

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

**July to September 2009**

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.

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## **Acknowledgements**

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**This report is available on the Internet at [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz)  
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## Introduction

In New Zealand, sexually transmitted infections (STIs) are not notifiable therefore 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) 2009 from forty-one 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 9<sup>th</sup> November 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 (see Appendix A and B) report anonymised data on laboratory-confirmed cases of chlamydia and gonorrhoea, by age and sex. 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). These rates have been annualised. Population data are Statistics New Zealand mid-year population estimates for Territorial Authorities in New Zealand. In contrast to reports prepared prior to July to September 2009, STI rates are not presented by the region.

The selection criteria for reporting a DHB is that all laboratories servicing that DHB participate in the surveillance programme (unless the missing laboratory(ies) is a hospital laboratory, and therefore presumed to undertake only small proportion of the DHB's STI testing). If a community laboratory undertakes testing for more than one DHB then those DHBs are reported together i.e. Auckland, Waitemata, and Counties Manukau DHBs (Diagnostic Medlab/Labtests), and Hutt Valley and Capital Coast DHBs (Aotea Pathology).

### *Data completeness*

**Chlamydia data:** Forty laboratories provide chlamydia data for STI surveillance. All 40 laboratories submitted chlamydia data for the third quarter (July to September) 2009. The DHBs that met the inclusion criteria this quarter were Northland, Waitemata, Auckland, Counties Manukau, Waikato, Lakes, Bay of Plenty, Tairāwhiti, Taranaki, Hawke's Bay, Whanganui, MidCentral, Wairarapa, West Coast, Otago and Southland. Excluded DHBs were Hutt, Capital & Coast, Nelson Marlborough, Canterbury and South Canterbury.

**Gonorrhoea data:** Thirty-three laboratories provide gonorrhoea data for STI surveillance. Thirty-two laboratories submitted gonorrhoea data for the third quarter (July to September) 2009. The DHBs that met the inclusion criteria this quarter were Northland, Waitemata, Auckland, Counties Manukau, Waikato, Lakes, Bay of Plenty, Tairāwhiti, Taranaki, Hawke's Bay, Whanganui, MidCentral, Wairarapa, West Coast, Otago and Southland. Excluded DHBs were Hutt, Capital & Coast, Nelson Marlborough, Canterbury and South Canterbury.

Of all test-positive data submitted, 1.1% were of unknown age and 0.1% were of unknown sex.

# Chlamydia Results – July to September, 2009

## Chlamydia Incidence

Table 1 presents the number of specimens tested, percentage of specimens that were positive, number of test-positive cases and annualised rates of chlamydia by DHB and sex. Annualised chlamydia rates by DHB are shown in Figure 1.

Laboratories in the Auckland region (Auckland, Waitemata and Counties Manukau DHBs) tested the highest number of specimens for Chlamydia (35 794), of which 2 585 (7.2%) specimens tested positive from 2 463 patients. The highest percentage of specimens positive was reported for Northland DHB with 13.1% (2 881 specimens of which 377 tested positive from 377 patients).

In the third quarter of 2009, a total of 6 236 cases of chlamydia were reported from 16 DHBs meeting the inclusion criteria. This represents a national annualised rate of 791 per 100 000 population. The national annualised female rate (1 169 per 100 000 population) was almost three times the annualised male rate (396 per 100 000 population). The highest overall annualised rate of chlamydia was reported for Lakes DHB (1 132 per 100 000 population) followed by Hawke's Bay DHB (1 002 per 100 000 population).

Table 2 presents the number of test-positive cases and annualised rates of chlamydia by DHB and age group.

Seventy-two percent of all positive patients from the included DHBs were aged 15 to 24 years. The highest age-specific annualised rate of chlamydia occurred in the 20 to 24 years age group for males (2 036 per 100 000 population with 561 cases) and the 15 to 19 years age group for females (6 771 per 100 000 population with 2 008 cases).

Twenty-eight (15 male, 13 female) cases of chlamydia were reported for the less than one year age group. The highest number of chlamydia cases aged less than one year was observed from Auckland, Waitemata and Counties Manukau DHBs (a total of 11 male and 11 female cases). Annualised rates by DHB could not be calculated separately for this age group, as estimated population data was not available.

## Data tables and figures: Chlamydia Incidence

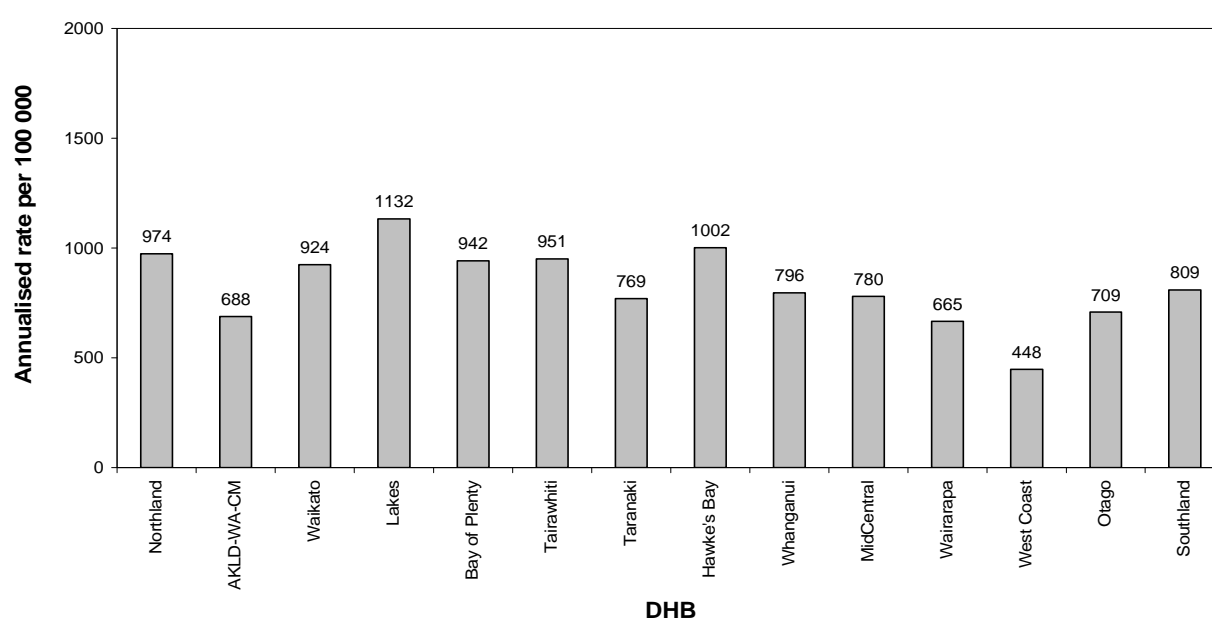
**Table 1. Number of specimens tested, percentage of specimens positive, number of test-positive cases and annualised rates of chlamydia by DHB and sex: July to September 2009**

District Health Board	Specimens		Number of test-positive cases				Annualised rate per 100 000		
	No. tested	% positive	Male	Female	Unknown	Total	Male	Female	Total
Northland	2881	13.1	87	290	0	377	457	1475	974
Auckland/Waikato/ Counties Manukau	35794	7.2	611	1852	0	2463	348	1014	688
Waikato	7588	10.8	241	581	1	823	551	1284	924
Lakes	2637	11.1	61	230	0	291	485	1753	1132
Bay of Plenty	5169	9.3	96	383	4	483	385	1454	942
Tairāwhiti	1151	9.9	20	89	0	109	359	1512	951
Taranaki	2562	9.2	64	143	0	207	483	1047	769
Hawke's Bay	3193	12.0	83	299	0	382	447	1528	1002
Whanganui	1327	12.6	26	97	0	123	343	1230	796
MidCentral	2885	11.6	76	244	1	321	379	1154	780
Wairarapa	602	12.6	14	52	0	66	289	1025	665
West Coast	444	9.0	10	26	0	36	244	658	448
Otago	4937	6.7	99	231	1	331	434	968	709
Southland	2424	9.2	43	181	0	224	311	1307	809
Other <sup>1</sup>	3441	12.9	133	287	1	421	-	-	-
Total <sup>2</sup>	73594	8.8	1531	4698	7	6236	396	1169	791

<sup>1</sup> Data from other DHBs where inclusion criteria were not met

<sup>2</sup> Total number and denominator for annualised rate calculations only includes DHBs meeting the inclusion criteria

**Figure 1. Annualised rate of chlamydia by DHB: July to September 2009**



Key: AKLD-WA-CM: Auckland / Waitemata / Counties Manukau

**Table 2. Number of test-positive cases and annualised rates of chlamydia by DHB and age group: July to September 2009**

Age Group	0-4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40+		Unknown		Total	
District Health Board	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000
Northland	3	109	0	0	12	390	182	6445	111	5649	35	2128	12	621	5	203	17	89	0	—	377	974
AKLD-WA-CM	23	87	1	4	23	91	754	2730	842	3071	355	1319	201	793	124	440	138	94	2	—	2463	688
Waikato	0	0	0	0	16	238	358	5100	289	4738	94	1719	41	786	9	147	16	41	0	—	823	924
Lakes	2	100	0	0	9	440	135	6928	78	5333	35	2420	15	956	9	494	7	61	1	—	291	1132
Bay of Plenty	0	0	0	0	25	652	240	6458	122	4773	48	1882	19	686	11	320	14	56	4	—	483	942
Tairāwhiti	0	0	0	0	4	405	41	4457	41	6041	10	1713	6	941	2	263	2	40	3	—	109	951
Taranaki	0	0	0	0	4	203	75	3762	48	3176	8	561	5	327	4	219	2	15	61	—	207	769
Hawke's Bay	1	36	0	0	7	233	197	6983	107	5207	37	1937	10	464	7	273	16	88	0	—	382	1002
Whanganui	0	0	0	0	4	336	55	4622	31	3518	10	1333	6	762	3	308	4	53	10	—	123	796
MidCentral	1	35	0	0	4	136	129	3848	113	3685	41	1676	18	786	8	298	7	37	0	—	321	780
Wairarapa	0	0	0	0	2	285	29	4077	17	4060	5	1163	9	1895	3	474	1	19	0	—	66	665
West Coast	0	0	0	0	3	524	17	3112	13	3366	0	0	2	460	1	178	0	0	0	—	36	448
Otago	0	0	0	0	2	72	107	2635	162	3628	34	1251	10	389	5	167	11	50	0	—	331	709
Southland	0	0	1	57	2	107	92	5034	80	4776	23	1234	8	419	8	389	10	78	0	—	224	809
Other <sup>1</sup>	3	—	2	—	11	—	150	—	159	—	46	—	26	—	12	—	12	—	0	—	421	—
Total <sup>2</sup>	30	53	2	4	117	205	2411	3982	2054	3759	735	1455	362	729	199	349	245	70	81	—	6236	791

<sup>1</sup> Data from other DHBs where inclusion criteria was not met

<sup>2</sup> Total number and denominator for annualised rate calculations only includes DHBs meeting the inclusion criteria

AKLD-WA-CM: Auckland / Waitemata / Counties Manukau

Note: Annualised rates may not be valid where fewer than five cases have been notified.



## **Gonorrhoea Results – July to September, 2009**

### **Gonorrhoea Incidence**

Table 3 presents the number of specimens tested, percentage of specimens that were positive, number of test-positive cases and annualised rates of gonorrhoea by DHB and sex. Annualised gonorrhoea rates by DHB are shown in Figure 2.

Laboratories in the Auckland region (Auckland, Waitemata and Counties Manukau DHBs) tested the highest number of specimens for gonorrhoea (50 198), of which 386 (0.8%) specimens tested positive from 223 patients. The highest percentage of specimens positive was seen in Tairāwhiti DHB with 2.2% (1852 specimens of which 41 tested positive from 25 patients).

In the third quarter of 2009, a total of 460 cases of gonorrhoea were reported from 16 DHBs meeting the inclusion criteria. This represents a national annualised rate of 58 per 100 000 population. The national annualised male rate (63 per 100 000 population) was higher than the annualised female rate (54 per 100 000 population). The highest overall annualised rate of gonorrhoea was reported for Tairāwhiti DHB (218 per 100 000 population) followed by Lakes DHB (78 per 100 000 population).

Table 4 presents the number of test-positive cases and annualised rates of gonorrhoea by DHB and age group.

Sixty-two percent of all positive patients from the included DHBs were aged 15 to 24 years. The highest age-specific annualised rate of gonorrhoea occurred in the 20 to 24 years age group for males (246 per 100 000 population with 78 cases) and the 15 to 19 years age group for females (266 per 100 000 population with 89 cases).

No cases were reported for the less than one year age group.

## Data tables and figures: Gonorrhoea Incidence

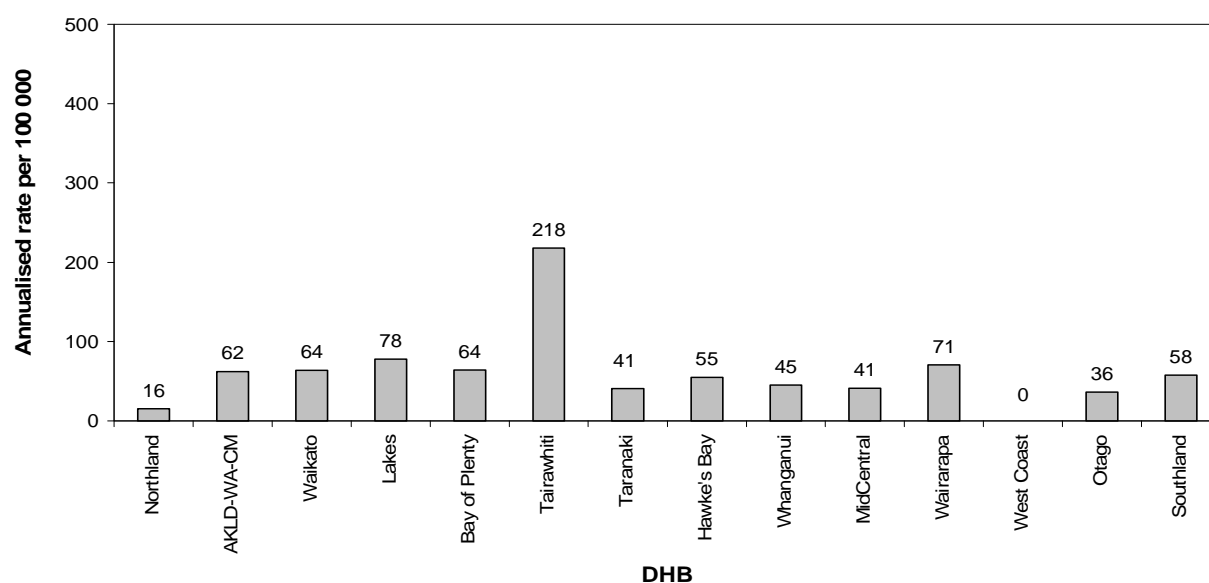
**Table 3. Number of specimens tested, percentage of specimens positive, number of test-positive cases and annualised rates of gonorrhoea by DHB and sex**

District Health Board	Specimens		Number of test-positive cases				Annualised rate per 100 000		
	No. tested	% positive	Male	Female	Unknown	Total	Male	Female	Total
Northland	2604	0.2	6	0	0	6	32	0	16
Auckland/Waikato/ Counties Manukau	50198	0.8	126	97	0	223	72	53	62
Waikato	6265	0.9	29	28	0	57	66	62	64
Lakes	1781	1.1	13	7	0	20	103	53	78
Bay of Plenty	3138	1.1	20	13	0	33	80	49	64
Tairāwhiti	1852	2.2	10	15	0	25	179	255	218
Taranaki	2206	0.8	3	8	0	11	23	59	41
Hawke's Bay	1573	1.5	8	13	0	21	43	66	55
Whanganui	1797	0.5	4	3	0	7	53	38	45
MidCentral	6393	0.4	8	9	0	17	40	43	41
Wairarapa	1083	1.0	1	6	0	7	21	118	71
West Coast	656	0.0	0	0	0	0	0	0	0
Otago	3134	0.7	8	9	0	17	35	38	36
Southland	1006	1.6	8	8	0	16	58	58	58
Other <sup>1</sup>	7105	1.2	53	28	0	81	-	-	-
Total <sup>2</sup>	83815	0.8	244	216	0	460	63	54	58

<sup>1</sup> Data from other DHBs where inclusion criteria was not met

<sup>2</sup> Total number and denominator for annualised rate calculations only includes DHBs meeting the inclusion criteria

**Figure 2. Annualised rate of gonorrhoea by DHB**



AKLD-WA-CM: Auckland / Waitemata / Counties Manukau

**Table 4. Number of test-positive cases and annualised rates of gonorrhoea by DHB and age group**

Age Group	0-4		5 to 9		10 to 14		15 to 19		20 to 24		25 to 29		30 to 34		35 to 39		40+		Unknown		Total	
District Health Board	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000	Cases	Rate per 100 000
Northland	0	0	0	0	0	0	1	35	3	153	2	122	0	0	0	0	0	0	0	-	6	16
AKLD-WA-CM	0	0	0	0	2	8	56	203	68	248	33	123	28	110	11	39	24	16	1	-	223	62
Waikato	0	0	0	0	2	30	20	285	22	361	8	146	3	57	1	16	1	3	0	-	57	64
Lakes	0	0	0	0	2	98	8	411	4	274	1	69	0	0	0	0	5	44	0	-	20	78
Bay of Plenty	0	0	0	0	0	0	9	242	10	391	6	235	5	181	2	58	1	4	0	-	33	64
Tairāwhiti	0	0	0	0	2	203	4	435	11	1621	4	685	3	471	1	131	0	0	0	-	25	218
Taranaki	0	0	0	0	0	0	6	301	2	132	2	140	0	0	1	55	0	0	0	-	11	41
Hawke's Bay	0	0	0	0	0	0	8	284	7	341	0	0	3	139	2	78	1	6	0	-	21	55
Whanganui	0	0	0	0	0	0	0	0	2	227	1	133	0	0	0	0	1	13	3	-	7	45
MidCentral	0	0	0	0	0	0	6	179	4	130	4	164	1	44	1	37	1	5	0	-	17	41
Wairarapa	0	0	0	0	0	0	4	562	1	239	2	465	0	0	0	0	0	0	0	-	7	71
West Coast	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	0	0
Otago	0	0	0	0	0	0	10	246	4	90	1	37	0	0	1	33	1	5	0	-	17	36
Southland	0	0	0	0	0	0	6	328	7	418	1	54	1	52	0	0	1	8	0	-	16	58
Other <sup>1</sup>	1	-	2	-	2	-	24	-	24	-	15	-	2	-	2	-	9	-	0	-	77	-
Total <sup>2</sup>	0	0	0	0	8	14	138	228	145	265	65	129	44	89	20	35	36	10	4	-	460	58

<sup>1</sup> Data from other DHBs where inclusion criteria were not met

<sup>2</sup> Total number and denominator for annualised rate calculations only includes DHBs meeting the inclusion criteria

AKLD-WA-CM: Auckland / Waitemata / Counties Manukau

Note: Annualised rates may not be valid where fewer than five cases have been notified.

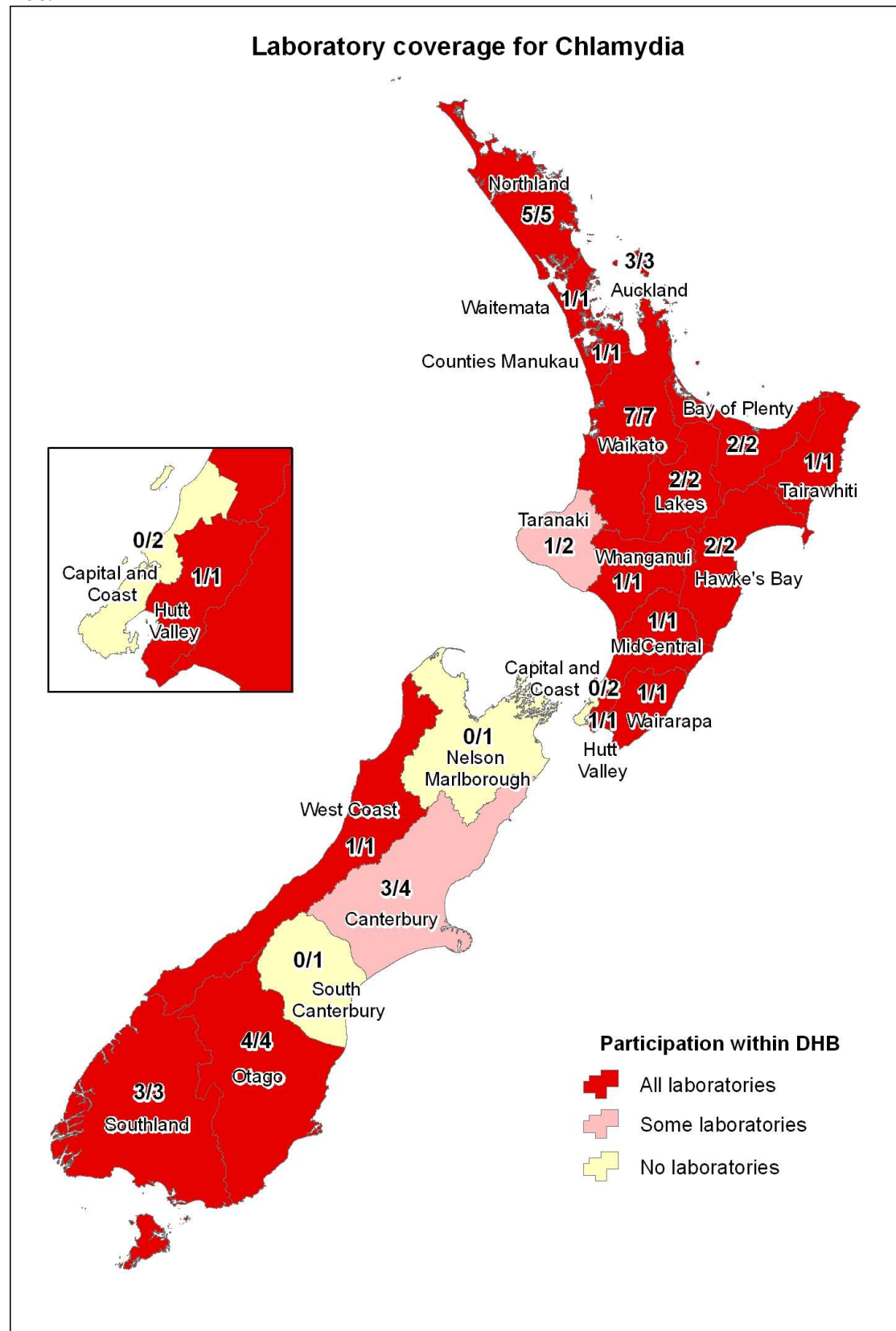
## Appendix A: List of Participating Laboratories

STI surveillance data is received from the following laboratories:

- Kaitia 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 (handover to Labtests began 10 August 2009)
- Labtests, Auckland (began supplying data from 10 August 2009)
- 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)
- Laboratory Services Rotorua, 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

## Appendix B: Maps - Laboratory Surveillance Coverage

Figure 3. Laboratory Surveillance Coverage for Chlamydia July to September 2009



**Figure 4. Laboratory Surveillance Coverage for Gonorrhoea July to September 2009**

