

**Laboratory Surveillance of
Chlamydia and Gonorrhoea
in New Zealand**

January to March 2005

Prepared as part of a Ministry of Health
Contract for scientific services

by

STI Surveillance Team
Population and Environmental Health Group
Institute of Environmental Science & Research Ltd.

May 2005

Disclaimer

This report or document ("the Report") is given by the Institute of Environmental Science and Research Limited ("ESR") solely for the benefit of the Ministry of Health, Public Health Service Providers and other Third Party Beneficiaries as defined in the Contract between ESR and the Ministry of Health, and is strictly subject to the conditions laid out in that Contract.

Neither ESR nor any of its employees makes any warranty, express or implied, or assumes any legal liability or responsibility for use of the Report or its contents by any other person or organisation.

Acknowledgements

The authors wish to acknowledge that this report could not have been generated without the continuing support of the participating laboratories that provided data. These laboratories were:

- Northland Pathology Laboratory, Whangarei
- Diagnostic MedLab, Auckland
- LabPlus, Auckland
- Middlemore Hospital Laboratory, Auckland
- MedLab Hamilton, Hamilton
- Pathlab Waikato, Hamilton
- Waikato Hospital Laboratory, Hamilton
- MedLab Bay of Plenty, Tauranga
- Whakatane Hospital Laboratory, Whakatane
- Diagnostic Rotorua Laboratory, Rotorua
- Rotorua Hospital Laboratory, Rotorua
- Gisborne Hospital Laboratory, Gisborne
- Taranaki MedLab, New Plymouth
- Hutt Hospital Laboratory, Lower Hutt
- Medical Laboratory Wellington, Wellington
- Grey Hospital Laboratory, Greymouth
- Canterbury Health Laboratories, Christchurch
- HealthLab Kew (Southland Hospital), Invercargill

Members of the STI Surveillance Team at ESR who have contributed to the collection, collation, analysis and reporting of data include Dinusha Fernando, Tammy Voice, Graham MacBride-Stewart, Trev Margolin and Donna Warren.

**This report is also available at www.surv.esr.cri.nz
Ad Hoc STI requests may be accessed by emailing survqueries@esr.cri.nz**

Contents

Introduction	1
Methods	2
Chlamydia Results – January to March, 2005	3
<u>Chlamydia Incidence</u>	3
<u>Data tables: Chlamydia Incidence, January to March, 2005</u>	4
<u>Chlamydia trends: Auckland, Waikato and BOP Regions</u>	5
Gonorrhoea Results – January to March, 2005	6
<u>Gonorrhoea Incidence</u>	6
<u>Data tables: Gonorrhoea Incidence, January to March, 2005</u>	7
<u>Gonorrhoea trends: Auckland, Waikato and BOP Regions</u>	8

Introduction

In New Zealand, sexually transmitted infections (STIs) are not notifiable and so surveillance efforts rely upon laboratories and clinics voluntarily providing data. Laboratory 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.

This report presents data on chlamydia and gonorrhoea cases reported in the last quarter (January to March) 2005, from eighteen laboratories across New Zealand.

Quarterly reports of clinic-based surveillance are provided separately and are available at www.surv.esr.cri.nz.

All results and analyses are based on data submitted prior to the 29th April 2005. Any data submitted after this date is not included in this report due to time constraints. All results should be regarded as provisional.

Methods

The eighteen participating laboratories report anonymised data on laboratory-confirmed cases of chlamydia and gonorrhoea, by age and sex. Laboratories only report specimens received directly from health care settings and do not report data on specimens which were subcontracted to their laboratory from outside of their region. Seventeen laboratories submitted chlamydia data with a total coverage of twenty-six laboratories. Eighteen laboratories submitted gonorrhoea data with a total coverage of nineteen laboratories. The diagnostic tests used by each laboratory differ.

An attempt has been made to deduplicate the data where one patient may have multiple positive specimens. If this is not possible then it was assumed that each test-positive specimen was equivalent to one test-positive patient. As it is possible for one patient to have two positive specimens taken for the one STI episode, the true incidence may be less than that reported here.

STI Rates

Population-based disease rates for the quarter were calculated by dividing the total number of test-positive reported cases for chlamydia and gonorrhoea by the total 'usually resident' population data for the District Health Boards (DHB) included in the Auckland, Waikato and BOP regions (see below). Population data was supplied from the 2001 Census, Statistics New Zealand.

For several reasons population-based rates have not been determined for the new laboratories. Data submitted from newly participating laboratories is presented as the number of test-positive reported cases by age and sex. As the majority of laboratories within the new DHBs are not, at present, routinely reporting STI data population rates cannot be calculated accurately.

In contrast to reports prepared prior to 2004 STI rates are not annualised.

<u>Auckland region</u>	Includes Auckland DHB and Counties Manukau DHB for calculation of gonorrhoea rates. Includes Auckland DHB, Counties Manukau DHB and Waitemata DHB for calculation of chlamydia rates.
<u>Waikato region</u>	Includes Waikato DHB.
<u>BOP region</u>	Includes BOP DHB and Lakes DHB.

Data completeness

Seventeen laboratories submitted chlamydia data and eighteen laboratories submitted gonorrhoea data for each month in the period January to March 2005. Of all positive data submitted 1.4% were of unknown age and 0.5% were of unknown sex.

Chlamydia Results – January to March, 2005

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 28 146 specimens for chlamydia, of which 1 720 (6.1%) specimens tested positive from 1 637 patients.
- Fifty eight percent of all positive patients occurred in people aged 15 to 24 years.
- The highest rates of chlamydia in females and males were found in the 20 to 24 years age group.

Waikato region (see table 1)

- Laboratories in the Waikato region tested 6 390 specimens for chlamydia, of which 724 (11.3%) specimens tested positive from 723 patients.
- Seventy three percent of all positive patients occurred in people aged 15 to 24 years.
- The highest rates of chlamydia were found in the 15 to 19 years age group in females and the 20 to 24 years age group in males.

Bay of Plenty Region (see table 1)

- Laboratories in the BOP region tested 5 773 specimens for chlamydia, of which 637 (11.0%) specimens tested positive from 637 patients.
- Seventy four percent of all positive patients occurred in people aged 15 to 24 years.
- The highest rates of chlamydia were found in the 15 to 19 years age group in females and the 20 to 24 years age group in males.

New laboratories (see table 1)

- New laboratories reported 682 (10.3%) test-positive specimens for chlamydia from 609 patients.
- Sixty nine percent of all positive patients occurred in people aged 15 to 24 years.
- The highest numbers of chlamydia were found in the 15 to 19 years age group in females and the 20 to 24 years age group in males.

Data tables: Chlamydia Incidence, January to March, 2005

Table 1. Number of test-positive cases and rates of chlamydia, age group and sex:
January to March 2005

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	7	5	1	13	74.0	55.3	70.3
	1-9	1	0	0	1	1.2	0.0	0.6
	10-14	21	0	0	21	45.9	0.0	23.5
	15-19	365	73	0	438	855.0	174.6	518.3
	20-24	355	153	2	510	873.2	363.5	616.3
	25-29	225	97	1	323	552.4	214.8	376.1
	30-34	91	55	1	147	199.0	107.4	151.6
	>34	95	87	1	183	36.2	29.9	33.1
	Unknown	0	1	0	1			
	Total	1160	471	6	1637	203.4	78.1	139.5
Waikato	<1	2	1	0	3	81.6	42.2	62.2
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	14	2	0	16	104.3	15.2	60.2
	15-19	230	70	0	300	1867.2	602.3	1253.1
	20-24	158	68	1	227	1537.7	670.6	1111.9
	25-29	50	30	0	80	513.8	291.2	399.3
	30-34	43	18	1	62	406.0	151.9	276.3
	>34	19	15	0	34	25.8	18.7	22.1
	Unknown	0	0	1	1			
	Total	516	204	3	723	330.6	126.2	227.6
Bay of Plenty	<1	1	0	0	1	47.5	0.0	24.4
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	15	0	0	15	128.7	0.0	65.1
	15-19	251	39	0	290	2670.5	438.0	1584.4
	20-24	140	42	0	182	2034.3	596.5	1307.2
	25-29	52	24	1	77	694.7	284.5	483.6
	30-34	20	12	0	32	230.0	119.7	170.9
	>34	24	11	0	35	36.0	15.0	24.9
	Unknown	2	1	2	5			
	Total	505	129	3	637	378.4	91.7	232.4
New Laboratories	<1	0	1	0	1			
	1-9	2	0	0	2			
	10-14	10	1	0	11			
	15-19	214	31	3	248			
	20-24	116	58	0	174			
	25-29	41	22	0	63			
	30-34	17	19	0	36			
	>34	15	11	0	26			
	Unknown	24	24	0	48			
	Total	439	167	3	609			

Chlamydia trends: Auckland, Waikato and BOP Regions

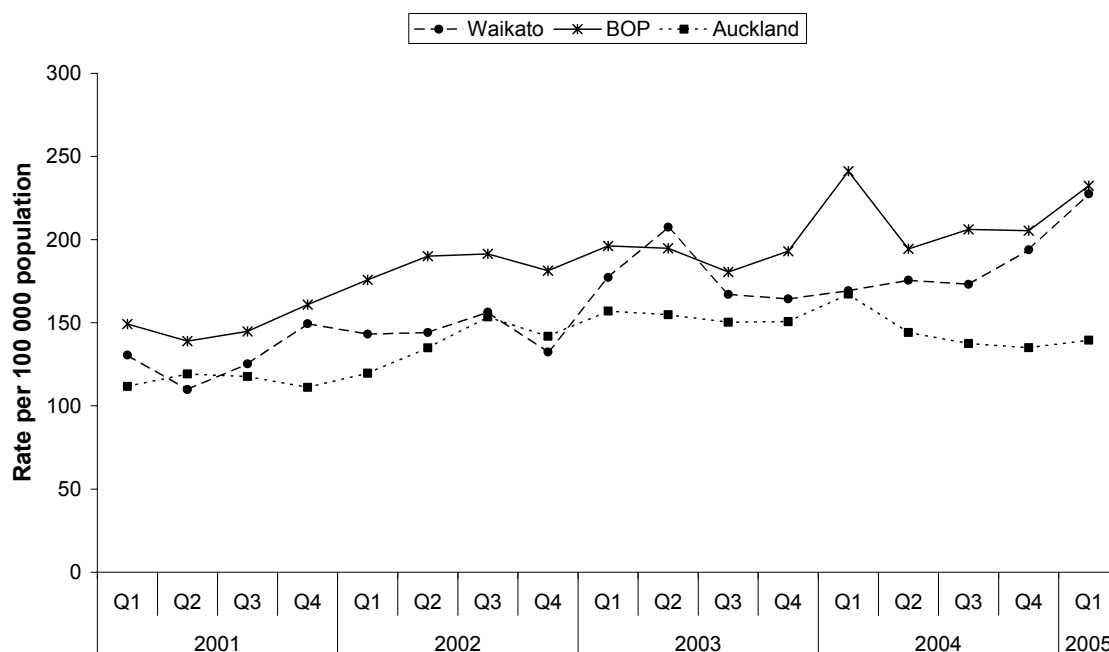
In the first quarter of 2005, a total of 2 997 cases of chlamydia were reported. This represents a rate of 169.8 per 100 000 population (Auckland: 139.5 per 100 000; Waikato: 227.6 per 100 000; BOP: 232.4 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses increased by 3.4% in the Auckland region, 17.4% in the Waikato region and 13.1% in the BOP region.

Chlamydia cases reported in this quarter decreased by 5.2% on the total of 3 162 in the equivalent quarter of 2004. The largest decrease (16.6%) was seen in the Auckland region (1 963 in Quarter 1 2004, compared to 1 637 in Quarter 1 2005).

The rates of chlamydia in the Waikato and BOP regions were significantly higher than in the Auckland region. There was no significant difference in the rate of chlamydia in the Waikato region compared to the BOP region.

Figure 1. Rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2001 to March 2005



Gonorrhoea Results – January to March, 2005

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 45 358 specimens for gonorrhoea, of which 282 (0.6%) specimens tested positive from 225 patients.
- Forty eight percent of all positive patients occurred in people aged 15 to 24 years.
- The highest rates of gonorrhoea were found in the 15 to 19 years age group in females and the 20 to 24 years age group in males.

Waikato region (see table 2)

- Laboratories in the Waikato region tested 13 601 specimens for gonorrhoea, of which 50 (0.4%) specimens tested positive from 50 patients.
- Seventy six percent of all positive patients occurred in people aged 15 to 24 years.
- The highest rates of gonorrhoea in females and males were found in the 20 to 24 years age group.

Bay of Plenty Region (see table 2)

- Laboratories in the BOP region tested 8 967 specimens for gonorrhoea, of which 86 (1.0%) specimens tested positive from 85 patients.
- Sixty six percent of all positive patients occurred in people aged 15 to 24 years.
- The highest rates of gonorrhoea were found in the 15 to 19 years age group in females and the 20 to 24 years age group in males.

New laboratories (see table 2)

- New laboratories reported 79 (0.4%) test-positive specimens for gonorrhoea from 62 patients.
- Sixty five percent of all positive patients occurred in people aged 15 to 24 years.
- The highest numbers of gonorrhoea were found in the 15 to 19 years age group in females and the 20 to 24 years age group in males.

Data tables: Gonorrhoea Incidence, January to March, 2005

Table 2. Number of test-positive cases and rates of gonorrhoea, age group and sex:
January to March 2005

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	0	1	0	1	0.0	16.7	8.1
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	1	0	0	1	3.5	0.0	1.8
	15-19	32	21	0	53	118.1	78.6	98.5
	20-24	26	30	0	56	95.7	103.5	99.7
	25-29	9	21	0	30	32.9	69.2	52.0
	30-34	6	23	0	29	20.2	69.5	46.2
	>34	8	46	1	55	5.0	25.7	16.2
	Unknown	0	0	0	0			
	Total	82	142	1	225	22.7	37.2	30.3
Waikato	<1	0	0	0	0	0.0	0.0	0.0
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	0	0	0	0	0.0	0.0	0.0
	15-19	8	11	0	19	64.9	94.6	79.4
	20-24	7	12	0	19	68.1	118.3	93.1
	25-29	4	1	0	5	41.1	9.7	25.0
	30-34	0	2	0	2	0.0	16.9	8.9
	>34	3	2	0	5	4.1	2.5	3.2
	Unknown	0	0	0	0			
	Total	22	28	0	50	14.1	17.3	15.7
Bay of Plenty	<1	0	0	0	0	0.0	0.0	0.0
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	4	0	0	4	34.3	0.0	17.4
	15-19	25	7	0	32	266.0	78.6	174.8
	20-24	13	11	0	24	188.9	156.2	172.4
	25-29	9	7	1	17	120.2	83.0	106.8
	30-34	0	4	0	4	0.0	39.9	21.4
	>34	1	1	0	2	1.5	1.4	1.4
	Unknown	0	0	2	2			
	Total	52	30	3	85	39.0	21.3	31.0
New Laboratories	<1	0	0	0	0			
	1-9	0	0	0	0			
	10-14	1	0	0	1			
	15-19	12	10	0	22			
	20-24	7	11	0	18			
	25-29	4	4	0	8			
	30-34	0	4	0	4			
	>34	0	9	0	9			
	Unknown	0	0	0	0			
	Total	24	38	0	62			

Gonorrhoea trends: Auckland, Waikato and BOP Regions

In the first quarter of 2005, a total of 360 cases of gonorrhoea were reported. This represents a rate of 27.0 per 100 000 population (Auckland: 30.3 per 100 000; Waikato: 15.7 per 100 000; BOP: 31.0 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses decreased by 5.5% in the Auckland region. However, the number of gonorrhoea diagnoses increased in the Waikato region by 35.1%. There was no rate change in the BOP region.

Gonorrhoea cases reported in this quarter increased by 2.6% on the total of 351 in the equivalent quarter of 2004. The largest increase (28.3%) was seen in the Waikato region (39 in Quarter 1 2004, compared to 50 in Quarter 1 2005).

The rate of gonorrhoea in the Auckland and BOP regions were significantly higher than in the Waikato region. There was no significant difference in the rate of gonorrhoea in the Auckland region compared to BOP region.

Figure 2. Rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2001 to March 2005

