

PERTUSSIS REPORT

January 2010 (Weeks 2-3)

This report includes cases of pertussis reported in EpiSurv up to midnight 15 January 2010. Data was extracted from EpiSurv at 10.00am 19 January 2010.

There have been a total of 73 pertussis notifications reported in EpiSurv since 26 December 2009 (the beginning of surveillance week 1 for 2010), including 29 confirmed cases, 28 probable cases, 1 suspect case, and 15 cases under investigation. Seven cases were hospitalised. There have been no deaths reported. In the past two weeks, 57 (23 and 34 consecutively) new cases of pertussis were notified, including 24 confirmed cases, 18 probable cases, one suspect case, and 14 cases under investigation. Two hospitalisations were reported in week 2 and four in week 3.

This report incorporates the temporal distribution of cases, and the distribution of cases by age, ethnicity (prioritised), and district health board (DHB), as well as hospitalisations. The case classification used in this report is specified in the appendix.

Temporal distribution of cases

Figure 1 shows the epidemic curve of total pertussis notifications for 2008, 2009 and 2010 (to date). A substantial increase in notifications, with weekly fluctuations is clearly visible for 2009 compared to 2008. Pertussis notifications for weeks 1 to 3 of 2010 have followed a similar trend as for the previous year but at a higher level. However, the total number of notifications may change as cases are investigated.

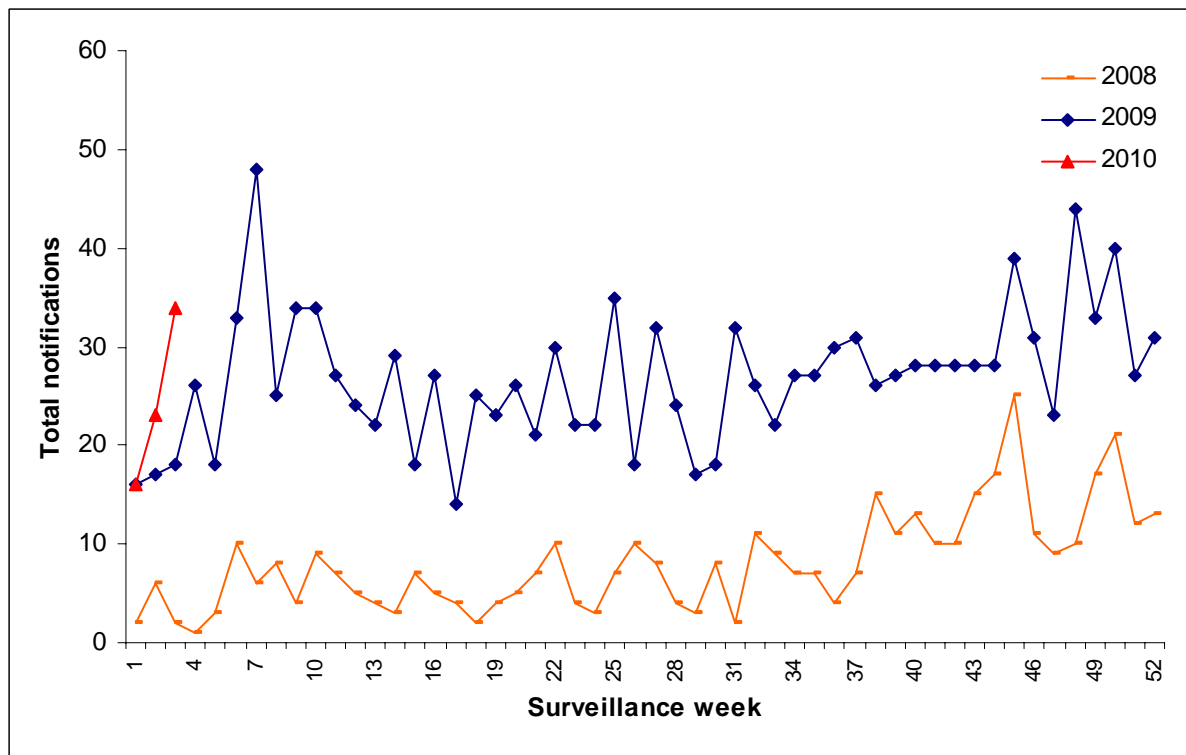


Figure 1: Comparative epidemic curves of total pertussis notifications by week reported during years 2008, 2009 and 2010 (surveillance week = Saturday to Friday inclusive).

Age distribution of cases

Pertussis notifications and associated age-specific rates, including new cases for the past two weeks, are shown in Table 1. Of the total cases since 26 December 2009, the age-specific rate was highest in the less than one year age group (10.9 per 100 000 population, 7 cases), followed by the 5 to 9 (3.8 per 100 000 population, 11 cases) and 1 to 4 (3.4 per 100 000 population, 8 cases) year age groups. For the last two weeks, children aged less than one year had the highest age-specific rate (9.4 per 100 000 population, 6 cases).

Table 1: Pertussis cases and rates by age group since January 2009, including new cases in the last two weeks

Age group (Years)	Cumulative ² notifications			Last two weeks		
	Cases	Rates ¹	Hosp	Cases	Rates ¹	Hosp
<1	7	10.9	5	6	9.4	4
1 to 4	8	3.4	0	7	3.0	0
5 to 9	11	3.8	0	8	2.8	0
10 to 14	8	2.7	1	5	1.7	1
15 to 19	2	0.6	0	2	0.6	0
20 to 29	7	1.2	0	5	0.9	0
30 to 39	8	1.4	0	7	1.2	0
40 to 49	14	2.2	0	11	1.7	0
50 to 59	3	0.6	0	2	0.4	0
60 to 69	3	0.8	1	2	0.5	1
70+	1	0.3	0	1	0.3	0
Unknown	1	-	0	1	-	0
Overall	73	1.7	7	57	1.3	6

¹Age specific rate per 100,000 population, calculated using 2008 mid-year population estimates

²Cumulative notifications between 26 December 2009 and 15 January 2010

Hosp: hospitalisation counts

Rates calculated on fewer than five cases are unstable and should be interpreted with caution.

Ethnicity

Pertussis notifications and rates by ethnicity are shown in Table 2. Of the 67 cases with a known ethnicity, Pacific Peoples had the highest rate (2.7 per 100 000 population, 6 cases), followed by European ethnicity (1.9 per 100 000 population, 51 cases). In the last two weeks, Pacific Peoples had the highest rate (2.2 per 100 000 population, 5 cases).

Table 2: Pertussis cases and rates by ethnicity (prioritised) since 26 December 2010, including new cases in the last two weeks

Ethnicity	Cumulative ² notifications			Last two weeks		
	Cases	Rates ¹	Hosp	Cases	Rates ¹	Hosp
Maori	10	1.8	3	9	1.6	2
Pacific Peoples	6	2.7	2	5	2.2	2
Other	0	0.0	0	0	0.0	0
European	51	1.9	2	38	1.4	2
Unknown	6	-	0	5	-	0
Overall	73	1.8	7	57	1.4	6

¹Ethnic specific rates computed using the 2006 usually resident census population

²Cumulative notifications between 26 December 2009 and 15 January 2010

Hosp: hospitalisation counts

Rates calculated on fewer than five cases are unstable and should be interpreted with caution.

Hospitalisations

There have been seven hospitalisations reported in EpiSurv since 26 December 2009, including six in the last two weeks. Five (71.4%) seven hospitalisations were children aged less than one year of age. The six cases that were hospitalised in the last two weeks were aged less than one year (4 cases), 10-14 years (1 case) and 60-69 years (1 case). The cases hospitalised in the last two weeks were of Maori, Pacific Peoples and European ethnicity (2 cases each). MidCentral DHB had the highest number of cumulative hospitalisations (2 cases). The distributions of hospitalisations by age group, ethnicity, and DHB are described in Table 1, Table 2, and Table 3, respectively.

Geographical distribution

The rates of pertussis notifications by DHB can be seen in Figure 2 and Table 3. The highest rates were recorded in Capital and Coast DHB (6.0 per 100 000 population, 17 cases), followed by South Canterbury (5.4 per 100 000 population, 3 cases), MidCentral (4.2 per 100 000 population, 7 cases) and Hutt Valley (4.2 per 100 000 population, 6 cases) DHBs. Capital and Coast DHB reported the highest number of notifications (17 cases) followed by Waikato DHB (10 cases). In the last two weeks, the highest number of notifications was reported in Capital and Coast DHB (12 cases), followed by Waikato DHB (9 cases).

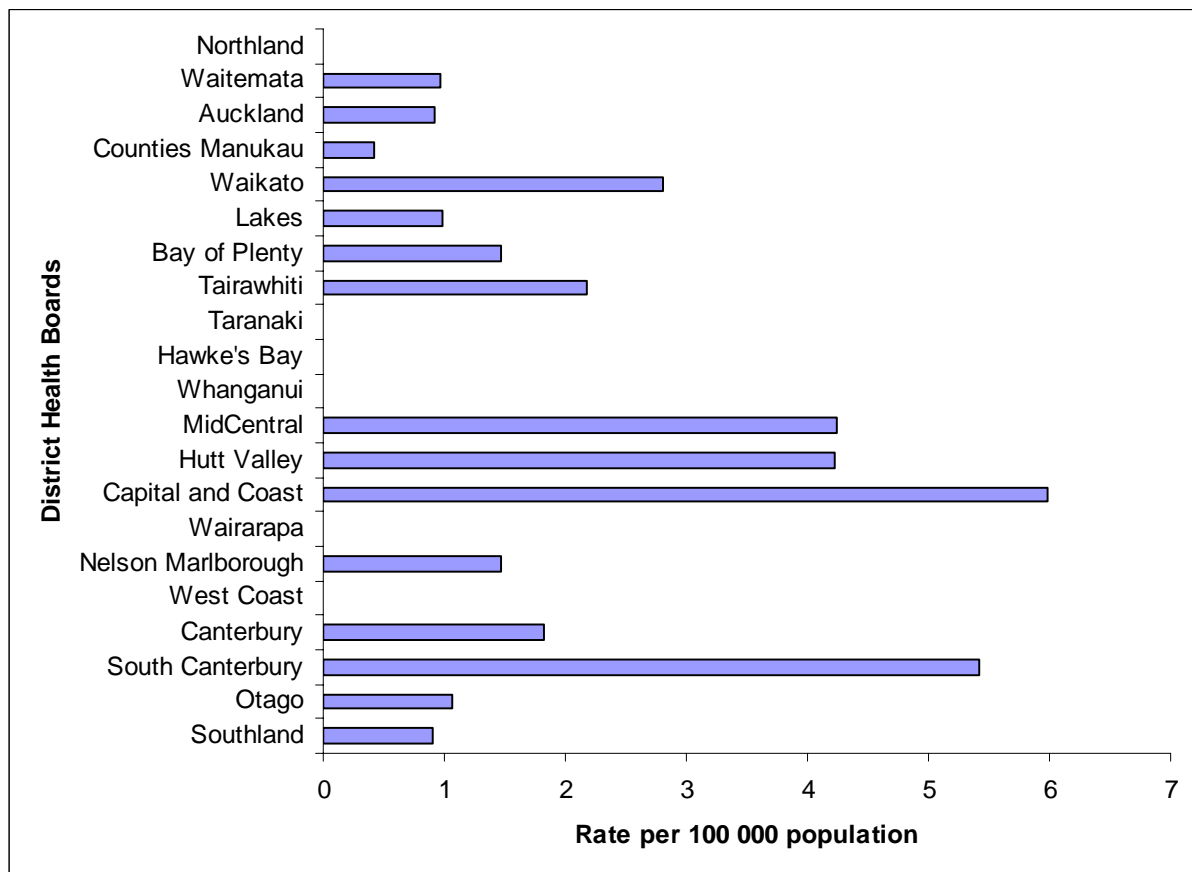


Figure 2: Geographical distribution of pertussis crude rates (cases per 100,000 population) since 26 December 2010.

Rates were calculated using 2008 mid-year population estimates. Rates calculated on fewer than five cases are unstable and should be interpreted with caution.

Table 3 Pertussis cases and rates by DHB since 26 December 2009, including new cases in the last two weeks

DHB	Cumulative notifications			Last two weeks		
	Cases	Rates ¹	Hosp	Cases	Rates ¹	Hosp
Northland	0	0.0	0	0	0.0	0
Waitemata	5	1.0	1	3	0.6	0
Auckland	4	0.9	1	3	0.7	1
Counties Manukau	2	0.4	0	2	0.4	0
Waikato	10	2.8	1	9	2.5	1
Lakes	1	1.0	0	1	1.0	0
Bay of Plenty	3	1.5	1	3	1.5	1
Tairāwhiti	1	2.2	0	1	2.2	0
Taranaki	0	0.0	0	0	0.0	0
Hawke's Bay	0	0.0	0	0	0.0	0
Whanganui	0	0.0	0	0	0.0	0
MidCentral	7	4.2	2	7	4.2	2
Hutt Valley	6	4.2	0	4	2.8	0
Capital and Coast	17	6.0	1	12	4.2	1
Wairarapa	0	0.0	0	0	0.0	0
Nelson Marlborough	2	1.5	0	2	1.5	0
West Coast	0	0.0	0	0	0.0	0
Canterbury	9	1.8	0	5	1.0	0
South Canterbury	3	5.4	0	3	5.4	0
Otago	2	1.1	0	1	0.5	0
Southland	1	0.9	0	1	0.9	0
Total	73	1.7	7	57	1.3	6

¹Rate of confirmed and probable pertussis cases per 100,000 population calculated using 2008 mid-year population estimates.

²Cumulative notifications between 26 December 2009 and 15 January 2010

Hosp: hospitalisation counts

Rates calculated on fewer than five cases are unstable and should be interpreted with caution.

Appendix

Table 4 Case classification for pertussis notification in New Zealand

Confirmed	A clinically compatible illness that is laboratory confirmed by isolation of <i>Bordetella pertussis</i> from a pernasal swab, or epidemiologically linked to a confirmed case.
Probable	Cough lasting longer than two weeks and one or more of the following: <ul style="list-style-type: none"> • Paroxysmal cough • Cough ending in vomiting or apnoea • Inspiratory whoop for which there is no other known cause.
Suspect	In children under five years of age any paroxysmal cough with whoop, vomiting or apnoea for which there is no other known cause.
Other	Status recorded as <i>under investigation</i> or suspect case.
Notifications	Include confirmed cases, probable, and other as specified above.

This report is available on the internet from www.surv.esr.cri.nz