

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

January to March 2009

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by

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**This report is available on the Internet 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 first quarter (January to March) 2009 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 6th May 2009. 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.

Data submitted from newly participating laboratories is presented as the number of test-positive reported cases by age and sex. This is because laboratory coverage has historically been incomplete for many other regions which prevents robust calculation of population rates. Many DHBs now have all their laboratories providing data and therefore, it may be possible to provide population rates for these other DHBs in the near future. Historical data for trend analysis will not be available.

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.
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<u>Waikato region</u>	Includes Waikato DHB.
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<u>BOP region</u>	Includes BOP DHB and Lakes DHB.
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Data completeness

Chlamydia data

Thirty-eight laboratories provide chlamydia data for STI surveillance. All 38 laboratories submitted chlamydia data for the first quarter (January to March) 2009.

Gonorrhoea data

Thirty-two laboratories provide gonorrhoea data for STI surveillance. All 32 laboratories submitted gonorrhoea data for the first quarter (January to March) 2009.

Of all test-positive data submitted 1.4% were of unknown age and 0.3% were of unknown sex.

Chlamydia Results – January to March, 2009

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 37 406 specimens for chlamydia, of which 2 525 (6.8%) specimens tested positive from 2 399 patients.
- Sixty-five percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia 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 1)

- Laboratories in the Waikato region tested 7 366 specimens for chlamydia, of which 779 (10.6%) specimens tested positive from 779 patients.
- Seventy-six percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia 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 1)

- Laboratories in the BOP region tested 7 789 specimens for chlamydia, of which 886 (11.4%) specimens tested positive from 884 patients.
- Seventy-seven percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia 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 1)

- New laboratories reported 3 065 (11.8%) test-positive specimens for chlamydia from 2 870 patients.
- Seventy-five percent of all positive patients were aged 15 to 24 years.
- The highest number of chlamydia cases was found in the 15 to 19 years age group for females and 20 to 24 years age group for males.

Data tables: Chlamydia Incidence, January to March, 2009

Table 1. Number of test-positive cases and rates of chlamydia, age group and sex:
January to March 2009

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	10	10	0	20	103.0	98.1	100.5
	1-9	2	0	0	2	2.4	0.0	1.2
	10-14	20	2	0	22	40.7	3.9	21.8
	15-19	628	142	2	772	1266.2	279.6	769.0
	20-24	584	194	3	781	1155.9	394.5	783.5
	25-29	296	121	0	417	627.3	279.4	460.8
	30-34	114	53	0	167	216.3	112.8	167.5
	35-39	61	40	0	101	108.8	79.4	94.9
	40+	56	59	0	115	20.2	23.4	21.7
	Unknown	1	1	0	2	-	-	-
	Total	1772	622	5	2399	261.9	96.8	181.8
Waikato	<1	3	3	0	6	121.8	118.8	120.3
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	21	0	0	21	158.8	0.0	76.6
	15-19	266	74	0	340	2061.1	562.7	1304.6
	20-24	180	74	0	254	1600.4	637.1	1111.0
	25-29	63	26	0	89	629.9	269.2	452.6
	30-34	26	14	0	40	229.9	137.2	185.9
	35-39	7	8	0	15	55.2	70.6	62.5
	40+	5	5	0	10	6.5	7.1	6.8
	Unknown	4	0	0	4	-	-	-
	Total	575	204	0	779	332.2	122.8	229.7
Bay of Plenty	<1	1	10	0	11	48.8	460.4	260.4
	1-9	0	4	0	4	0.0	19.8	10.2
	10-14	29	4	0	33	245.9	32.6	137.1
	15-19	393	44	1	438	3933.9	417.9	2134.5
	20-24	199	40	0	239	2733.1	549.8	1641.9
	25-29	60	21	0	81	771.0	292.6	541.4
	30-34	26	16	0	42	270.1	189.8	232.6
	35-39	10	2	0	12	90.7	21.0	58.3
	40+	16	8	0	24	22.2	12.3	17.5
	Unknown	0	0	0	0	-	-	-
	Total	734	149	1	884	487.5	104.4	301.4
New Laboratories	<1	4	5	0	9			
	1-9	1	0	1	2			
	10-14	49	4	0	53			
	15-19	1098	235	4	1337			
	20-24	587	239	0	826			
	25-29	195	92	0	287			
	30-34	78	49	0	127			
	35-39	37	24	1	62			
	40+	40	28	0	68			
	Unknown	48	45	6	99			
	Total	2137	721	12	2870			

Chlamydia trends: Auckland, Waikato and BOP Regions

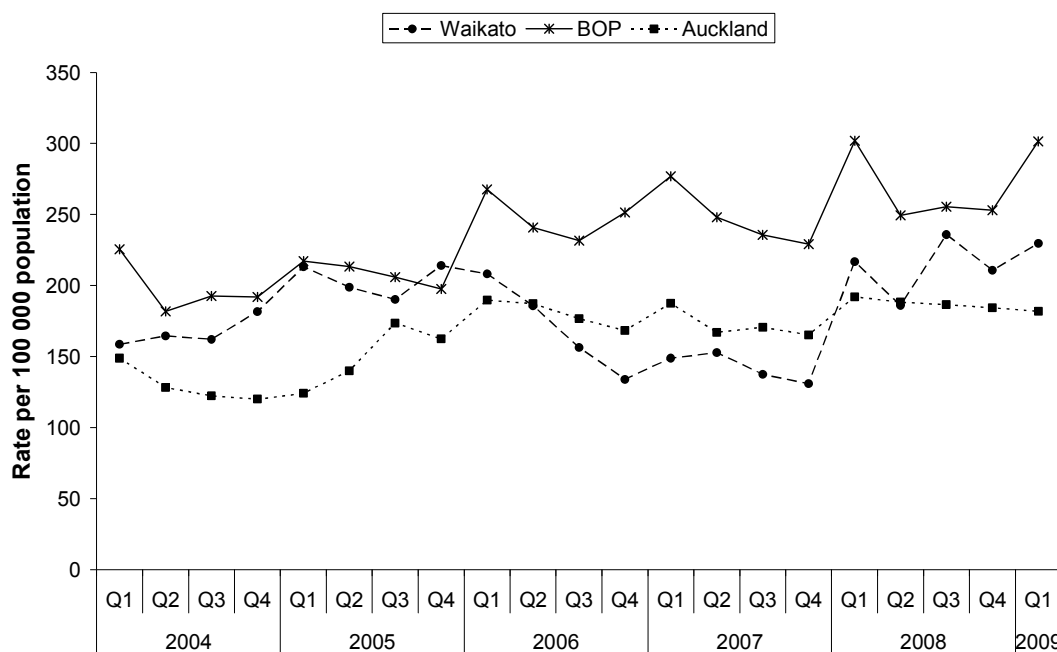
In the first quarter of 2009, a total of 4 062 cases of chlamydia were reported. This represents a rate of 208.1 per 100 000 population (Auckland: 181.8 per 100 000; Waikato: 229.7 per 100 000; BOP: 301.5 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses decreased by 1.4% in the Auckland region and increased by 9.0% in the Waikato region and 19.1% in the BOP region. Chlamydia rates by quarter since January 2004 are shown in Figure 1.

Chlamydia cases reported in this quarter decreased by 2.2% on the total of 4 154 in the equivalent quarter of 2008. The largest decrease (5.3%) was seen in the Auckland region (2 534 in Quarter 1 2008, compared to 2 399 in Quarter 1 2009).

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

Figure 1. Rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2004 to March 2009



Gonorrhoea Results – January to March, 2009

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 52 796 specimens for gonorrhoea, of which 520 (1.0%) specimens tested positive from 253 patients.
- Fifty-six 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 5 118 specimens for gonorrhoea, of which 57 (1.1%) specimens tested positive from 57 patients.
- Seventy-five 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.

Bay of Plenty Region (see table 2)

- Laboratories in the BOP region tested 4 914 specimens for gonorrhoea, of which 58 (1.2%) specimens tested positive from 55 patients.
- Eighty 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 428 (1.2%) test-positive specimens for gonorrhoea from 379 patients.
- Sixty-nine 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, January to March, 2009

Table 2. Number of test-positive cases and rates of gonorrhoea, age group and sex:
January to March 2009

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	3	1	1	5	46.7	14.9	38.1
	1-9	0	1	0	1	0.0	1.8	0.9
	10-14	0	0	0	0	0.0	0.0	0.0
	15-19	34	33	0	67	106.5	101.9	104.2
	20-24	24	51	0	75	68.7	153.8	110.2
	25-29	19	33	0	52	58.6	111.6	83.9
	30-34	5	14	0	19	14.5	45.5	29.1
	35-39	3	13	0	16	8.5	41.1	24.0
	40+	3	15	0	18	1.8	9.7	5.6
	Unknown	0	0	0	0	-	-	-
	Total	91	161	1	253	21.2	39.4	30.2
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	7.6	0.0	3.6
	15-19	14	13	0	27	108.5	98.8	103.6
	20-24	7	9	0	16	62.2	77.5	70.0
	25-29	2	5	0	7	20.0	51.8	35.6
	30-34	1	2	0	3	8.8	19.6	13.9
	35-39	1	2	0	3	7.9	17.7	12.5
	40+	0	0	0	0	0.0	0.0	0.0
	Unknown	0	0	0	0	-	-	-
	Total	26	31	0	57	15.0	18.7	16.8
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	0	0	0	0	0.0	0.0	0.0
	15-19	15	13	1	29	150.2	123.5	141.3
	20-24	7	8	0	15	96.1	110.0	103.1
	25-29	3	3	0	6	38.6	41.8	40.1
	30-34	1	1	0	2	10.4	11.9	11.1
	35-39	0	0	0	0	0.0	0.0	0.0
	40+	0	2	0	2	0.0	3.1	1.5
	Unknown	0	0	1	1	-	-	-
	Total	26	27	2	55	17.3	18.9	18.8
New Laboratories	<1	0	0	0	0			
	1-9	0	0	0	0			
	10-14	3	2	0	5			
	15-19	65	58	0	123			
	20-24	57	80	1	138			
	25-29	21	31	1	53			
	30-34	12	13	0	25			
	35-39	6	12	0	18			
	40+	5	10	0	15			
	Unknown	0	2	0	2			
	Total	169	208	2	379			

Gonorrhoea trends: Auckland, Waikato and BOP Regions

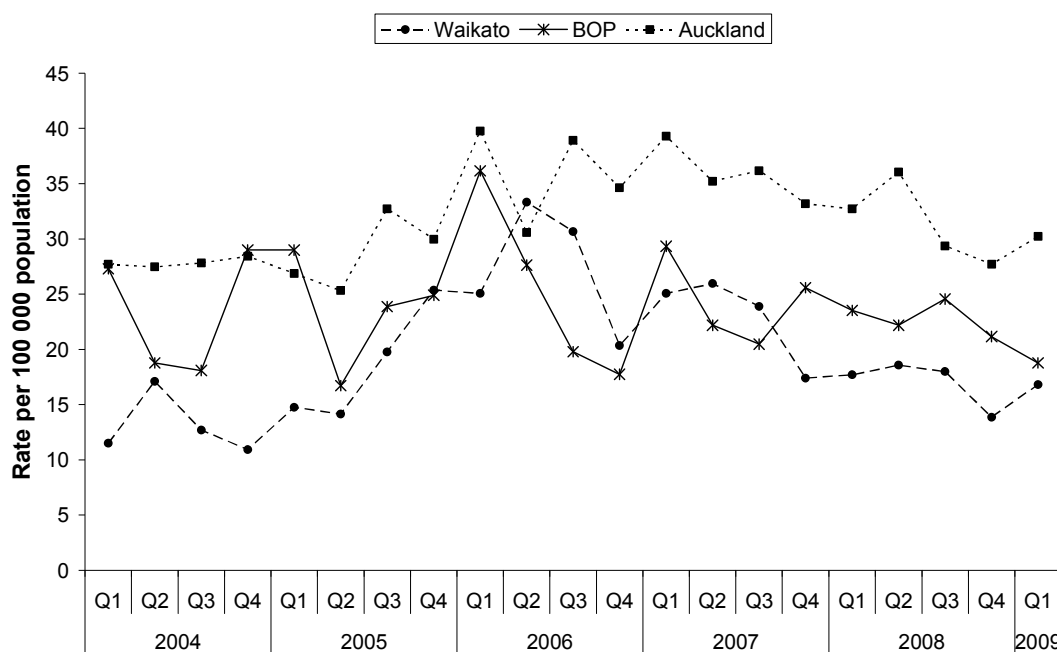
In the first quarter of 2009, a total of 365 cases of gonorrhoea were reported. This represents a rate of 24.8 per 100 000 population (Auckland: 30.2 per 100 000; Waikato: 16.8 per 100 000; BOP: 18.8 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses increased by 9.1% in the Auckland region and 21.3% in Waikato region. BOP region had a decrease of 11.3%. Gonorrhoea rates by quarter since January 2004 are shown in Figure 2.

Gonorrhoea cases reported in this quarter decreased by 9.4% on the total of 403 in the equivalent quarter of 2008. The largest decrease (20.3%) was seen in the BOP region (69 in Quarter 1 2008, compared to 55 in Quarter 1 2009).

The rate of gonorrhoea in the Auckland region was significantly higher than the BOP and Waikato regions. However 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 2004 to March 2009



Appendix A

STI surveillance data is received from the following laboratories:

- Kaitaia Hospital Laboratory, Northland (Chlamydia only)
- Bay of Islands Hospital Laboratory, Northland (Chlamydia only)
- Northland Pathology Laboratory, Northland
- Whangarei Hospital Laboratory, Northland (Chlamydia only)
- Dargaville Hospital Laboratory, Northland (Chlamydia only)
- North Shore Hospital Laboratory, Waitemata (Chlamydia only)
- LabPlus, Auckland
- Diagnostic Medlab, Auckland
- Middlemore Hospital Laboratory, Counties-Manukau
- Medlab Hamilton, Waikato
- Pathlab Waikato, Waikato
- Thames Hospital, Waikato (Chlamydia only)
- Waikato Hospital Laboratory, Waikato
- Tokoroa Hospital, Waikato (Chlamydia only)
- Te Kuiti Hospital, Waikato
- Taumarunui Hospital, Waikato (Chlamydia only)
- Rotorua Diagnostic Laboratory, Lakes
- Rotorua Hospital Laboratory, Lakes
- Taupo Southern Community Laboratory, Lakes
- Pathlab Bay of Plenty, Bay of Plenty
- Whakatane Hospital Laboratory, Bay of Plenty
- Gisborne Hospital Laboratory, Tairāwhiti
- Taranaki MedLab, Taranaki
- Hawke's Bay Hospital, Hawke's Bay
- Hawke's Bay Southern Community Laboratory, Hawke's Bay
- Medlab Whanganui, Whanganui
- Medlab Central, MidCentral
- Hutt Hospital Laboratory, Hutt Valley
- Aotea Pathology, Capital & Coast (Gonorrhoea only)
- Grey Hospital Laboratory, West Coast
- Canterbury Health Laboratories, Canterbury (Gonorrhoea only)
- Christchurch Southern Community Laboratory, Canterbury
- Ashburton Southern Community Laboratory, Canterbury
- Oamaru Southern Community Laboratory, Otago
- Dunstan Southern Community Laboratory, Otago
- Otago Southern Community Laboratory, Otago
- Balclutha Southern Community Laboratory, Otago
- Queenstown Southern Community Laboratory, Southland
- Gore Southern Community Laboratories, Southland
- Invercargill Southern Community Laboratory, Southland