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

July to September 2008

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by

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**This report is available on the Internet at www.surv.esr.cri.nz
Ad Hoc STI data requests may be emailed to survqueries@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 third quarter (July to September) 2008 from thirty-nine 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 12th November 2008. 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.

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.

Auckland region 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.

Waikato region Includes Waikato DHB.

BOP region Includes BOP DHB and Lakes DHB.

Data completeness

Chlamydia data

Thirty-seven laboratories provide chlamydia data for STI surveillance. All 37 laboratories submitted chlamydia data for the third quarter (July to September) 2008.

Gonorrhoea data

Thirty-two laboratories provide gonorrhoea data for STI surveillance. All 32 laboratories submitted gonorrhoea data for the third quarter (July to September) 2008.

Of all test-positive data submitted 1.1% were of unknown age and 0.2% were of unknown sex.

Chlamydia Results – July to September, 2008

Chlamydia Incidence

Auckland Region (see table 1)

- Laboratories in the Auckland region tested 38 747 specimens for chlamydia, of which 2 597 (6.7%) specimens tested positive from 2 460 patients.
- Sixty-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.

Waikato region (see table 1)

- Laboratories in the Waikato region tested 7 326 specimens for chlamydia, of which 800 (10.9%) specimens tested positive from 800 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.

Bay of Plenty Region (see table 1)

- Laboratories in the BOP region tested 7 389 specimens for chlamydia, of which 750 (10.2%) specimens tested positive from 749 patients.
- Eighty 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 2 368 (10.6%) test-positive specimens for chlamydia from 2 249 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, July to September, 2008

Table 1. Number of test-positive cases and rates of chlamydia, age group and sex: July to September 2008

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	13	9	0	22	133.9	88.3	110.6
	1-9	4	0	0	4	4.8	0.0	2.3
	10-14	19	3	0	22	38.7	5.8	21.8
	15-19	658	145	1	804	1 326.6	285.5	800.9
	20-24	636	202	0	838	1 258.8	410.8	840.6
	25-29	281	107	0	388	595.5	247.0	428.7
	30-34	121	63	0	184	229.6	134.1	184.6
	35-39	48	34	0	82	85.6	67.5	77.0
	40+	61	53	0	114	22.0	21.0	21.5
	Unknown	1	0	1	2	-	-	-
	Total		1 842	616	2	2 460	272.2	95.9
Waikato	<1	2	0	0	2	81.2	0.0	40.1
	1-9	2	0	0	2	9.1	0.0	4.5
	10-14	16	0	0	16	121.0	0.0	58.3
	15-19	284	74	0	358	2 200.5	562.7	1 373.7
	20-24	177	82	0	259	1 573.8	705.9	1 132.8
	25-29	55	30	0	85	549.9	310.6	432.3
	30-34	21	8	0	29	185.7	78.4	134.8
	35-39	19	9	0	28	149.8	79.5	116.6
	40+	13	8	0	21	16.8	11.3	14.2
	Unknown	0	0	0	0	-	-	-
	Total		589	211	0	800	340.3	127.0
Bay of Plenty	<1	3	1	0	4	146.4	46.0	94.7
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	19	2	0	21	161.1	16.3	87.3
	15-19	331	65	0	396	3 313.3	617.3	1 929.8
	20-24	151	49	1	201	2 073.9	673.5	1 380.9
	25-29	50	15	0	65	642.5	209.0	434.5
	30-34	17	8	0	25	176.6	94.9	138.5
	35-39	16	4	0	20	145.1	41.9	97.2
	40+	10	7	0	17	13.9	10.8	12.4
	Unknown	0	0	0	0	-	-	-
	Total		597	151	1	749	396.5	105.8
New Laboratories	<1	7	2	0	9			
	1-9	10	1	0	11			
	10-14	45	4	0	49			
	15-19	745	211	1	957			
	20-24	495	221	4	720			
	25-29	136	76	0	212			
	30-34	63	41	0	104			
	35-39	38	23	0	61			
	40+	24	31	0	55			
	Unknown	40	27	4	71			
	Total		1 603	637	9	2 249		

Chlamydia trends: Auckland, Waikato and BOP Regions

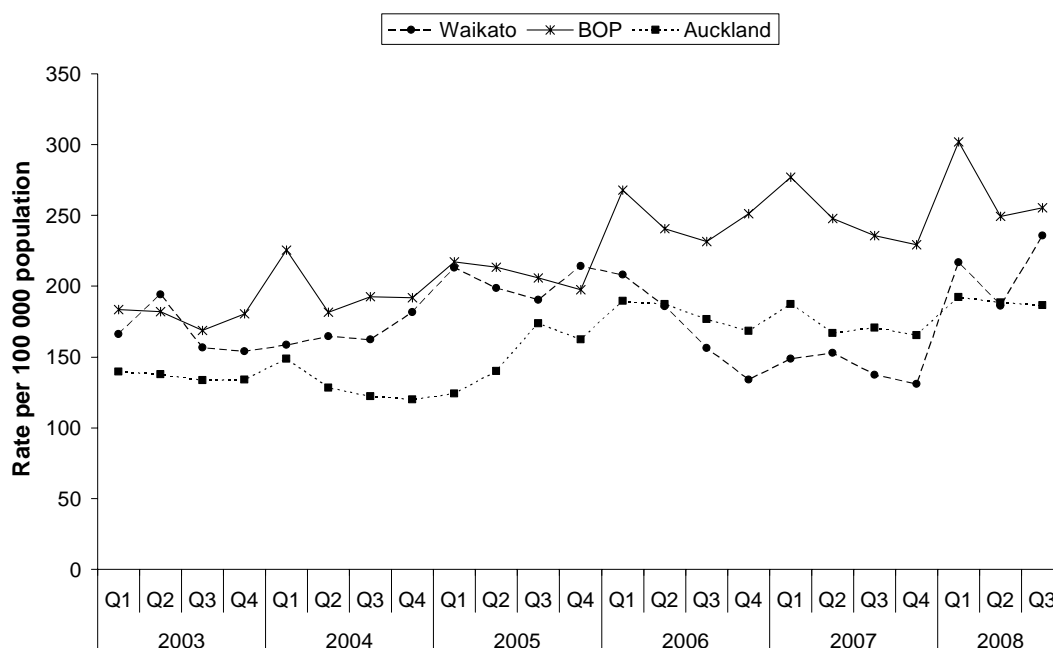
In the third quarter of 2008, a total of 4 009 cases of chlamydia were reported. This represents a rate of 205.4 per 100 000 population (Auckland: 186.5 per 100 000; Waikato: 235.9 per 100 000; BOP: 255.4 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses increased by 26.8% in the Waikato region and 2.5% in the BOP region. However the number of chlamydia diagnoses decreased by 1.0% in the Auckland region. Chlamydia rates by quarter since January 2003 are shown in Figure 1.

Chlamydia cases reported in this quarter increased by 17.6% on the total of 3 408 in the equivalent quarter of 2007. The largest increase (71.7%) was seen in the Waikato region (466 in Quarter 3 2007, compared to 800 in Quarter 3 2008).

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

Figure 1. Rate of chlamydia reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2003 to September 2008



Gonorrhoea Results – July to September, 2008

Gonorrhoea Incidence

Auckland Region (see table 2)

- Laboratories in the Auckland region tested 60 261 specimens for gonorrhoea, of which 519 (0.9%) specimens tested positive from 246 patients.
- Sixty-one 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 5 896 specimens for gonorrhoea, of which 63 (1.1%) specimens tested positive from 61 patients.
- Seventy-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.

Bay of Plenty Region (see table 2)

- Laboratories in the BOP region tested 4 734 specimens for gonorrhoea, of which 72 (1.5%) specimens tested positive from 72 patients.
- Seventy-four 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.

New laboratories (see table 2)

- New laboratories reported 355 (1.0%) test-positive specimens for gonorrhoea from 321 patients.
- Seventy percent of all positive patients were aged 15 to 24 years.
- The highest numbers of gonorrhoea in both females and males were found in the 15 to 19 years age group.

Data tables: Gonorrhoea Incidence, July to September, 2008

Table 2. Number of test-positive cases and rates of gonorrhoea, age group and sex: July to September 2008

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Female	Male	Unknown	Total	Female	Male	Total
Auckland	<1	3	0	0	3	46.7	0.0	22.9
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	0	1	0	1	0.0	3.0	1.6
	15-19	33	38	0	71	103.4	117.4	110.4
	20-24	28	50	0	78	80.2	150.8	114.6
	25-29	11	28	0	39	33.9	94.7	62.9
	30-34	7	15	0	22	20.3	48.7	33.7
	35-39	3	9	2	14	8.5	28.4	21.0
	40+	5	12	0	17	3.0	7.8	5.3
	Unknown	0	1	0	1	-	-	-
	Total		90	154	2	246	21.0	37.7
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	15	11	0	26	116.2	83.6	99.8
	20-24	7	11	0	18	62.2	94.7	78.7
	25-29	1	4	0	5	10.0	41.4	25.4
	30-34	2	2	0	4	17.7	19.6	18.6
	35-39	0	2	0	2	0.0	17.7	8.3
	40+	1	4	0	5	1.3	5.7	3.4
	Unknown	0	0	0	0	-	-	-
	Total		27	34	0	61	15.6	20.5
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	1	0	2	8.5	8.1	8.3
	15-19	10	16	0	26	100.1	151.9	126.7
	20-24	11	16	0	27	151.1	219.9	185.5
	25-29	3	4	0	7	38.6	55.7	46.8
	30-34	0	1	0	1	0.0	11.9	5.5
	35-39	0	3	0	3	0.0	31.4	14.6
	40+	1	4	0	5	1.4	6.1	3.6
	Unknown	0	1	0	1	-	-	-
	Total		26	46	0	72	17.3	32.2
New Laboratories	<1	1	0	0	1			
	1-9	0	0	0	0			
	10-14	3	3	0	6			
	15-19	69	55	0	124			
	20-24	50	50	0	100			
	25-29	21	26	0	47			
	30-34	5	12	0	17			
	35-39	4	7	0	11			
	40+	4	11	0	15			
	Unknown	0	0	0	0			
	Total		157	164	0	321		

Gonorrhoea trends: Auckland, Waikato and BOP Regions

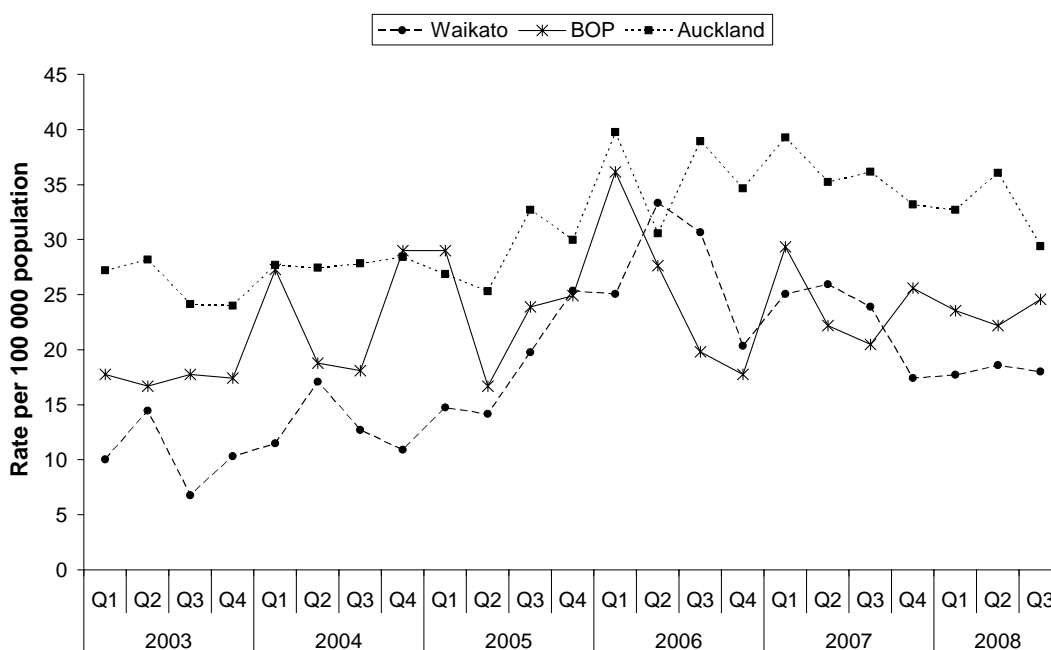
In the third quarter of 2008, a total of 379 cases of gonorrhoea were reported. This represents a rate of 25.8 per 100 000 population (Auckland: 29.4 per 100 000; Waikato: 18.0 per 100 000; BOP: 24.6 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses decreased by 18.5% in the Auckland region and 3.2% in the Waikato region. However, the number of gonorrhoea diagnoses increased by 10.8% in the BOP region. Gonorrhoea rates by quarter since January 2003 are shown in Figure 2.

Gonorrhoea cases reported in this quarter decreased by 14.6% on the total of 444 in the equivalent quarter of 2007. The largest decrease (24.7%) was seen in the Waikato region (81 in Quarter 3 2007, compared to 61 in Quarter 3 2008).

The rate of gonorrhoea in the Auckland region was significantly higher than the Waikato region. However there was no significant difference in the rate of gonorrhoea in the Auckland region compared to the BOP region or in the BOP region compared with the Waikato region.

Figure 2. Rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2003 to September 2008



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
- Waikato Hospital Laboratory, Waikato
- Medlab Hamilton, Waikato
- Pathlab Waikato, Waikato
- Thames Hospital, Waikato (Chlamydia only)
- Tokoroa Hospital, Waikato (Chlamydia only)
- Te Kuiti Hospital, Waikato
- Taumarunui Hospital, Waikato (Chlamydia only)
- Pathlab Bay of Plenty, Bay of Plenty
- Whakatane Hospital Laboratory, Bay of Plenty
- Rotorua Diagnostic Laboratory, Lakes
- Rotorua Hospital Laboratory, Lakes
- Taupo Southern Community Laboratory, Lakes
- Gisborne Hospital Laboratory, Tairāwhiti (Gonorrhoea only)
- Hawke's Bay Hospital, Hawke's Bay
- Hawke's Bay Southern Community Laboratory, Hawke's Bay
- Taranaki MedLab, Taranaki
- 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
- Otago Southern Community Laboratory, Otago
- Balclutha Southern Community Laboratory, Otago
- Dunstan Southern Community Laboratory, Otago
- Queenstown Southern Community Laboratory, Southland
- Gore Southern Community Laboratories, Southland
- Invercargill Southern Community Laboratory, Southland