

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

January to March 2007

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 2007

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 Bandara, Tammy Hambling, Kerry Sexton, Pauline Quinn and Trev Margolin.

<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, 2007	3
<u>Chlamydia Incidence</u>	3
<u>Data tables: Chlamydia Incidence, January to March, 2007</u>	4
<u>Chlamydia trends: Auckland, Waikato and BOP Regions</u>	5
Gonorrhoea Results – January to March, 2007	6
<u>Gonorrhoea Incidence</u>	6
<u>Data tables: Gonorrhoea Incidence, January to March, 2007</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) 2007 from forty-two 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 11th May 2007. 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 (DHBs) included in the Auckland, Waikato and BOP regions (see below).

Population data was supplied from the 2006 Census, Statistics New Zealand. Rates could not be calculated separately for the less than one age group, as the 2006 population data was not available. An overall rate for the 0-9 years age group is provided.

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-one 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) 2007.

Gonorrhoea data

Thirty-four laboratories provide gonorrhoea data for STI surveillance. Of these, thirty-one laboratories submitted gonorrhoea data by the date required for all three months of the first quarter (January to March) 2007.

Of all test-positive data submitted 1.6% were of unknown age and 0.4% were of unknown sex.

Chlamydia Results – January to March, 2007

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 35 821 specimens for chlamydia, of which 2 577 (7.2%) specimens tested positive from 2 472 patients.
- Sixty-four 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 6 616 specimens for chlamydia, of which 505 (7.6%) specimens tested positive from 505 patients.
- Seventy-eight 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 6 544 specimens for chlamydia, of which 823 (12.6%) specimens tested positive from 812 patients.
- Seventy-nine 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 2 224 (11.4%) test-positive specimens for chlamydia from 2 115 patients.
- Seventy-four percent of all positive patients were aged 15 to 24 years.
- The highest number of chlamydia cases in both females and males were in the 15 to 19 years age group.

Data tables: Chlamydia Incidence, January to March, 2007

Table 1. Number of test-positive cases and rates of chlamydia, age group and sex:
January to March 2007

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	3	7	0	10	*	*	*
	1-9	1	0	0	1	4.3*	7.1*	5.7*
	10-14	21	4	0	25	42.7	7.7	20.1
	15-19	616	117	1	734	1242.0	230.4	731.2
	20-24	650	201	2	853	1286.6	408.8	855.6
	25-29	337	132	0	469	714.2	304.7	518.2
	30-34	115	53	0	168	218.2	112.8	168.5
	>34	110	101	0	211	32.9	33.4	33.2
	Unknown	0	1	0	1			
	Total	1853	616	3	2472	273.8	95.9	187.4
Waikato	<1	3	2	0	5	*	*	*
	1-9	0	0	0	0	12.2*	7.9*	10.0*
	10-14	4	0	0	4	30.3	0.0	14.6
	15-19	166	49	1	216	1283.9	369.5	824.7
	20-24	111	66	0	177	986.8	566.2	772.8
	25-29	39	13	1	53	389.7	134.1	268.9
	30-34	18	3	0	21	158.8	29.3	97.3
	>34	14	14	0	28	15.6	17.1	16.3
	Unknown	0	0	1	1			
	Total	355	147	3	505	205.3	88.4	148.9
Bay of Plenty	<1	1	0	0	1	*	*	*
	1-9	0	0	0	0	4.8*	0.0	2.3*
	10-14	27	1	0	28	229.1	8.1	116.4
	15-19	382	47	0	429	3823.8	446.3	2091.3
	20-24	169	46	0	215	2321.1	632.3	1477.4
	25-29	46	18	0	64	591.1	250.7	427.9
	30-34	22	21	0	43	228.5	249.1	238.1
	>34	24	8	0	32	28.9	10.7	20.3
	Unknown	0	0	0	0			
	Total	671	141	0	812	445.7	98.8	276.9
New Laboratories	<1	4	4	0	8			
	1-9	1	1	0	2			
	10-14	29	2	0	31			
	15-19	785	209	4	998			
	20-24	386	185	2	573			
	25-29	129	74	1	204			
	30-34	74	46	1	121			
	>34	46	43	1	90			
	Unknown	39	36	13	88			
	Total	1493	600	22	2115			

* Rates are combined for <1 and 1-9 age groups.

Chlamydia trends: Auckland, Waikato and BOP Regions

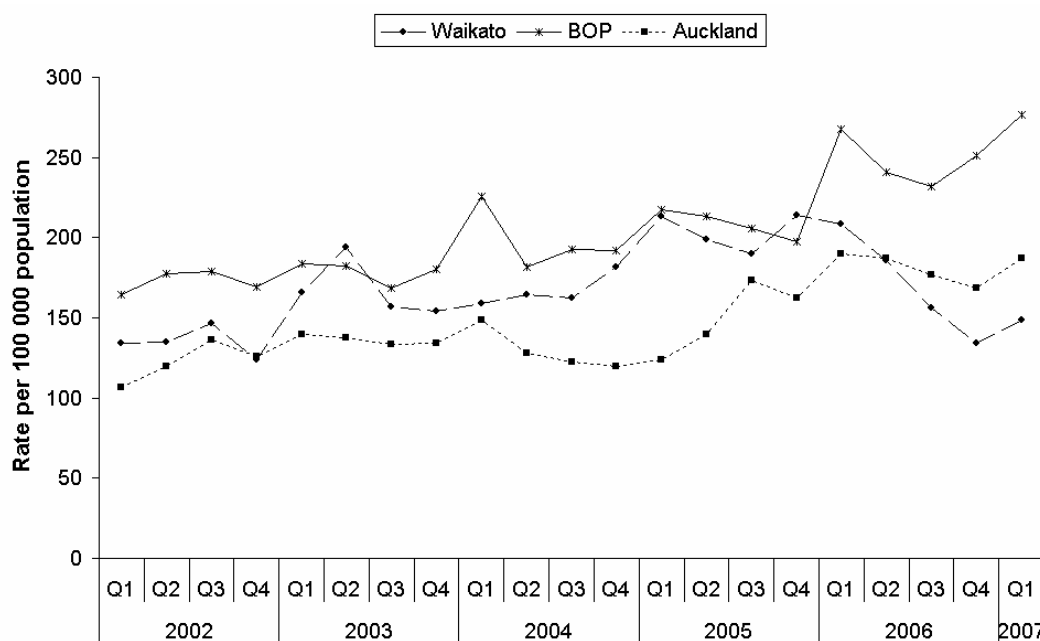
In the first quarter of 2007, a total of 3 789 cases of chlamydia were reported. This represents a rate of 194.1 per 100 000 population (Auckland: 187.4 per 100 000; Waikato: 148.9 per 100 000; BOP: 276.9 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses increased by 11.4% in the Auckland region, 11.2% in Waikato region and 10.2% in the BOP region. Chlamydia rates by quarter since January 2002 are shown in Figure 1.

Chlamydia cases reported in this quarter decreased by 5.1% on the total of 3 993 in the equivalent quarter of 2006. The largest decrease (28.5%) was seen in the Waikato region (706 in Quarter 1 2006, compared to 505 in Quarter 1 2007).

The rate of chlamydia in the BOP region was significantly higher than the Waikato and Auckland regions. The rate of chlamydia in the Waikato region was significantly lower than the Auckland region.

Figure 1. Rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2002 to March 2007



Gonorrhoea Results – January to March, 2007

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 57 360 specimens for gonorrhoea, of which 684 (1.2%) specimens tested positive from 329 patients.
- Sixty 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 11 079 specimens for gonorrhoea, of which 90 (0.8%) specimens tested positive from 85 patients.
- Sixty-nine 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.

Bay of Plenty Region (see table 2)

- Laboratories in the BOP region tested 10 054 specimens for gonorrhoea, of which 88 (0.9%) specimens tested positive from 86 patients.
- Sixty-two percent of all positive patients were aged 15 to 24 years.
- The highest rate of gonorrhoea was found in the 20 to 24 years age group for females and the 15 to 19 years age group for males.

New laboratories (see table 2)

- New laboratories reported 293 (0.7%) test-positive specimens for gonorrhoea from 241 patients.
- Sixty-one percent of all positive patients were aged 15 to 24 years.
- The highest number of gonorrhoea cases in both females and males were in the 15 to 19 years age group.

Data tables: Gonorrhoea Incidence, January to March, 2007

Table 2. Number of test-positive cases and rates of gonorrhoea, age group and sex:
January to March 2007

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<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	2	3	0	5	6.4	9.1	7.8
	15-19	51	37	0	88	159.8	114.3	136.9
	20-24	54	57	0	111	154.7	171.9	163.1
	25-29	15	37	0	52	46.2	125.2	83.9
	30-34	10	25	0	35	29.1	81.2	53.7
	>34	5	33	0	38	2.4	17.8	9.7
	Unknown	0	0	0	0			
	Total	137	192	0	329	31.9	47.0	39.3
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	3	1	0	4	22.7	7.1	14.6
	15-19	19	15	0	34	147.0	113.1	129.8
	20-24	11	14	0	25	97.8	120.1	109.1
	25-29	4	2	0	6	40.0	20.6	30.4
	30-34	1	5	0	6	8.8	48.8	27.8
	>34	2	7	0	9	2.2	8.6	5.2
	Unknown	0	1	0	1			
	Total	40	45	0	85	23.1	27.1	25.1
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	1	0	0	1	8.5	0.0	4.2
	15-19	16	14	0	30	160.2	133.0	146.2
	20-24	14	9	0	23	192.3	123.7	158.0
	25-29	9	7	0	16	115.7	97.5	107.0
	30-34	0	9	0	9	0.0	106.8	49.8
	>34	2	3	0	5	2.4	4.0	3.2
	Unknown	0	2	0	2			
	Total	42	44	0	86	27.9	30.8	29.3
New Laboratories	<1	1	0	0	1			
	1-9	2	0	0	2			
	10-14	3	0	0	3			
	15-19	48	39	0	87			
	20-24	22	37	0	59			
	25-29	13	16	0	29			
	30-34	6	15	0	21			
	>34	4	21	0	25			
	Unknown	6	7	1	14			
	Total	105	135	1	241			

Gonorrhoea trends: Auckland, Waikato and BOP Regions

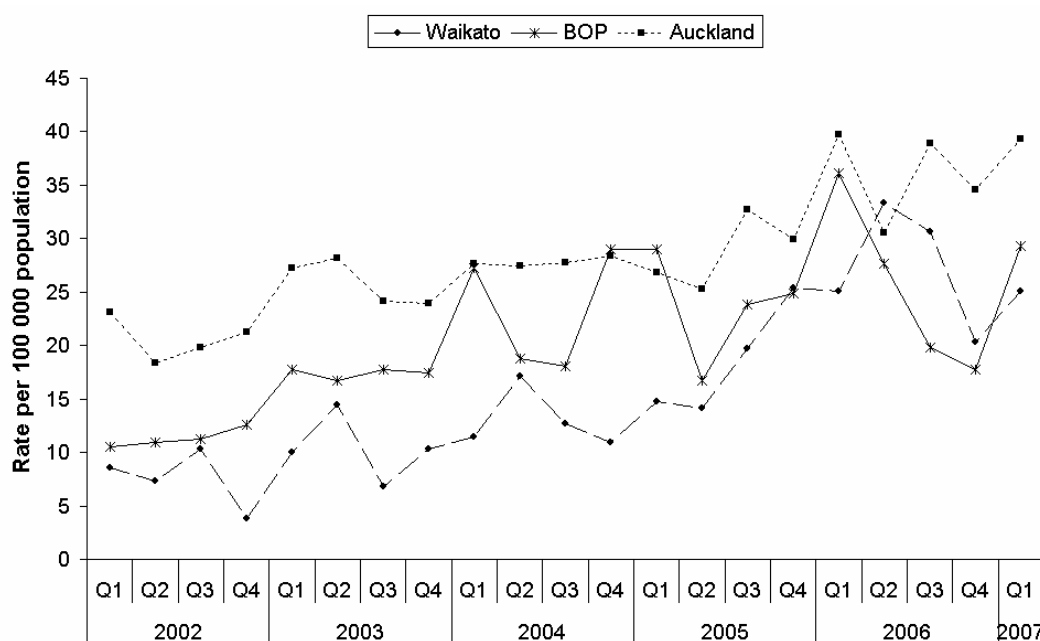
In the first quarter of 2007, a total of 500 cases of gonorrhoea were reported. This represents a rate of 34.0 per 100 000 population (Auckland: 39.3 per 100 000; Waikato: 25.1 per 100 000; BOP: 29.3 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses increased by 13.4% in the Auckland region, 23.2% in the Waikato region and 65.4% in the BOP region. Gonorrhoea rates by quarter since January 2002 are shown in Figure 2.

Gonorrhoea cases reported in this quarter decreased by 4.6% on the total of 524 in the equivalent quarter of 2006. The largest decrease (18.9%) was seen in the BOP region (106 in Quarter 1 2006, compared to 86 in Quarter 1 2007).

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

Figure 2. Rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2002 to March 2007



Appendix A

STI surveillance data is received from the following laboratories:

- Northland Pathology Laboratory, Northland
- Dargaville Hospital Laboratory, Northland (Chlamydia only)
- Kaitaia Hospital Laboratory, Northland (Chlamydia only)
- Bay of Islands Hospital Laboratory, Northland (Chlamydia only)
- Whangarei Hospital Laboratory, Northland (Chlamydia only)
- North Shore Hospital Laboratory, Waitemata (Chlamydia only)
- 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 (Chlamydia only)
- Taumarunui Hospital, Waikato (Chlamydia only)
- Tokoroa Hospital, Waikato (Chlamydia only)
- 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 (Closed end February 2007)
- Taranaki MedLab, Taranaki
- MedLab Central, Mid Central
- Hutt Hospital Laboratory, Hutt Valley
- Aotea Pathology, Capital and Coast/Hutt Valley (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
- Dunedin Southern Community Laboratory, Otago
- Otago Southern Community Laboratory, Otago (Opened January 2007)
- Alexandra Southern Community Laboratory, Otago
- Balclutha Southern Community Laboratory, Otago
- Clyde Southern Community Laboratory, Otago
- Queenstown Southern Community Laboratory, Southland
- Kew Southern Community Laboratory (Southland Hospital), Southland
- Invercargill Southern Community Laboratory, Southland
- Gore Southern Community Laboratory, Southland