

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

April to June 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.

August 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.

**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 – April to June, 2007	3
<u>Chlamydia Incidence</u>	3
<u>Data tables: Chlamydia Incidence, April to June, 2007</u>	4
<u>Chlamydia trends: Auckland, Waikato and BOP Regions</u>	5
Gonorrhoea Results – April to June, 2007	6
<u>Gonorrhoea Incidence</u>	6
<u>Data tables: Gonorrhoea Incidence, April to June, 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 second quarter (April to June) 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 31st July 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, forty laboratories submitted chlamydia data by the date required for all three months of the second quarter (April to June) 2007.

Gonorrhoea data

Thirty-four laboratories provide gonorrhoea data for STI surveillance. All thirty-four laboratories submitted gonorrhoea data by the date required for all three months of the second quarter (April to June) 2007.

Of all test-positive data submitted 1.5% were of unknown age and 0.5% were of unknown sex.

Chlamydia Results – April to June, 2007

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 35 290 specimens for chlamydia, of which 2 309 (6.5%) specimens tested positive from 2 203 patients.
- Sixty-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.

Waikato region (see table 1)

- Laboratories in the Waikato region tested 6 438 specimens for chlamydia, of which 518 (8.0%) specimens tested positive from 518 patients.
- Seventy-two 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 6 126 specimens for chlamydia, of which 738 (12.0%) specimens tested positive from 727 patients.
- Eighty 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 2 076 (10.5%) test-positive specimens for chlamydia from 1 969 patients.
- Seventy-four percent of all positive patients were aged 15 to 24 years.
- The highest number of chlamydia cases 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, April to June, 2007

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

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	16	14	0	30	*	*	*
	1-9	0	1	0	1	17.1*	15.3*	16.2*
	10-14	18	1	0	19	36.6	1.9	15.3
	15-19	584	110	1	695	1177.5	216.6	692.3
	20-24	565	173	1	739	1118.4	351.8	741.3
	25-29	254	101	2	357	538.3	233.1	394.5
	30-34	97	60	0	157	184.1	127.7	157.5
	>34	114	90	0	204	34.1	29.8	32.1
	Unknown	1	0	0	1			
Total	1649	550	4	2203	243.7	85.6	167.0	
Waikato	<1	2	2	0	4	*	*	*
	1-9	0	0	0	0	8.1*	7.9*	8.0*
	10-14	9	0	0	9	68.1	0.0	32.8
	15-19	152	39	2	193	1175.7	294.1	736.9
	20-24	115	60	5	180	1022.4	514.7	785.9
	25-29	48	22	0	70	479.6	226.9	355.2
	30-34	19	10	1	30	167.6	97.6	139.0
	>34	16	10	0	26	17.8	12.2	15.2
	Unknown	0	2	4	6			
Total	361	145	12	518	208.7	87.2	152.7	
Bay of Plenty	<1	1	1	0	2	*	*	*
	1-9	0	0	0	0	4.8*	4.5*	4.6*
	10-14	22	0	0	22	186.6	0.0	91.4
	15-19	357	47	0	404	3573.6	446.3	1969.4
	20-24	126	54	0	180	1730.5	742.3	1236.9
	25-29	36	11	2	49	462.6	153.2	327.6
	30-34	22	10	0	32	228.5	118.6	177.2
	>34	22	13	0	35	26.5	17.4	22.2
	Unknown	0	2	1	3			
Total	586	138	3	727	389.2	96.7	247.9	
New Laboratories	<1	6	2	0	8			
	1-9	2	1	0	3			
	10-14	41	5	0	46			
	15-19	692	177	3	872			
	20-24	401	187	4	592			
	25-29	134	71	0	205			
	30-34	43	28	0	71			
	>34	50	45	1	96			
	Unknown	40	35	1	76			
Total	1409	551	9	1969				

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

Chlamydia trends: Auckland, Waikato and BOP Regions

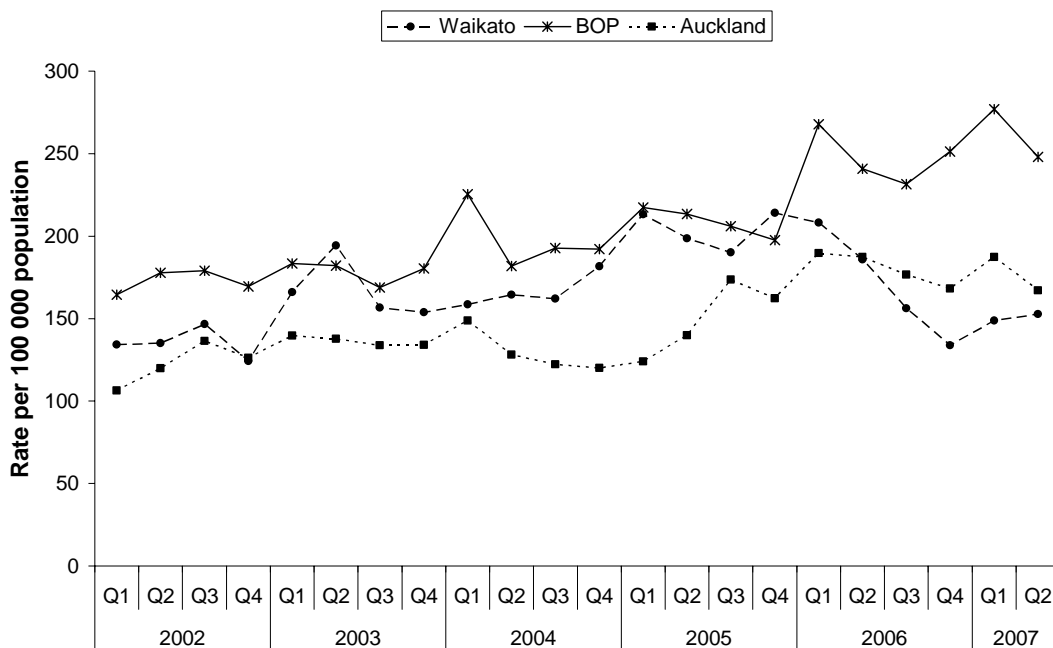
In the second quarter of 2007, a total of 3 448 cases of chlamydia were reported. This represents a rate of 176.7 per 100 000 population (Auckland: 167.0 per 100 000; Waikato: 152.7 per 100 000; BOP: 247.9 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses decreased by 10.9% in the Auckland region and 10.5% in the BOP region. However, the number of chlamydia diagnoses increased by 2.6% in the Waikato region. Chlamydia rates by quarter since January 2002 are shown in Figure 1.

Chlamydia cases reported in this quarter decreased by 9.4% on the total of 3 806 in the equivalent quarter of 2006. The largest decrease (17.8%) was seen in the Waikato region (630 in Quarter 2 2006, compared to 518 in Quarter 2 2007).

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 2002 to June 2007



Gonorrhoea Results – April to June, 2007

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 55 650 specimens for gonorrhoea, of which 619 (1.1%) specimens tested positive from 295 patients.
- Fifty-four 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 10 894 specimens for gonorrhoea, of which 109 (1.0%) specimens tested positive from 88 patients.
- Sixty-four 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 9 557 specimens for gonorrhoea, of which 84 (0.9%) specimens tested positive from 65 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 in the 20 to 24 years age group.

New laboratories (see table 2)

- New laboratories reported 323 (0.9%) test-positive specimens for gonorrhoea from 273 patients.
- Sixty-eight percent of all positive patients were aged 15 to 24 years.
- The highest number of gonorrhoea cases was found in the 15 to 19 years age group for females and the 20 to 24 years age group for males.

Data tables: Gonorrhoea Incidence, April to June, 2007

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

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	0	2	0	2	*	*	*
	1-9	0	0	0	0	0.0*	3.1*	1.6*
	10-14	3	0	0	3	9.6	0.0	4.7
	15-19	45	38	0	83	141.0	117.4	129.1
	20-24	27	49	0	76	77.3	147.8	111.6
	25-29	16	37	0	53	49.3	125.2	85.5
	30-34	4	31	0	35	11.6	100.7	53.7
	>34	10	32	0	42	4.9	17.2	10.8
	Unknown	1	0	0	1			
	Total		106	189	0	295	24.7	46.3
Waikato	<1	1	0	0	1	*	*	*
	1-9	0	0	0	0	4.1*	0.0*	2.0*
	10-14	4	0	0	4	30.3	0.0	14.6
	15-19	16	14	0	30	123.8	105.6	114.5
	20-24	10	16	0	26	88.9	137.3	113.5
	25-29	2	9	0	11	20.0	92.8	55.8
	30-34	4	3	1	8	35.3	29.3	37.1
	>34	1	6	0	7	1.1	7.3	4.1
	Unknown	0	0	1	1			
	Total		38	48	2	88	22.0	28.9
Bay of Plenty	<1	0	0	0	0	*	*	*
	1-9	0	0	0	0	0.0*	0.0*	0.0*
	10-14	0	2	0	2	0.0	16.3	8.3
	15-19	12	7	0	19	120.1	66.5	92.6
	20-24	14	13	0	27	192.3	178.7	185.5
	25-29	2	4	0	6	25.7	55.7	40.1
	30-34	1	4	0	5	10.4	47.4	27.7
	>34	0	6	0	6	0.0	8.0	3.8
	Unknown	0	0	0	0			
	Total		29	36	0	65	19.3	25.2
New Laboratories	<1	1	0	0	1			
	1-9	1	0	0	1			
	10-14	2	2	0	4			
	15-19	58	41	1	100			
	20-24	41	46	0	87			
	25-29	12	26	1	39			
	30-34	5	10	0	15			
	>34	2	21	0	23			
	Unknown	1	1	1	3			
	Total		123	147	3	273		

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

Gonorrhoea trends: Auckland, Waikato and BOP Regions

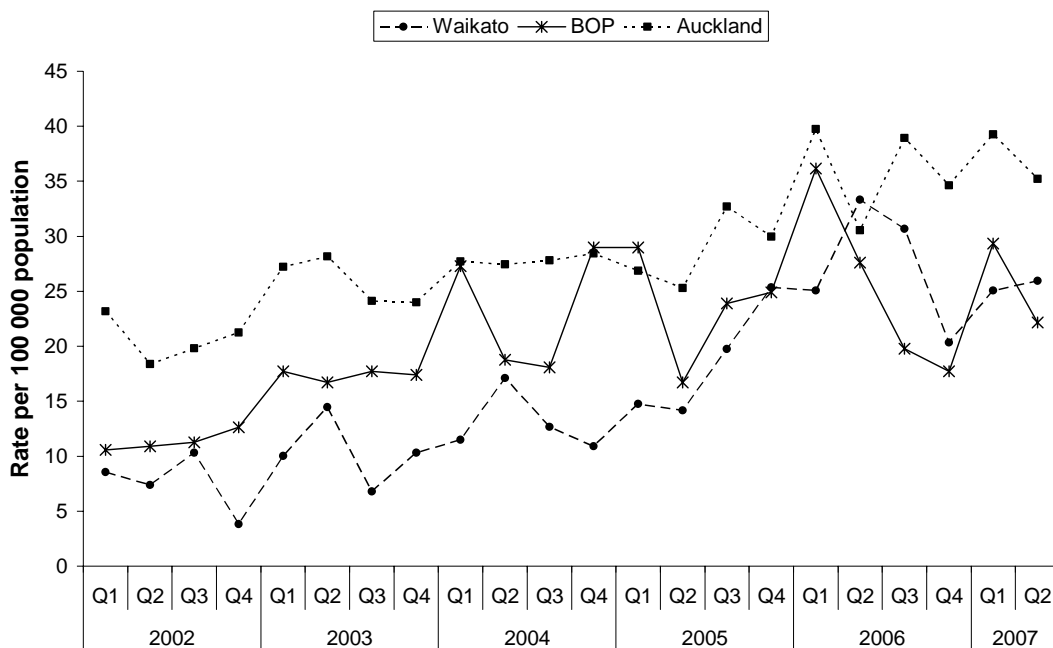
In the second quarter of 2007, a total of 448 cases of gonorrhoea were reported. This represents a rate of 30.5 per 100 000 population (Auckland: 35.2 per 100 000; Waikato: 25.9 per 100 000; BOP: 22.2 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses decreased by 10.3% in the Auckland region and 24.4% in the BOP region. However, the number of gonorrhoea diagnoses increased by 3.5% in the Waikato region. Gonorrhoea rates by quarter since January 2002 are shown in Figure 2.

Gonorrhoea cases reported in this quarter decreased by 0.4% on the total of 450 in the equivalent quarter of 2006. The largest decrease (22.1%) was seen in the Waikato region (113 in Quarter 2 2006, compared to 88 in Quarter 2 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 June 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)
- Taumararui 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
- Hawke's Bay Hospital, Hawke's Bay
- 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