

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

January to March 2006

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 2006

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 (see Appendix A).

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, Kerry Sexton, Graham MacBride-Stewart, Trev Margolin and Pauline Quinn.

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

Contents

Introduction	1
Methods	2
Chlamydia Results – January to March, 2006	3
<u>Chlamydia Incidence</u>	3
<u>Data tables: Chlamydia Incidence, January to March, 2006</u>	4
<u>Chlamydia trends: Auckland, Waikato and BOP Regions</u>	5
Gonorrhoea Results – January to March, 2006	6
<u>Gonorrhoea Incidence</u>	6
<u>Data tables: Gonorrhoea Incidence, January to March, 2006</u>	7
<u>Gonorrhoea trends: Auckland, Waikato and BOP Regions</u>	8
Appendix A	9

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 first quarter (January to March) 2006 from forty-one 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 10th May 2006. 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 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. The diagnostic tests used by each laboratory differ.

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

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

Chlamydia data

Forty laboratories provide chlamydia data for STI surveillance. Of these, thirty-eight laboratories submitted chlamydia data by the date required for all three months of the first quarter (January to March) 2006.

Gonorrhoea data

Thirty-three laboratories provide gonorrhoea data for STI surveillance. Of these, thirty-two laboratories submitted gonorrhoea data by the date required for all three months of the first quarter (January to March) 2006.

Of all test-positive data submitted 1.6% were of unknown age and 0.7% were of unknown sex.

Chlamydia Results – January to March, 2006

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 33 951 specimens for chlamydia, of which 2 606 (7.7%) specimens tested positive from 2 502 patients.
- Sixty five percent of all positive patients were aged 15 to 24 years.
- The highest rates of chlamydia in both females and males were in the 20 to 24 years age group.

Waikato region (see table 1)

- Laboratories in the Waikato region tested 5 473 specimens for chlamydia, of which 711 (13.0%) specimens tested positive from 706 patients.
- Seventy five percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia was in the 15 to 19 years age group for females and the 20 to 24 years age group for males.

Bay of Plenty Region (see table 1)

- Laboratories in the BOP region tested 6 288 specimens for chlamydia, of which 785 (12.5%) specimens tested positive from 785 patients.
- Seventy seven percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia was in the 15 to 19 years age group for females and the 20 to 24 years age group for males.

New laboratories (see table 1)

- New laboratories reported 1 723 (10.2%) test-positive specimens for chlamydia from 1 611 patients.
- Seventy three percent of all positive patients were aged 15 to 24 years.
- The highest number of chlamydia was in the 15 to 19 years age group for females and the 20 to 24 years age group for males.

Data tables: Chlamydia Incidence, January to March, 2006

Table 1. Number of test-positive cases and rates of chlamydia, age group and sex:
January to March 2006

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	10	12	0	22	105.8	132.8	119.0
	1-9	1	0	0	1	1.2	0.0	0.6
	10-14	22	0	0	22	48.1	0.0	24.6
	15-19	607	115	2	724	1421.9	275.0	856.7
	20-24	705	196	2	903	1734.2	465.6	1091.3
	25-29	249	147	0	396	611.3	325.6	461.1
	30-34	129	79	1	209	282.0	154.3	215.6
	>34	122	102	1	225	46.5	35.0	40.7
	Unknown	0	0	0	0			
	Total	1845	651	6	2502	323.6	108.0	213.3
Waikato	<1	3	0	0	3	122.4	0.0	62.2
	1-9	2	0	0	2	8.5	0.0	4.4
	10-14	12	0	0	12	89.4	0.0	45.2
	15-19	212	76	1	289	1721.1	653.9	1207.2
	20-24	162	75	2	239	1576.6	739.6	1170.7
	25-29	58	41	2	101	596.0	398.0	504.1
	30-34	22	13	0	35	207.7	109.7	156.0
	>34	15	8	0	23	20.3	10.0	14.9
	Unknown	1	0	1	2			
	Total	487	213	6	706	312.0	131.8	222.2
Bay of Plenty	<1	7	1	0	8	332.4	50.1	194.9
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	24	2	0	26	205.9	17.6	112.9
	15-19	324	69	1	394	3447.2	774.9	2152.7
	20-24	145	67	1	213	2106.9	951.6	1529.8
	25-29	52	21	0	73	694.7	248.9	458.5
	30-34	28	11	0	39	322.0	109.7	208.3
	>34	15	13	0	28	22.5	17.7	20.0
	Unknown	3	1	0	4			
	Total	598	185	2	785	448.1	131.5	286.4
New Laboratories	<1	4	4	1	9			
	1-9	2	1	0	3			
	10-14	26	1	0	27			
	15-19	515	140	10	665			
	20-24	350	157	9	516			
	25-29	111	64	2	177			
	30-34	46	20	0	66			
	>34	36	27	0	63			
	Unknown	42	38	5	85			
	Total	1132	452	27	1611			

Chlamydia trends: Auckland, Waikato and BOP Regions

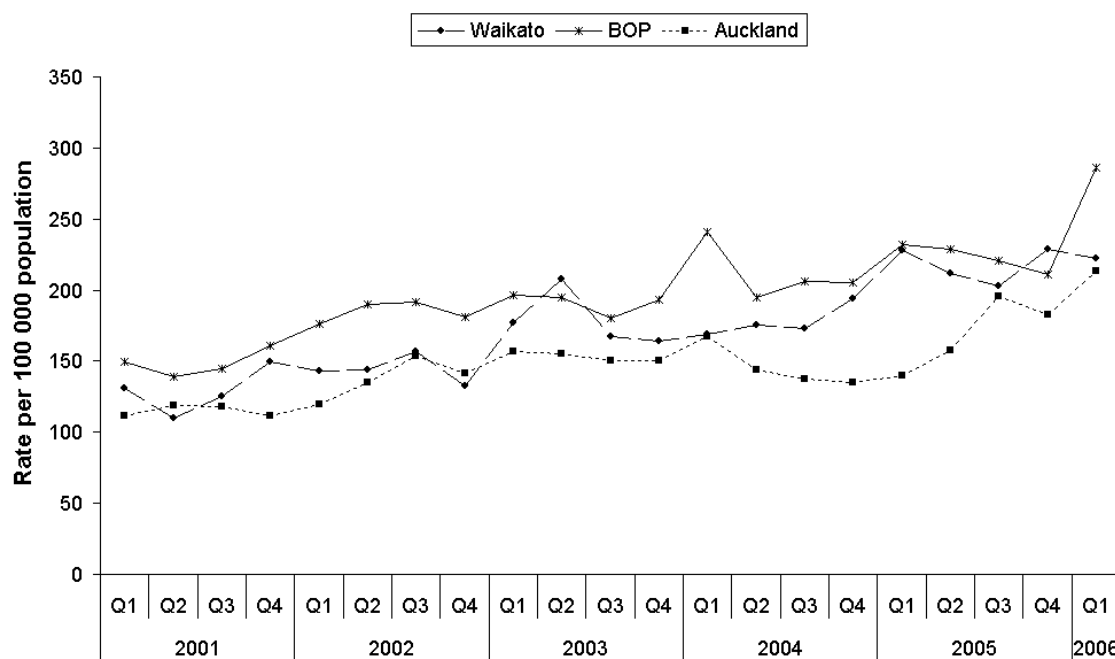
In the first quarter of 2006, a total of 3 993 cases of chlamydia were reported. This represents a rate of 226.2 per 100 000 population (Auckland: 213.3 per 100 000; Waikato: 222.2 per 100 000; BOP: 286.4 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses decreased by 2.8% in the Waikato region. However, the number of chlamydia diagnoses increased by 16.8% in the Auckland region and 35.6% in the BOP region. Chlamydia rates by quarter since January 2001 are shown in Figure 1.

Chlamydia cases reported in this quarter increased by 33.2% on the total of 2 997 in the equivalent quarter of 2005. The largest increase (52.8%) was seen in the Auckland region (1 637 in Quarter 1 2005, compared to 2 502 in Quarter 1 2006).

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

Figure 1. Rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2001 to March 2006



Gonorrhoea Results – January to March, 2006

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 54 450 specimens for gonorrhoea, of which 697 (1.3%) specimens tested positive from 333 patients.
- Fifty three percent of all positive patients were aged 15 to 24 years.
- The highest rate of gonorrhoea was found in the 15 to 19 years age group for females and the 20 to 24 years age group for males.

Waikato region (see table 2)

- Laboratories in the Waikato region tested 10 002 specimens for gonorrhoea, of which 91 (0.9%) specimens tested positive from 85 patients.
- Sixty percent of all positive patients were aged 15 to 24 years.
- The highest rates of gonorrhoea in both 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 9 690 specimens for gonorrhoea, of which 108 (1.1%) specimens tested positive from 106 patients.
- Seventy one percent of all positive patients were aged 15 to 24 years.
- The highest rates of gonorrhoea in both females and males were found in the 15 to 19 years age group.

New laboratories (see table 2)

- New laboratories reported 268 (0.6%) test-positive specimens for gonorrhoea from 229 patients.
- Sixty seven percent of all positive patients were aged 15 to 24 years.
- The highest number of gonorrhoea in both females and males were found in the 15 to 19 years age group.

Data tables: Gonorrhoea Incidence, January to March, 2006

Table 2. Number of test-positive cases and rates of gonorrhoea, age group and sex:
January to March 2006

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	1	1	0	2	15.9	16.7	16.3
	1-9	4	0	0	4	7.5	0.0	3.9
	10-14	4	2	0	6	13.9	7.3	10.7
	15-19	50	32	0	82	184.5	119.8	152.4
	20-24	36	58	0	94	132.5	200.1	167.4
	25-29	13	36	0	49	47.6	118.6	85.0
	30-34	8	33	0	41	27.0	99.7	65.3
	>34	9	45	0	54	5.6	25.2	15.9
	Unknown	0	0	1	1			
	Total	125	207	1	333	34.6	54.2	44.8
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	5	2	0	7	37.3	15.2	26.3
	15-19	11	15	0	26	89.3	129.1	108.6
	20-24	10	15	0	25	97.3	147.9	122.5
	25-29	5	5	0	10	51.4	48.5	49.9
	30-34	3	9	0	12	28.3	76.0	53.5
	>34	1	3	0	4	1.4	3.7	2.6
	Unknown	0	0	1	1			
	Total	35	49	1	85	22.4	30.3	26.8
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	3	0	0	3	25.7	0.0	13.0
	15-19	38	13	0	51	404.3	146.0	278.6
	20-24	14	10	0	24	203.4	142.0	172.4
	25-29	0	10	0	10	0.0	118.5	62.8
	30-34	7	3	0	10	80.5	29.9	53.4
	>34	3	5	0	8	4.5	6.8	5.7
	Unknown	0	0	0	0			
	Total	65	41	0	106	48.7	29.1	38.7
New Laboratories	<1	0	0	0	0			
	1-9	0	0	0	0			
	10-14	3	1	0	4			
	15-19	41	45	0	86			
	20-24	22	41	4	67			
	25-29	5	24	0	29			
	30-34	5	8	0	13			
	>34	5	16	0	21			
	Unknown	3	6	0	9			
	Total	84	141	4	229			

Gonorrhoea trends: Auckland, Waikato and BOP Regions

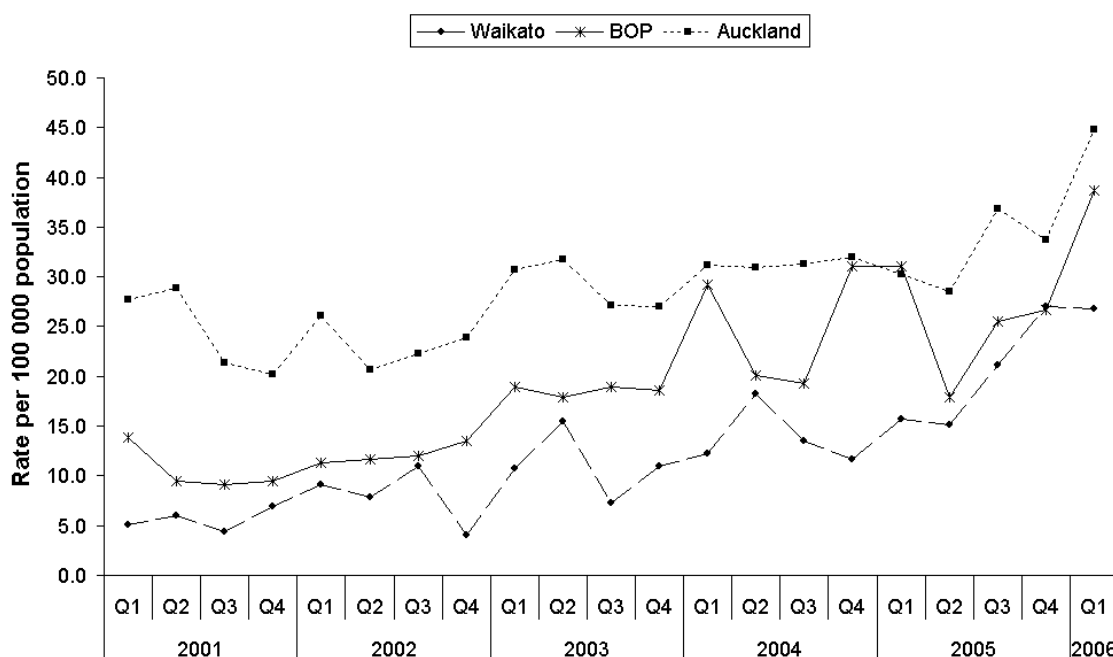
In the first quarter of 2006, a total of 524 cases of gonorrhoea were reported. This represents a rate of 39.2 per 100 000 population (Auckland: 44.8 per 100 000; Waikato: 26.8 per 100 000; BOP: 38.7 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses decreased by 1.2% in the Waikato region. However, the number of gonorrhoea diagnoses increased by 32.7% in the Auckland region and 45.2% in the BOP region. Gonorrhoea rates by quarter since January 2001 are shown in Figure 2.

Gonorrhoea cases reported in this quarter increased by 45.6% on the total of 360 in the equivalent quarter of 2005. The largest increase (70.0%) was seen in the Waikato region (50 in Quarter 1 2005, compared to 85 in Quarter 1 2006).

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

Figure 2. Rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2001 to March 2006



Appendix A

STI surveillance data is received from the following laboratories:

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