

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

October to December 2009

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by

STI Surveillance Team
Population and Environmental Health Group
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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 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 fourth quarter (October to December) 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 9th January 2010. 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 April to June 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 (Labtests), and Hutt Valley and Capital Coast DHBs (Aotea Pathology).

Data completeness

Chlamydia data: Thirty nine laboratories provide chlamydia data for STI surveillance. All 39 laboratories submitted chlamydia data for the fourth quarter (October to December) 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-two laboratories provide gonorrhoea data for STI surveillance. All 32 laboratories submitted gonorrhoea data for the fourth quarter (October to December) 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, Hutt, Capital & Coast, West Coast, Otago and Southland. Excluded DHBs were Nelson Marlborough, Canterbury and South Canterbury.

Of all test-positive patient data submitted, 1.0% were of unknown age and 0.2% were of unknown sex.

Chlamydia Results – October to December, 2009

Chlamydia Incidence

Table 1 presents the percentage of specimens tested for chlamydia 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.

In the fourth quarter of 2009, a total of 6 337 cases of chlamydia were reported from 16 DHBs meeting the inclusion criteria. This represents a national annualised rate of 804 per 100 000 population. The national annualised female rate (1 161 per 100 000 population) was almost three times the annualised male rate (429 per 100 000 population). The highest overall annualised rate of chlamydia was reported for Tairāwhiti DHB (1 273 per 100 000 population) followed by Hawke's Bay DHB (1 180 per 100 000 population).

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

Seventy 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 (2 076 per 100 000 population with 572 cases) and the 15 to 19 years age group for females (6 603 per 100 000 population with 1 958 cases).

Thirty-one (13 male, 18 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 10 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

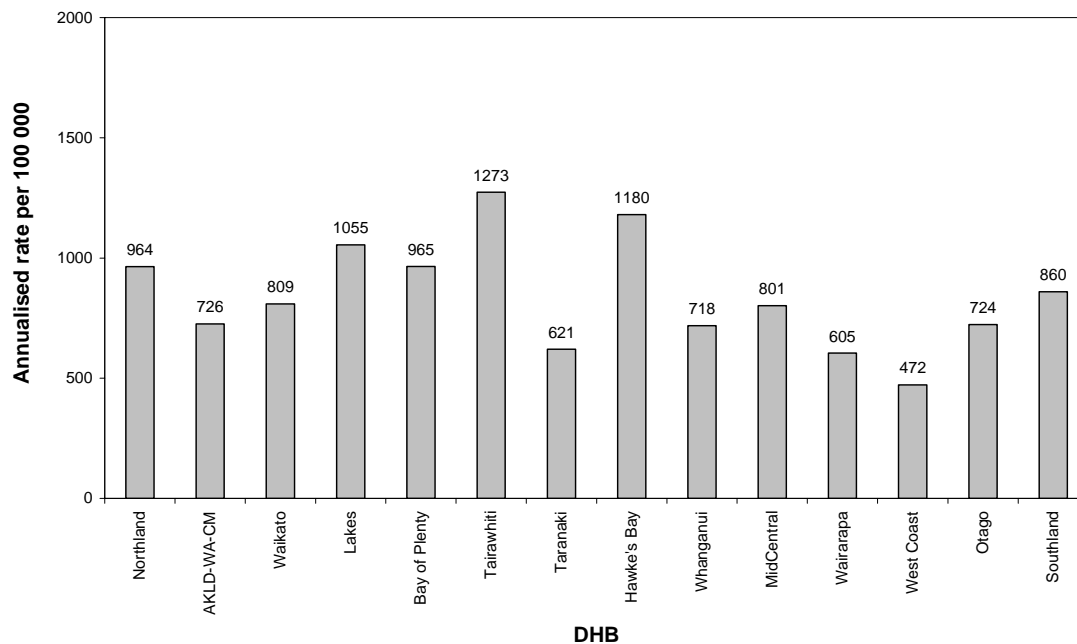
Table 1. Percentage of specimens tested positive, number of test-positive cases and annualised rates of chlamydia by DHB and sex: October to December 2009

District Health Board	Specimens tested positive (%)	Number of test-positive cases				Annualised rate per 100 000		
		Male	Female	Unknown	Total	Male	Female	Total
Northland	13.8	96	277	0	373	504	1409	964
Auckland/Waikato/Counties Manukau	8.0	677	1920	3	2600	386	1051	726
Waikato	10.4	226	494	0	720	516	1091	809
Lakes	11.3	56	214	1	271	445	1631	1055
Bay of Plenty	9.8	79	409	7	495	317	1553	965
Tairāwhiti	14.1	32	114	0	146	574	1936	1273
Taranaki	9.0	54	113	0	167	408	827	621
Hawke's Bay	14.8	120	329	1	450	646	1681	1180
Whanganui	13.3	24	87	0	111	317	1103	718
MidCentral	11.7	98	232	0	330	489	1097	801
Wairarapa	10.9	9	51	0	60	186	1005	605
West Coast	9.2	14	24	0	38	342	607	472
Otago	7.7	115	222	1	338	504	930	724
Southland	10.2	57	181	0	238	412	1307	860
Other ¹	13.6	136	290	0	426	-	-	-
Total ²	9.5	1657	4667	13	6337	429	1161	804

¹ Data from other DHBs where inclusion criteria were not met

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

Figure 1. Annualised rate of chlamydia by DHB: October to December 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: October to December 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	0	0	0	0	12	390	170	6020	117	5954	43	2614	16	828	8	324	7	37	0	-	373	964
AKLD-WA-CM	22	83	3	12	22	87	819	2966	859	3133	389	1446	217	856	111	393	154	105	4	-	2600	726
Waikato	2	30	0	0	11	164	288	4103	255	4180	82	1499	51	977	21	344	10	25	0	-	720	809
Lakes	1	50	0	0	12	586	96	4926	100	6838	28	1936	11	701	14	768	9	79	0	-	271	1055
Bay of Plenty	0	0	0	0	14	365	250	6727	133	5203	47	1843	21	758	14	407	12	48	4	-	495	965
Tairāwhiti	1	104	0	0	5	506	67	7283	45	6630	14	2398	7	1098	5	657	2	40	0	-	146	1273
Taranaki	4	215	0	0	2	102	46	2307	42	2779	18	1263	4	262	3	164	2	15	46	-	167	621
Hawke's Bay	1	36	1	36	20	665	190	6735	138	6715	38	1990	21	975	20	781	21	116	0	-	450	1180
Whanganui	0	0	0	0	0	0	43	3613	29	3291	17	2267	5	635	1	103	1	13	15	-	111	718
MidCentral	1	35	0	0	6	204	138	4116	115	3751	35	1431	15	655	7	261	13	69	0	-	330	801
Wairarapa	1	151	0	0	0	0	32	4499	21	5015	2	465	3	632	1	158	0	0	0	-	60	605
West Coast	0	0	0	0	1	175	18	3295	9	2330	6	1543	3	690	1	178	0	0	0	-	38	472
Otago	0	0	0	0	5	181	112	2759	144	3225	40	1472	17	662	7	234	12	55	1	-	338	724
Southland	1	52	0	0	6	322	100	5472	88	5254	31	1663	8	419	2	97	2	16	0	-	238	860
Other ¹	2	-	1	-	2	-	156	-	156	-	54	-	26	-	15	-	14	-	0	-	426	-
Total ²	34	60	4	7	116	203	2369	3913	2095	3835	790	1563	399	804	215	377	245	70	70	-	6337	804

¹ Data from other DHBs where inclusion criteria was not met

² 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 – October to December, 2009

Gonorrhoea Incidence

Table 3 presents the percentage of specimens tested for gonorrhoea 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.

In the fourth quarter of 2009, a total of 505 cases of gonorrhoea were reported from 18 DHBs meeting the inclusion criteria. This represents a national annualised rate of 56 per 100 000 population. The national annualised male rate (62 per 100 000 population) was higher than the annualised female rate (51 per 100 000 population). The highest overall annualised rate of gonorrhoea was reported for Tairāwhiti DHB (314 per 100 000 population) followed by Hawke's Bay DHB (123 per 100 000 population).

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

Sixty-one 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 (300 per 100 000 population with 95 cases) and the 15 to 19 years age group for females (260 per 100 000 population with 87 cases).

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

Data tables and figures: Gonorrhoea Incidence

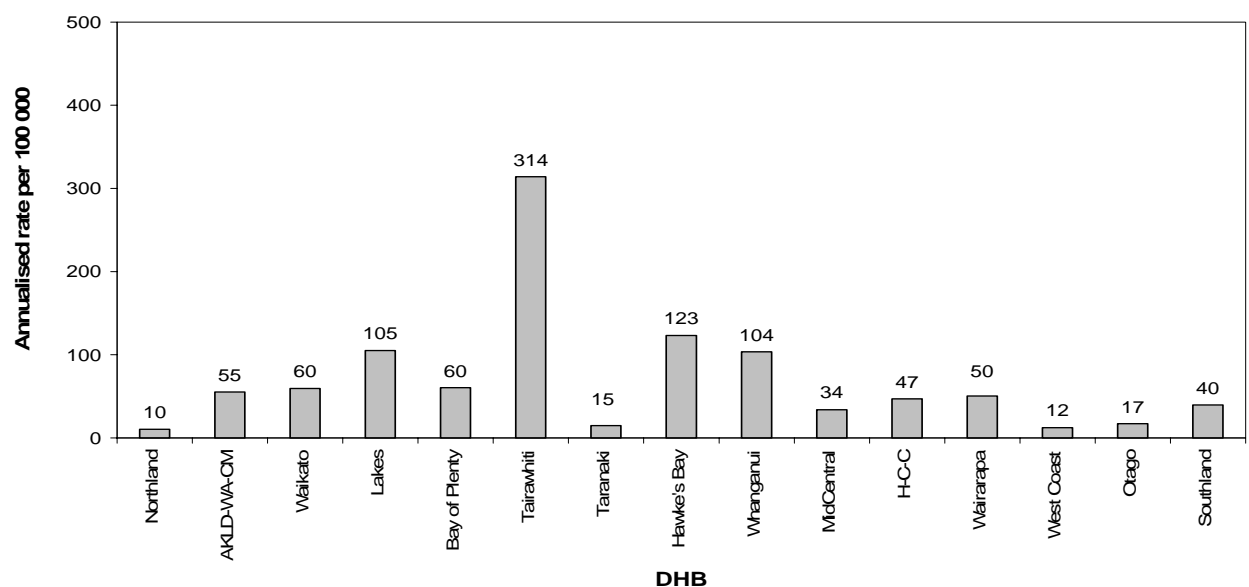
Table 3. Percentage of specimens tested positive, number of test-positive cases and annualised rates of gonorrhoea by DHB and sex: October to December 2009

District Health Board	Specimens tested positive (%)	Number of test-positive cases				Annualised rate per 100 000		
		Male	Female	Unknown	Total	Male	Female	Total
Northland	0.2	4	0	0	4	21	0	10
Auckland/Waikato/Counties Manukau	0.5	109	89	0	198	62	49	55
Waikato	0.9	31	22	0	53	71	49	60
Lakes	1.6	16	11	0	27	127	84	105
Bay of Plenty	1.0	13	18	0	31	52	68	60
Tairāwhiti	2.5	14	22	0	36	251	374	314
Taranaki	0.3	1	3	0	4	8	22	15
Hawke's Bay	4.4	23	24	0	47	124	123	123
Whanganui	1.0	12	4	0	16	159	51	104
MidCentral	0.3	7	7	0	14	35	33	34
Hutt/Capital & Coast	0.8	31	19	0	50	60	35	47
Wairarapa	0.5	3	2	0	5	62	39	50
West Coast	0.2	1	0	0	1	24	0	12
Otago	0.4	2	6	0	8	9	25	17
Southland	1.3	4	7	0	11	29	51	40
Other ¹	1.3	16	5	0	21	-	-	-
Total ²	0.7	271	234	0	505	62	51	56

¹ Data from other DHBs where inclusion criteria was not met

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

Figure 2. Annualised rate of gonorrhoea by DHB: October to December 2009



AKLD-WA-CM: Auckland / Waitemata / Counties Manukau and H-C-C: Hutt Valley/Capital & Coast

Table 4. Number of test-positive cases and annualised rates of gonorrhoea by DHB and age group: October to December 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		
	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	
District Health Board																							
Northland	0	0	0	0	0	0	2	71	1	51	0	0	1	52	0	0	0	0	0	-	4	10	
AKLD-WA-CM	1	4	1	4	1	4	51	185	67	244	34	126	16	63	11	39	16	11	0	-	198	55	
Waikato	0	0	0	0	2	30	14	199	15	246	10	183	5	96	4	65	3	8	0	-	53	60	
Lakes	0	0	0	0	2	98	3	154	14	957	3	207	1	64	1	55	2	17	1	-	27	105	
Bay of Plenty	0	0	0	0	0	0	6	161	9	352	7	275	5	181	1	29	3	12	0	-	31	60	
Tairāwhiti	0	0	0	0	0	0	20	2174	8	1179	4	685	1	157	2	263	1	20	0	-	36	314	
Taranaki	0	0	0	0	0	0	1	50	2	132	0	0	1	65	0	0	0	0	0	-	4	15	
Hawke's Bay	0	0	0	0	0	0	23	815	14	681	4	209	5	232	0	0	1	6	0	-	47	123	
Whanganui	0	0	0	0	0	0	3	252	4	454	4	533	0	0	0	0	0	0	5	-	16	104	
MidCentral	0	0	0	0	0	0	6	179	3	98	3	123	0	0	2	75	0	0	0	-	14	34	
H-C-C	0	0	0	0	0	0	8	0	18	0	14	0	3	0	1	0	6	0	0	-	50	0	
Wairarapa	0	0	0	0	0	0	3	422	1	239	1	233	0	0	0	0	0	0	0	-	5	50	
West Coast	0	0	0	0	0	0	0	0	0	0	1	257	0	0	0	0	0	0	0	-	1	12	
Otago	0	0	0	0	0	0	3	74	2	45	2	74	1	39	0	0	0	0	0	-	8	17	
Southland	0	0	0	0	0	0	4	219	5	299	1	54	0	0	1	49	0	0	0	-	11	40	
Other ¹	0	-	0	-	0	-	1	-	9	-	3	-	4	-	1	-	3	-	0	-	21	-	
Total ²	1	2	1	2	5	8	147	215	163	258	88	151	39	68	23	35	32	8	6	-	505	56	

¹ Data from other DHBs where inclusion criteria were not met

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

AKLD-WA-CM: Auckland / Waitemata / Counties Manukau and H-C-C: Hutt Valley/Capital & Coast

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:

- 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
- Labtests, 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)
- 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
- Medlab Wairarapa, Wairarapa
- Hutt Hospital Laboratory, Hutt Valley
- Aotea Pathology, Capital & Coast (Gonorrhoea only)
- 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 October to December 2009

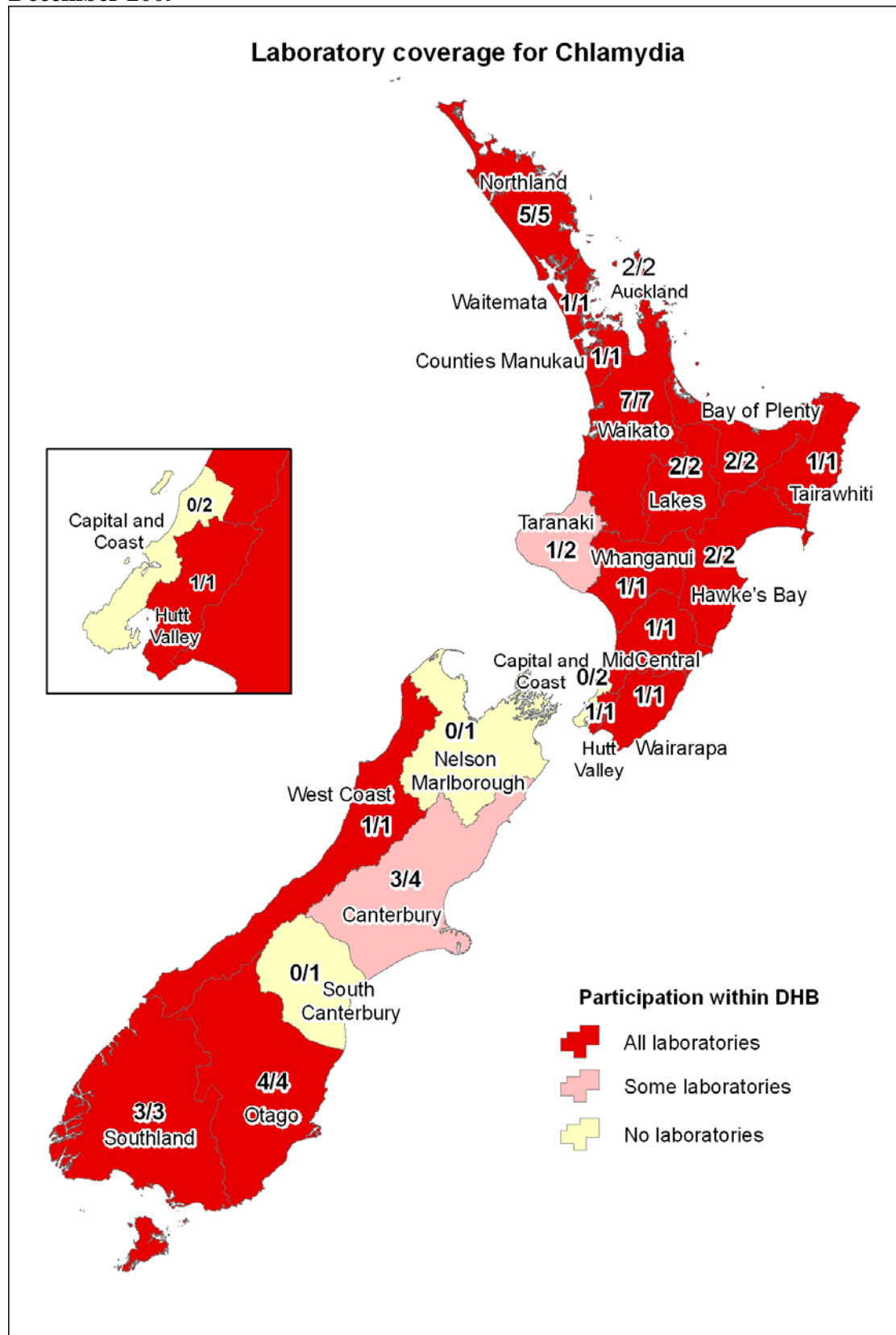


Figure 4. Laboratory Surveillance Coverage for Gonorrhoea October to December 2009

