

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

**April to June 2009**

Prepared as part of a Ministry of Health  
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by

STI Surveillance Team  
Population and Environmental Health Group  
Institute of Environmental Science & Research Ltd.

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Ad Hoc STI data requests may be emailed to [survqueries@esr.cri.nz](mailto: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 second quarter (April to June) 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](http://www.surv.esr.cri.nz).

*All results and analyses are based on data submitted prior to the 12<sup>th</sup> August 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-nine laboratories provide chlamydia data for STI surveillance. All 39 laboratories submitted chlamydia data for the first quarter (April to June) 2009.

#### **Gonorrhoea data**

Thirty-three laboratories provide gonorrhoea data for STI surveillance. All 33 laboratories submitted gonorrhoea data for the first quarter (April to June) 2009.

Of all test-positive data submitted 1.3% were of unknown age and 0.9% were of unknown sex.

## Chlamydia Results – April to June, 2009

### Chlamydia Incidence

#### *Auckland Region (see table 1)*

- Laboratories in the Auckland region tested 37 678 specimens for chlamydia, of which 2 708 (7.2%) specimens tested positive from 2 562 patients.
- Sixty-six percent of all positive patients were aged 15 to 24 years.
- The highest rates of chlamydia in both males and females were found in the 20 to 24 years age group.

#### *Waikato region (see table 1)*

- Laboratories in the Waikato region tested 7 379 specimens for chlamydia, of which 768 (10.4%) specimens tested positive from 768 patients.
- Seventy-five percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia was found in the 20 to 24 years age group for males and the 15 to 19 years age group for females.

#### *Bay of Plenty Region (see table 1)*

- Laboratories in the BOP region tested 7 816 specimens for chlamydia, of which 796 (10.2%) specimens tested positive from 796 patients.
- Seventy-four percent of all positive patients were aged 15 to 24 years.
- The highest rate of chlamydia was found in the 20 to 24 years age group for males and the 15 to 19 years age group for females.

#### *New laboratories (see table 1)*

- New laboratories reported 2 911 (10.8%) test-positive specimens for chlamydia from 2 755 patients.
- Seventy-six percent of all positive patients were aged 15 to 24 years.
- The highest number of chlamydia cases was found in the 20 to 24 years age group for males and the 15 to 19 years age group for females.

# Data tables: Chlamydia Incidence, April to June, 2009

**Table 1.** Number of test-positive cases and rates of chlamydia, age group and sex:  
April to June 2009

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Male	Female	Unknown	Total	Male	Female	Total
Auckland	<1	11	11	0	22	107.9	113.3	110.6
	1-9	1	3	0	4	1.1	3.6	2.3
	10-14	4	24	0	28	7.7	48.8	27.7
	15-19	130	657	0	787	256.0	1324.6	784.0
	20-24	223	683	0	906	453.5	1351.9	908.8
	25-29	128	278	1	407	295.5	589.1	449.7
	30-34	63	119	1	183	134.1	225.8	183.6
	35-39	41	76	0	117	81.4	135.5	109.9
	40+	52	56	0	108	20.6	20.2	20.4
	Unknown	0	0	0	0	-	-	-
	<b>Total</b>	653	1907	2	2562	101.6	281.8	194.2
Waikato	<1	2	2	0	4	79.2	81.2	80.2
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	2	7	0	9	14.1	52.9	32.8
	15-19	61	285	0	346	463.8	2208.3	1327.7
	20-24	62	170	0	232	533.7	1511.5	1014.7
	25-29	33	55	0	88	341.6	549.9	447.6
	30-34	16	29	0	45	156.8	256.4	209.1
	35-39	13	14	0	27	114.8	110.4	112.5
	40+	6	8	0	14	8.5	10.4	9.5
	Unknown	3	0	0	3	-	-	-
	<b>Total</b>	198	570	0	768	119.2	329.3	226.4
Bay of Plenty	<1	1	3	0	4	46.0	146.4	94.7
	1-9	0	0	0	0	0.0	0.0	0.0
	10-14	0	20	0	20	0.0	169.6	83.1
	15-19	42	328	0	370	398.9	3283.3	1803.1
	20-24	67	155	0	222	921.0	2128.8	1525.1
	25-29	24	69	1	94	334.4	886.7	628.3
	30-34	7	31	0	38	83.0	322.0	210.4
	35-39	8	14	0	22	83.8	126.9	106.9
	40+	12	8	0	20	18.4	11.1	14.6
	Unknown	0	1	5	6	-	-	-
	<b>Total</b>	161	629	6	796	112.8	417.8	271.4
New Laboratories	<1	3	6	1	10			
	1-9	1	4	0	5			
	10-14	4	39	1	44			
	15-19	212	973	24	1209			
	20-24	254	613	13	880			
	25-29	99	151	3	253			
	30-34	36	84	1	121			
	35-39	29	36	0	65			
	40+	41	41	2	84			
	Unknown	38	37	9	84			
	<b>Total</b>	717	1984	54	2755			

## Chlamydia trends: Auckland, Waikato and BOP Regions

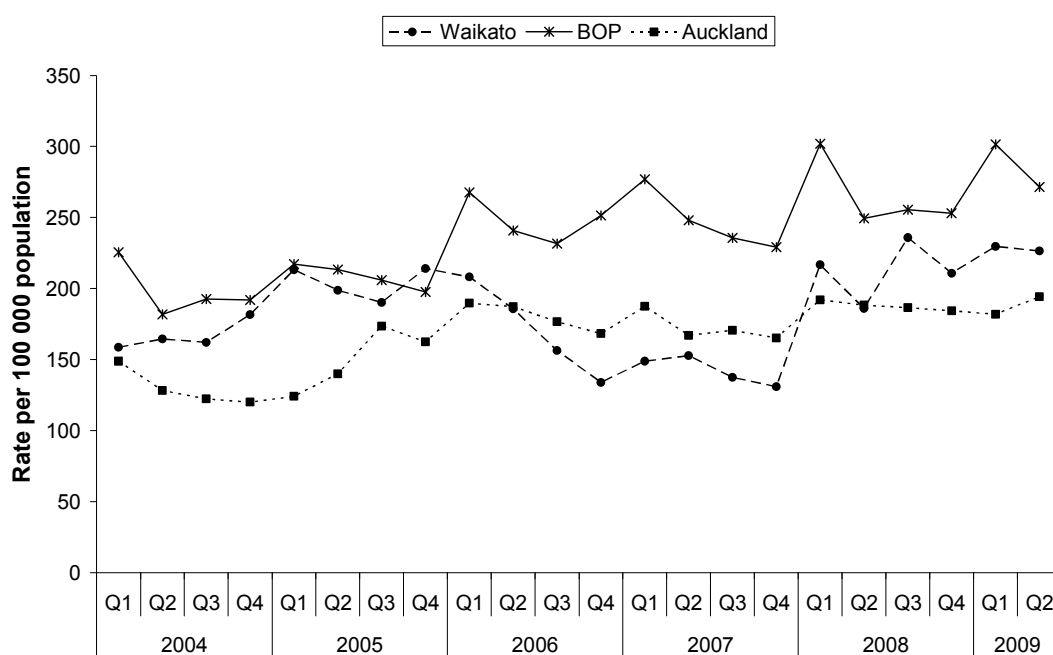
In the second quarter of 2009, a total of 4 126 cases of chlamydia were reported. This represents a rate of 211.4 per 100 000 population (Auckland: 194.2 per 100 000; Waikato: 226.4 per 100 000; BOP: 271.5 per 100 000).

Compared to the previous quarter, the number of chlamydia diagnoses increased by 6.8% in the Auckland region and decreased by 1.4% in the Waikato region and 10.0% in the BOP region. Chlamydia rates by quarter since January 2004 are shown in Figure 1.

Chlamydia cases reported in this quarter increased by 7.3% on the total of 3 846 in the equivalent quarter of 2008. The largest increase (21.7%) was seen in the Waikato region (631 in Quarter 2 2008, compared to 768 in Quarter 2 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 June 2009





## **Gonorrhoea Results – April to June, 2009**

### **Gonorrhoea Incidence**

#### ***Auckland Region (see table 2)***

- Laboratories in the Auckland region tested 52 356 specimens for gonorrhoea, of which 481 (0.9%) specimens tested positive from 247 patients.
- Fifty-three percent of all positive patients were aged 15 to 24 years.
- The highest rates of gonorrhoea in both males and females were found in the 20 to 24 years age group.

#### ***Waikato region (see table 2)***

- Laboratories in the Waikato region tested 5 961 specimens for gonorrhoea, of which 45 (0.8%) specimens tested positive from 44 patients.
- Seventy percent of all positive patients were aged 15 to 24 years.
- The highest rates of gonorrhoea in both males and females were found in the 15 to 19 years age group.

#### ***Bay of Plenty Region (see table 2)***

- Laboratories in the BOP region tested 4 709 specimens for gonorrhoea, of which 63 (1.3%) specimens tested positive from 63 patients.
- Eighty-seven percent of all positive patients were aged 15 to 24 years.
- The highest rates of gonorrhoea in both males and females were found in the 20 to 24 years age group.

#### ***New laboratories (see table 2)***

- New laboratories reported 417 (1.2%) test-positive specimens for gonorrhoea from 352 patients.
- Seventy-two percent of all positive patients were aged 15 to 24 years.
- The highest number of gonorrhoea cases was found in the 20 to 24 years age group for males and the 15 to 19 years age group for females.

# Data tables: Gonorrhoea Incidence, April to June, 2009

**Table 2.** Number of test-positive cases and rates of gonorrhoea, age group and sex:  
April to June 2009

Region	Age group (Yrs)	Number of test-positive cases				Rate per 100 000		
		Male	Female	Unknown	Total	Male	Female	Total
Auckland	<1	0	0	0	0	0.0	0.0	0.0
	1-9	0	2	0	2	0.0	3.7	1.8
	10-14	0	0	0	0	0.0	0.0	0.0
	15-19	25	30	0	55	77.2	94.0	85.5
	20-24	43	34	0	77	129.7	97.4	113.1
	25-29	36	6	0	42	121.8	18.5	67.7
	30-34	21	9	0	30	68.2	26.1	46.0
	35-39	13	7	0	20	41.1	19.9	30.0
	40+	15	5	0	20	9.7	3.0	6.2
	Unknown	0	1	0	1	-	-	-
	<b>Total</b>	153	94	0	247	37.5	21.9	29.5
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	0	1	0	1	0.0	7.6	3.6
	15-19	11	8	0	19	83.6	62.0	72.9
	20-24	7	4	1	12	60.3	35.6	52.5
	25-29	4	1	0	5	41.4	10.0	25.4
	30-34	1	3	0	4	9.8	26.5	18.6
	35-39	1	2	0	3	8.8	15.8	12.5
	40+	0	0	0	0	0.0	0.0	0.0
	Unknown	0	0	0	0	-	-	-
	<b>Total</b>	24	19	1	44	14.4	11.0	13.0
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	8.1	8.5	8.3
	15-19	1	9	0	10	9.5	90.1	48.7
	20-24	16	10	0	26	219.9	137.3	178.6
	25-29	10	3	0	13	139.4	38.6	86.9
	30-34	1	4	0	5	11.9	41.5	27.7
	35-39	2	1	0	3	21.0	9.1	14.6
	40+	3	0	0	3	4.6	0.0	2.2
	Unknown	0	1	0	1	-	-	-
	<b>Total</b>	34	29	0	63	23.8	19.3	21.5
New Laboratories	<1	0	0	0	0			
	1-9	0	0	0	0			
	10-14	1	2	0	3			
	15-19	53	74	4	131			
	20-24	67	55	2	124			
	25-29	30	15	0	45			
	30-34	19	9	0	28			
	35-39	11	1	0	12			
	40+	5	0	0	5			
	Unknown	1	1	2	4			
	<b>Total</b>	187	157	8	352			

### Gonorrhoea trends: Auckland, Waikato and BOP Regions

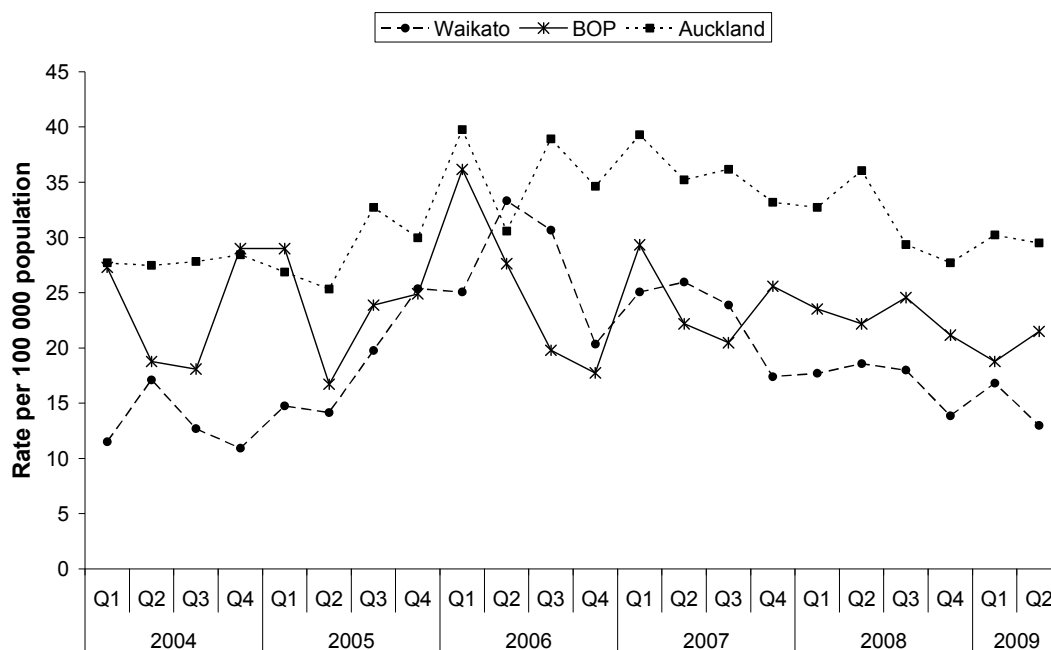
In the second quarter of 2009, a total of 354 cases of gonorrhoea were reported. This represents a rate of 24.1 per 100 000 population (Auckland: 29.5 per 100 000; Waikato: 13.0 per 100 000; BOP: 21.5 per 100 000).

Compared to the previous quarter, the number of gonorrhoea diagnoses increased by 2.4% in the Auckland region and 22.8% in Waikato region. BOP region had a decrease of 14.5%. Gonorrhoea rates by quarter since January 2004 are shown in Figure 2.

Gonorrhoea cases reported in this quarter decreased by 17.7% on the total of 430 in the equivalent quarter of 2008. The largest decrease (30.2%) was seen in the Waikato region (63 in Quarter 2 2008, compared to 44 in Quarter 2 2009).

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

**Figure 2.** Rate of gonorrhoea reported through laboratory surveillance in the Auckland, Waikato and BOP regions: January 2004 to June 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)
- Medlab Wairarapa, Wairarapa
- Grey Hospital Laboratory, West Coast
- Canterbury Health Laboratories, Canterbury
- 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