0	1.5	1.3	1.5	-	2.1	
Unknown	0	0	1	4	2	0	2	8	0	17	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>2</b>	<b>56</b>	<b>194</b>	<b>144</b>	<b>76</b>	<b>89</b>	<b>69</b>	<b>100</b>	<b>0</b>	<b>730</b>
		-	<b>1.6</b>	<b>2.3</b>	<b>2.2</b>	<b>1.7</b>	<b>2.6</b>	<b>2.8</b>	<b>1.9</b>	-	<b>2.1</b>

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

## Family planning clinic data

Table 30: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by FPCs, 2010

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Chlamydia</i></b>											
<b>Unknown</b>	Pacific Peoples	0	1	0	0	0	0	0	0	0	1
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
		=	=	=	=	=	=	=	=	=	=
<b>Males</b>	European/Pakeha	1	59	95	33	13	6	1	0	0	208
		-	3.9	5.2	4.3	3.0	1.7	-	-	-	3.7
	Māori	0	34	25	16	4	0	2	1	0	82
		-	7.2	7.0	11.8	-	-	-	-	-	7.2
	Pacific Peoples	0	12	25	6	5	1	1	1	0	51
		-	10.8	13.1	9.4	14.3	-	-	-	-	10.9
	Other	0	1	5	4	0	1	0	0	0	11
		-	-	-	-	-	-	-	-	-	2.8
	Unknown	0	6	7	4	0	0	0	0	0	17
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>1</b>	<b>112</b>	<b>157</b>	<b>63</b>	<b>22</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>369</b>
		=	<b>4.9</b>	<b>5.9</b>	<b>5.6</b>	<b>3.5</b>	<b>1.5</b>	<b>1.1</b>	<b>0.5</b>	=	<b>4.5</b>
<b>Females</b>	European/Pakeha	10	436	435	89	27	19	6	4	0	1026
		0.8	1.4	1.1	0.5	0.3	0.3	0.1	-	-	0.9
	Māori	12	335	272	56	29	9	3	1	0	717
		1.7	3.7	3.4	1.7	1.5	0.7	-	-	-	2.8
	Pacific Peoples	0	105	85	34	10	2	4	2	0	242
		-	4.6	2.9	2.9	1.3	-	-	-	-	2.9
	Other	1	17	33	11	5	2	2	1	0	72
		-	0.9	1.0	0.4	0.3	-	-	-	-	0.5
	Unknown	2	33	22	9	4	3	0	0	0	73
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>25</b>	<b>926</b>	<b>847</b>	<b>199</b>	<b>75</b>	<b>35</b>	<b>15</b>	<b>8</b>	<b>0</b>	<b>2130</b>
		<b>1.2</b>	<b>2.0</b>	<b>1.5</b>	<b>0.8</b>	<b>0.5</b>	<b>0.3</b>	<b>0.2</b>	<b>0.1</b>	=	<b>1.2</b>
<b><i>Gonorrhoea</i></b>											
<b>Males</b>	European/Pakeha	0	2	3	3	0	0	0	0	0	8
		-	-	-	-	-	-	-	-	-	0.1
	Māori	0	9	9	4	1	0	0	0	0	23
		-	1.9	2.5	-	-	-	-	-	-	2.0
	Pacific Peoples	0	1	2	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	Unknown	0	0	2	0	0	0	0	0	0	2
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>12</b>	<b>16</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>
		=	<b>0.5</b>	<b>0.6</b>	<b>0.7</b>	=	=	=	=	=	<b>0.5</b>
<b>Females</b>	European/Pakeha	0	26	15	4	1	0	0	0	0	46
		-	0.1	0.0	-	-	-	-	-	-	0.0
	Māori	0	27	24	2	0	1	0	0	0	54
		-	0.3	0.3	-	-	-	-	-	-	0.2
	Pacific Peoples	0	5	4	1	0	0	0	0	0	10
		-	0.2	-	-	-	-	-	-	-	0.1
	Other	0	1	1	0	0	1	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	Unknown	0	1	2	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>60</b>	<b>46</b>	<b>7</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>116</b>
		=	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	=	=	=	=	=	<b>0.1</b>

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

Table 30: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by FPCs, 2010

		Age group (years)								Unk	Total
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44		
<b><i>Genital herpes (first presentation)</i></b>											
<b>Unknown</b>	European/Pakeha	0	0	0	1	0	0	0	0	0	1
		-	-	-	-	-	-	-	-	-	-
<b>Total</b>		<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>
		=	=	=	=	=	=	=	=	=	=
<b>Males</b>	European/Pakeha	0	5	12	5	2	1	0	2	0	27
		-	0.3	0.7	0.7	-	-	-	-	-	0.5
	Māori	0	0	2	0	0	1	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	Pacific Peoples	0	0	1	0	0	1	0	0	0	2
		-	-	-	-	-	-	-	-	-	-
	Other	0	1	1	0	0	0	0	0	0	2
		-	-	-	-	-	-	-	-	-	-
<b>Total</b>	Unknown	0	1	0	0	0	0	0	0	0	1
		-	-	-	-	-	-	-	-	-	-
		<u>0</u>	<u>7</u>	<u>16</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>35</u>
		=	<u>0.3</u>	<u>0.6</u>	<u>0.4</u>	=	=	=	=	=	<u>0.4</u>
<b>Females</b>	European/Pakeha	2	36	47	13	2	9	2	6	0	117
		-	0.1	0.1	0.1	-	0.1	-	0.1	-	0.1
	Māori	0	6	5	1	1	0	1	1	0	15
		-	0.1	0.1	-	-	-	-	-	-	0.1
	Pacific Peoples	0	0	1	0	0	0	0	0	0	1
		-	-	-	-	-	-	-	-	-	-
	Other	0	0	1	2	0	0	1	0	0	4
		-	-	-	-	-	-	-	-	-	-
<b>Total</b>	Unknown	0	3	2	0	0	0	2	0	0	7
		-	-	-	-	-	-	-	-	-	-
		<u>2</u>	<u>45</u>	<u>56</u>	<u>16</u>	<u>3</u>	<u>9</u>	<u>6</u>	<u>7</u>	<u>0</u>	<u>144</u>
		=	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>	=	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>	=	<u>0.1</u>
<b><i>Genital warts (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	10	35	12	3	0	2	0	0	62
		-	0.7	1.9	1.6	-	-	-	-	-	1.1
	Māori	0	3	8	0	0	0	0	0	0	11
		-	-	2.2	-	-	-	-	-	-	1.0
	Pacific Peoples	0	2	2	0	1	0	0	0	0	5
		-	-	-	-	-	-	-	-	-	1.1
	Other	0	0	0	1	0	0	0	0	0	1
		-	-	-	-	-	-	-	-	-	-
<b>Total</b>	Unknown	0	1	1	1	0	0	0	1	0	4
		-	-	-	-	-	-	-	-	-	-
		<u>0</u>	<u>16</u>	<u>46</u>	<u>14</u>	<u>4</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>83</u>
		=	<u>0.7</u>	<u>1.7</u>	<u>1.2</u>	=	=	=	=	=	<u>1.0</u>
<b>Females</b>	European/Pakeha	0	42	66	20	5	4	2	3	0	142
		-	0.1	0.2	0.1	0.1	-	-	-	-	0.1
	Māori	1	18	18	4	1	0	0	0	0	42
		-	0.2	0.2	-	-	-	-	-	-	0.2
	Pacific Peoples	1	3	6	0	0	0	0	0	0	10
		-	-	0.2	-	-	-	-	-	-	0.1
	Other	0	4	6	3	0	0	0	0	0	13
		-	-	0.2	-	-	-	-	-	-	0.1
<b>Total</b>	Unknown	0	1	2	0	1	1	0	0	0	5
		-	-	-	-	-	-	-	-	-	-
		<u>2</u>	<u>68</u>	<u>98</u>	<u>27</u>	<u>7</u>	<u>5</u>	<u>2</u>	<u>3</u>	<u>0</u>	<u>212</u>
		=	<u>0.1</u>	<u>0.2</u>	<u>0.1</u>	<u>0.0</u>	<u>0.0</u>	=	=	=	<u>0.1</u>

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

**Table 30: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by FPCs, 2010**

		Age group (years)									
		<u>&lt;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>&gt;44</u>	<u>Unk</u>	<u>Total</u>
<b><i>Syphilis</i></b>											
<b>Females</b>	Māori	0	0	0	1	0	0	0	0	0	<b>1</b>
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>
		=	=	=	=	=	=	=	=	=	=
<b><i>NSU (Males Only)</i></b>											
<b>Males</b>	European/Pakeha	0	1	0	2	0	0	0	0	0	<b>3</b>
		-	-	-	-	-	-	-	-	-	-
	Māori	0	1	2	0	0	0	0	0	0	<b>3</b>
		-	-	-	-	-	-	-	-	-	-
	Unknown	0	1	0	0	0	0	0	0	0	<b>1</b>
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>
		=	=	=	=	=	=	=	=	=	<b>0.1</b>

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

## Student and youth health clinic data

Table 31: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by SYHCs, 2010

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Chlamydia</i></b>											
<b>Males</b>	European/Pakeha	0	32	94	9	0	0	0	0	0	135
		-	0.6	0.7	0.3	-	-	-	-	-	0.6
	Māori	3	19	30	2	0	0	0	0	0	54
		-	2.6	1.7	-	-	-	-	-	-	1.3
	Pacific Peoples	0	5	5	2	0	0	0	0	0	12
		-	2.0	0.9	-	-	-	-	-	-	0.7
	Other	0	1	15	1	2	0	0	0	0	19
	-	-	0.2	-	-	-	-	-	-	0.1	
Unknown	0	1	5	1	0	0	0	0	0	7	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>3</b>	<b>58</b>	<b>149</b>	<b>15</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>227</b>
		=	<b>0.7</b>	<b>0.7</b>	<b>0.2</b>	=	=	=	=	=	<b>0.3</b>
<b>Females</b>	European/Pakeha	2	171	201	10	3	0	0	0	0	387
		-	0.9	0.6	0.2	-	-	-	-	-	0.6
	Māori	9	156	74	11	2	0	0	1	1	254
		9.2	4.9	1.4	1.1	-	-	-	-	-	2.1
	Pacific Peoples	0	22	25	3	1	0	0	0	1	52
		-	3.4	1.6	-	-	-	-	-	-	1.6
	Other	0	11	19	8	0	0	0	0	0	38
	-	0.3	0.2	0.2	-	-	-	-	-	0.1	
Unknown	0	5	7	1	0	0	0	0	0	13	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>11</b>	<b>365</b>	<b>326</b>	<b>33</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>744</b>
		=	<b>3.1</b>	<b>1.3</b>	<b>0.6</b>	<b>0.3</b>	<b>0.1</b>	=	=	=	<b>0.5</b>
<b><i>Gonorrhoea</i></b>											
<b>Males</b>	European/Pakeha	0	6	6	0	1	0	0	0	0	13
		-	0.1	0.0	-	-	-	-	-	-	0.1
	Māori	1	0	4	0	0	0	0	0	0	5
		-	-	-	-	-	-	-	-	-	0.1
Other	0	0	1	0	1	0	0	0	0	2	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>1</b>	<b>6</b>	<b>11</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>
		=	<b>0.1</b>	<b>0.1</b>	=	=	=	=	=	=	<b>0.0</b>
<b>Females</b>	European/Pakeha	0	3	4	1	0	0	0	0	0	8
		-	-	-	-	-	-	-	-	-	0.0
	Māori	0	6	2	0	0	0	0	0	0	8
		-	0.2	-	-	-	-	-	-	-	0.1
	Pacific Peoples	0	2	1	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
Other	0	1	0	0	0	0	0	0	0	1	
	-	-	-	-	-	-	-	-	-	-	
Unknown	0	1	0	0	0	0	0	0	0	1	
	-	-	-	-	-	-	-	-	-	-	
<b>Total</b>		<b>0</b>	<b>13</b>	<b>7</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>
		=	<b>0.0</b>	<b>0.0</b>	=	=	=	=	=	=	<b>0.0</b>

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

Table 31: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by SYHCs, 2010

		Age group (years)									
		<15	15-19	20-24	25-29	30-34	35-39	40-44	>44	Unk	Total
<b><i>Genital herpes (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	4	8	0	0	0	0	0	0	12
		-	-	0.1	-	-	-	-	-	-	0.0
	Māori	0	3	0	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	Other	0	0	1	0	1	0	0	0	0	2
	-	-	-	-	-	-	-	-	-	-	
	Unknown	0	1	2	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>8</b>	<b>11</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>
		=	<b>0.1</b>	<b>0.1</b>	=	=	=	=	=	=	<b>0.0</b>
<b>Females</b>	European/Pakeha	0	16	26	2	1	0	3	0	0	48
		-	0.1	0.1	-	-	-	-	-	-	0.1
	Māori	0	5	4	0	0	0	1	0	0	10
		-	0.2	-	-	-	-	-	-	-	0.1
	Pacific Peoples	0	3	1	0	0	0	0	0	0	4
	-	-	-	-	-	-	-	-	-	-	
	Other	0	1	2	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>25</b>	<b>33</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>65</b>
		=	<b>0.1</b>	<b>0.1</b>	=	=	=	=	<b>0.0</b>	<b>0.0</b>	<b>0.1</b>
<b><i>Genital warts (first presentation)</i></b>											
<b>Males</b>	European/Pakeha	0	7	46	3	0	1	0	0	0	57
		-	0.1	0.4	-	-	-	-	-	-	0.2
	Māori	0	2	1	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	Pacific Peoples	0	0	0	1	0	0	0	0	0	1
	-	-	-	-	-	-	-	-	-	-	
	Other	0	1	3	0	0	0	0	0	0	4
		-	-	-	-	-	-	-	-	-	-
	Unknown	0	1	0	0	0	0	0	0	0	1
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>0</b>	<b>11</b>	<b>50</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>66</b>
		=	<b>0.1</b>	<b>0.2</b>	=	=	=	=	=	=	<b>0.1</b>
<b>Females</b>	European/Pakeha	0	18	55	4	0	0	0	0	0	77
		-	0.1	0.2	-	-	-	-	-	-	0.1
	Māori	1	6	7	0	0	0	0	1	0	15
		-	0.2	0.1	-	-	-	-	-	-	0.1
	Pacific Peoples	0	1	3	0	0	0	0	0	0	4
	-	-	-	-	-	-	-	-	-	-	
	Other	0	1	7	1	1	0	0	0	0	10
		-	-	0.1	-	-	-	-	-	-	0.0
	Unknown	0	0	3	0	0	0	0	0	0	3
		-	-	-	-	-	-	-	-	-	-
	<b>Total</b>	<b>1</b>	<b>26</b>	<b>75</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>109</b>
		=	<b>0.1</b>	<b>0.1</b>	<b>0.0</b>	=	=	=	=	=	<b>0.1</b>

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

**Table 31: Number of cases and disease rates<sup>1</sup> by age, sex and ethnicity by SYHCs, 2010**

		Age group (years)									
		<u>&lt;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>&gt;44</u>	<u>Unk</u>	<u>Total</u>
<b><i>Syphilis</i></b>											
<b>Males</b>	European/Pakeha	0	1	0	0	0	0	0	0	0	1
	Māori	0	0	0	0	0	1	0	0	0	1
	<b>Total</b>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>
		:	:	:	:	:	:	:	:	:	:
<b><i>NSU (Males Only)</i></b>											
<b>Males</b>	European/Pakeha	0	3	8	0	0	0	0	0	0	11
	Māori	0	0	1	1	0	0	0	0	0	2
	Pacific Peoples	0	0	0	1	0	0	0	0	0	1
	Other	0	0	4	0	0	0	1	0	0	5
	Unknown	0	0	2	0	0	0	0	0	1	3
	<b>Total</b>	<u>0</u>	<u>3</u>	<u>15</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>22</u>
		:	:	<u>0.1</u>	:	:	:	:	:	:	<u>0.0</u>

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

