

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

October to December 2006

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

by

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February 2007

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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.

**This report is also available at www.surv.esr.cri.nz
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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 fourth quarter (October to December) 2006 from forty 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 2nd February 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 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

Thirty-nine 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 fourth quarter (October to December) 2006.

Gonorrhoea data

Thirty-two 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 fourth quarter (October to December) 2006.

Of all test-positive data submitted 1.9% were of unknown age and 0.5% were of unknown sex.

Chlamydia Results – October to December, 2006

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 33 112 specimens for chlamydia, of which 2 331 (7.0%) specimens tested positive from 2 220 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 6 491 specimens for chlamydia, of which 454 (7.0%) specimens tested positive from 454 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 5 962 specimens for chlamydia, of which 748 (12.5%) specimens tested positive from 737 patients.
- Seventy-four 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 1 885 (10.5%) test-positive specimens for chlamydia from 1 800 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, October to December, 2006

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

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	7	12	0	19	74.0	132.8	102.7
	1-9	1	1	0	2	1.2	1.3	1.2
	10-14	27	2	0	29	59.0	4.6	32.4
	15-19	576	114	0	690	1349.3	272.6	816.5
	20-24	575	156	1	732	1414.4	370.6	884.6
	25-29	263	108	0	371	645.7	239.2	432.0
	30-34	110	60	1	171	240.5	117.2	176.4
	>34	113	93	0	206	43.1	32.0	37.2
	Unknown	0	0	0	0			
	Total	1672	546	2	2220	293.2	90.6	189.2
Waikato	<1	2	1	0	3	81.6	42.2	62.2
	1-9	1	0	0	1	4.2	0.0	2.2
	10-14	5	0	0	5	37.3	0.0	18.8
	15-19	148	44	0	192	1201.5	378.6	802.0
	20-24	95	50	5	150	924.6	493.1	734.8
	25-29	38	17	3	58	390.5	165.0	289.5
	30-34	20	7	0	27	188.9	59.1	120.3
	>34	10	8	0	18	13.6	10.0	11.7
	Unknown	0	0	0	0			
	Total	319	127	8	454	204.4	78.6	142.9
Bay of Plenty	<1	1	1	0	2	47.5	50.1	48.7
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	24	0	0	24	205.9	0.0	104.2
	15-19	308	45	0	353	3276.9	505.4	1928.6
	20-24	141	55	0	196	2048.8	781.1	1407.7
	25-29	54	23	0	77	721.4	272.6	483.6
	30-34	24	16	0	40	276.0	159.6	213.7
	>34	21	19	0	40	31.5	25.8	28.5
	Unknown	2	3	0	5			
	Total	575	162	0	737	430.9	115.1	268.8
New Laboratories	<1	2	5	0	7			
	1-9	4	0	0	4			
	10-14	19	0	0	19			
	15-19	591	120	3	714			
	20-24	406	185	1	592			
	25-29	131	81	1	213			
	30-34	46	28	0	74			
	>34	52	29	0	81			
	Unknown	38	46	12	96			
	Total	1289	494	17	1800			

Chlamydia trends: Auckland, Waikato and BOP Regions

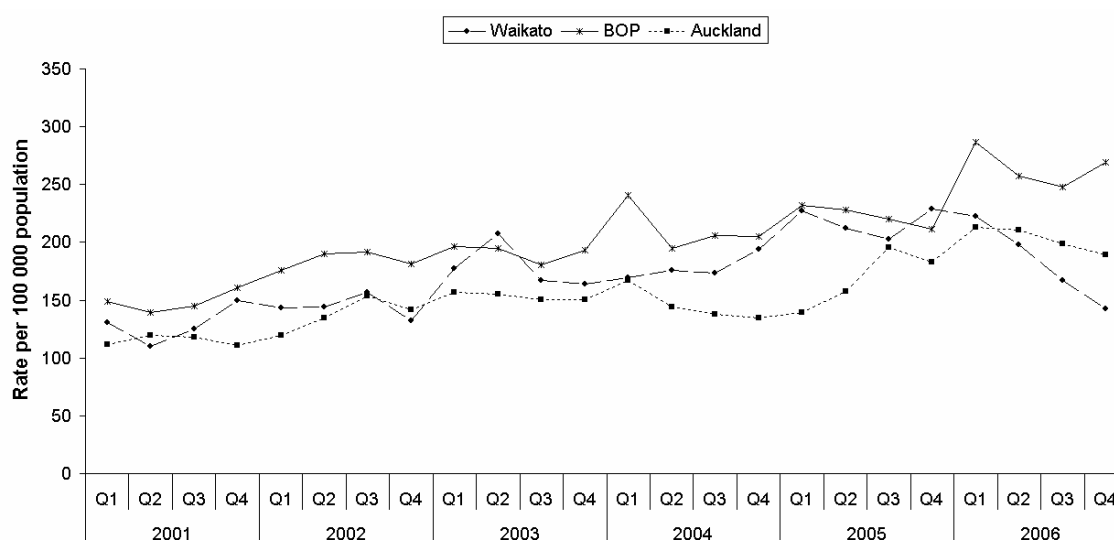
In the fourth quarter of 2006, a total of 3 411 cases of chlamydia were reported. This represents a rate of 193.3 per 100 000 population (Auckland: 189.2 per 100 000; Waikato: 142.9 per 100 000; BOP: 268.8 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses decreased by 4.7% in the Auckland region and 14.3% in Waikato region. However, the number of chlamydia diagnoses increased by 8.5% in the BOP region. Chlamydia rates by quarter since January 2001 are shown in Figure 1.

Chlamydia cases reported in this quarter decreased by 1.0% on the total of 3 447 in the equivalent quarter of 2005. The largest decrease (37.5%) was seen in the Waikato region (726 in Quarter 4 2005, compared to 454 in Quarter 4 2006).

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 2001 to December 2006



Gonorrhoea Results – October to December, 2006

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 53 138 specimens for gonorrhoea, of which 627 (1.2%) specimens tested positive from 290 patients.
- Fifty-two 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 10 756 specimens for gonorrhoea, of which 80 (0.7%) specimens tested positive from 69 patients.
- Seventy-eight 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.

Bay of Plenty Region (see table 2)

- Laboratories in the BOP region tested 9 234 specimens for gonorrhoea, of which 57 (0.6%) specimens tested positive from 52 patients.
- Seventy-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.

New laboratories (see table 2)

- New laboratories reported 182 (0.6%) test-positive specimens for gonorrhoea from 154 patients.
- Sixty-nine percent of all positive patients were aged 15 to 24 years.
- The highest number of gonorrhoea was in the 15 to 19 years age group for females. For males the highest numbers were in 15 to 19 years age group and 20 to 24 years age group.

Data tables: Gonorrhoea Incidence, October to December, 2006

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

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	1	0	0	1	15.9	0.0	8.1
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	2	2	0	4	6.9	7.3	7.1
	15-19	40	37	0	77	147.6	138.5	143.1
	20-24	27	46	1	74	99.4	158.7	131.8
	25-29	21	36	0	57	76.9	118.6	98.8
	30-34	8	26	0	34	27.0	78.6	54.2
	>34	8	35	0	43	5.0	19.6	12.6
	Unknown	0	0	0	0			
	Total	107	182	1	290	29.6	47.7	39.0
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	1	0	0	1	7.5	0.0	3.8
	15-19	20	14	0	34	162.4	120.5	142.0
	20-24	8	12	0	20	77.9	118.3	98.0
	25-29	3	4	0	7	30.8	38.8	34.9
	30-34	1	2	0	3	9.4	16.9	13.4
	>34	2	2	0	4	2.7	2.5	2.6
	Unknown	0	0	0	0			
	Total	35	34	0	69	22.4	21.0	21.7
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	0	0	0	0	0.0	0.0	0.0
	15-19	15	8	0	23	159.6	89.8	125.7
	20-24	8	7	0	15	116.2	99.4	107.7
	25-29	2	3	0	5	26.7	35.6	31.4
	30-34	1	3	0	4	11.5	29.9	21.4
	>34	1	3	0	4	1.5	4.1	2.9
	Unknown	0	1	0	1			
	Total	27	25	0	52	20.2	17.8	19.0
New Laboratories	<1	0	0	0	0			
	1-9	0	0	0	0			
	10-14	4	0	0	4			
	15-19	36	21	1	58			
	20-24	27	21	0	48			
	25-29	4	13	0	17			
	30-34	2	5	0	7			
	>34	3	11	0	14			
	Unknown	3	2	1	6			
	Total	79	73	2	154			

Gonorrhoea trends: Auckland, Waikato and BOP Regions

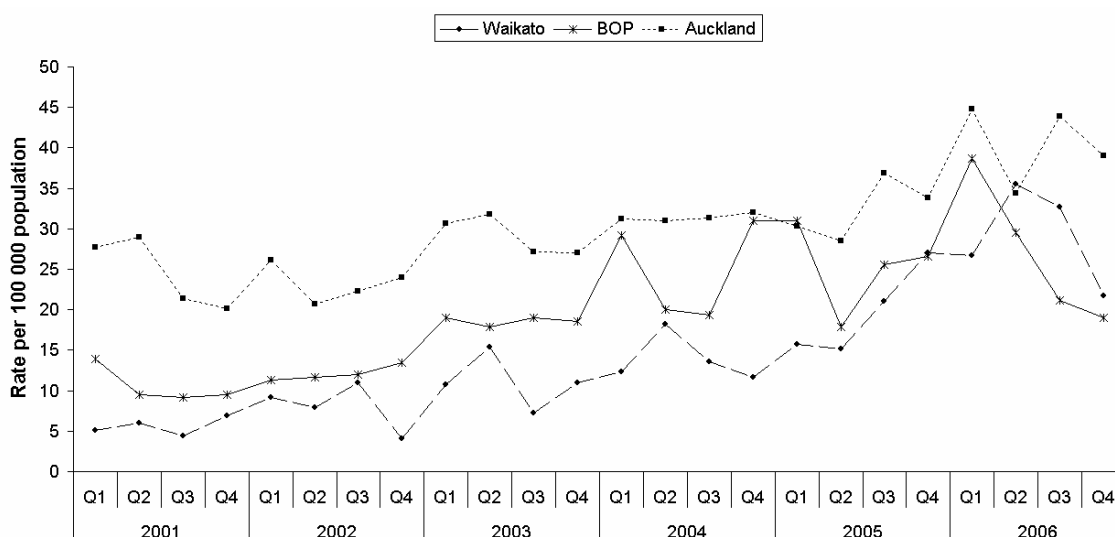
In the fourth quarter of 2006, a total of 411 cases of gonorrhoea were reported. This represents a rate of 30.8 per 100 000 population (Auckland: 39.0 per 100 000; Waikato: 21.7 per 100 000; BOP: 19.0 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses decreased by 11.0% in the Auckland region, 33.7% in the Waikato region and 10.3 % in the BOP region. Gonorrhoea rates by quarter since January 2001 are shown in Figure 2.

Gonorrhoea cases reported in this quarter increased by 0.2% on the total of 410 in the equivalent quarter of 2005. The largest increase (15.5%) was seen in the Auckland region (251 in Quarter 4 2005, compared to 290 in Quarter 4 2006).

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 2001 to December 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
- Kapiti Southern Community Laboratory, Capital and Coast (closed as of October 2006)
- 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
- 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