



PERTUSSIS REPORT

January 2014

Data contained within this monthly report is based on information recorded on EpiSurv by public health service staff as at 10 February 2014. Changes made to EpiSurv data after this date will not be reflected in this report. The results presented may be further updated and should be regarded as provisional.

Summary

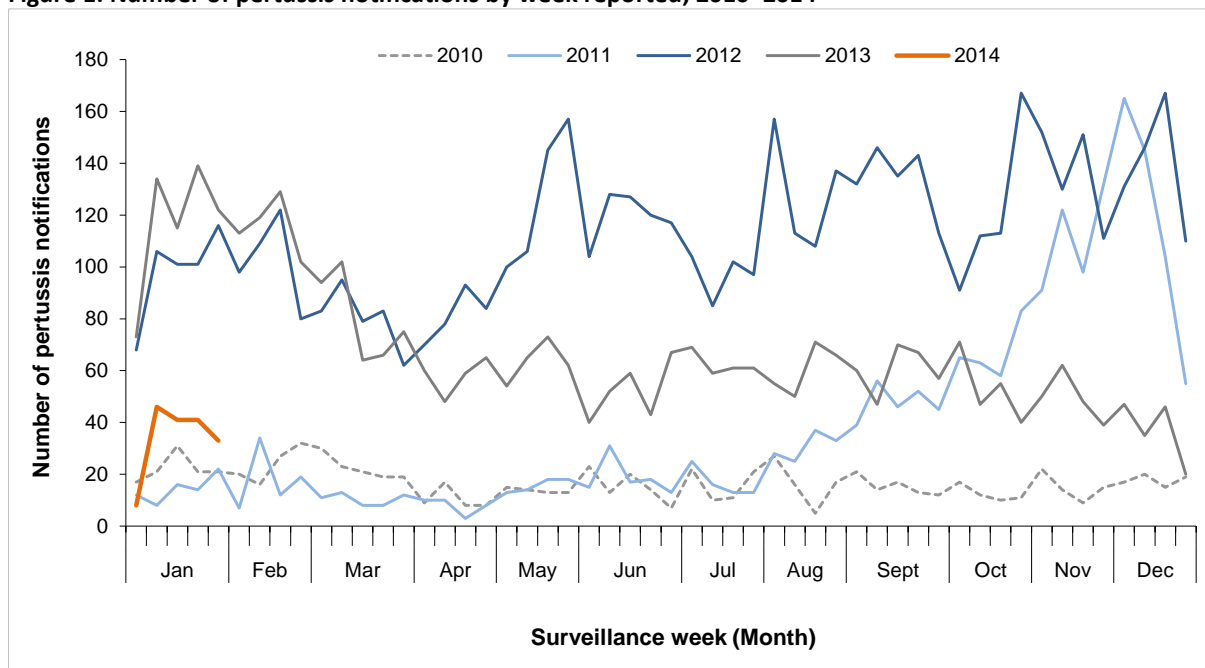
In January 2014, 169 cases of pertussis were notified, including 70 confirmed, 78 probable, 6 suspect, and 15 cases still under investigation. The number of cases in January has increased compared to the previous month (158 cases). Ten (5.9%) of the notified cases were aged less than 1 year. Ten cases were hospitalised and no deaths were reported. Weekly notifications during January are considerably lower than for January 2012 and 2013 but remain higher than January 2010 and 2011 levels (Figure 1).

In January 2014, the highest number of cases (excluding cases under investigation) were reported by Canterbury (32 cases), Waikato (22 cases), and Nelson Marlborough (17 cases) DHBs. The overall rate in January was 3.4 per 100 000 population (154 cases). The DHB with the highest rate was Nelson Marlborough (12.0 per 100 000, 17 cases), followed by Northland (6.9 per 100 000, 11 cases), and Canterbury (6.3 per 100 000, 32 cases) DHBs.

This report summarises pertussis notifications for 2014 (cumulative and a monthly summary). It incorporates the temporal distribution of cases, the distribution of cases by age, ethnicity (prioritised), and DHB, as well as hospitalisations and immunisation status. The case classification used in this report is specified on the last page. Case definitions have changed following the release of the Ministry of Health's *Communicable Disease Control Manual 2012* on 31 May 2012.

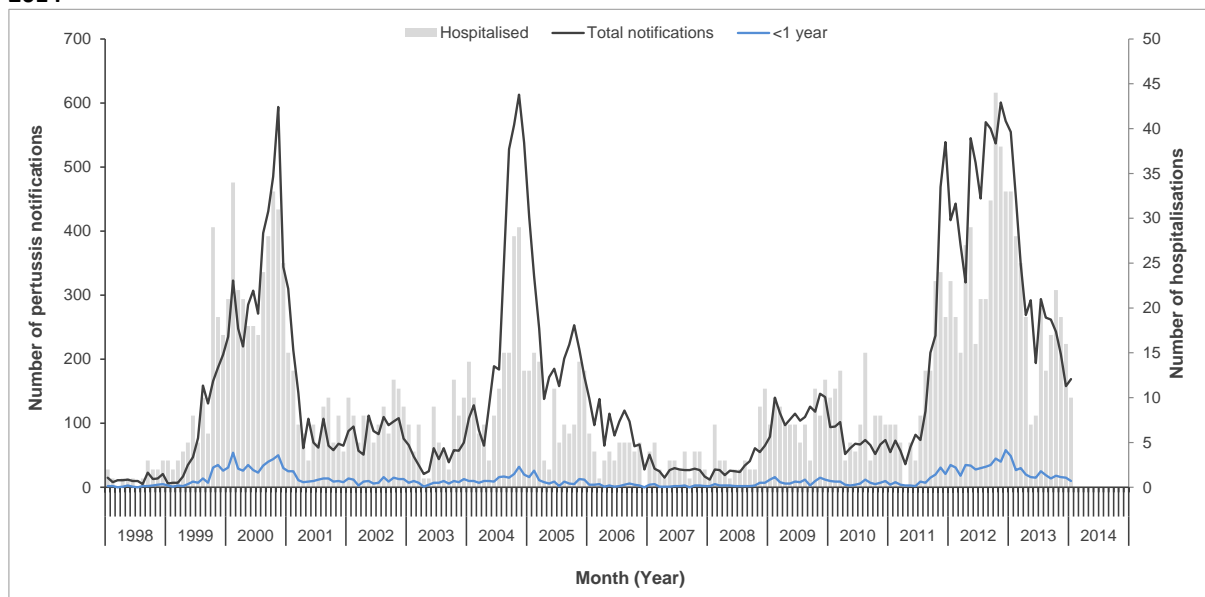
Trends in pertussis notifications

Figure 1: Number of pertussis notifications by week reported, 2010–2014



Note: Includes confirmed, probable, suspect cases and notifications still under investigation.

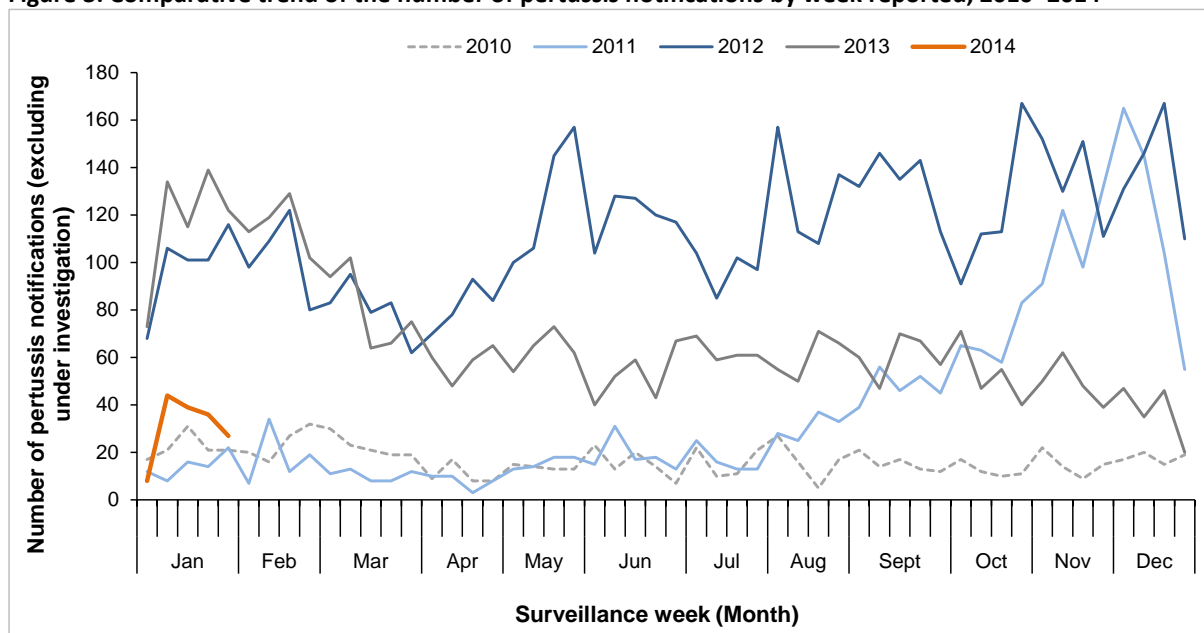
Figure 2: Number of pertussis notifications and hospitalisations by calendar month-year, 1998 to 31 January 2014



Note: Includes confirmed, probable, suspect cases and notifications still under investigation.

In the following pages, all analyses include confirmed, probable and suspect cases only. Notifications that are still under investigation are excluded.

Figure 3: Comparative trend of the number of pertussis notifications by week reported, 2010–2014



Note: Includes confirmed, probable and suspect cases only.

Age

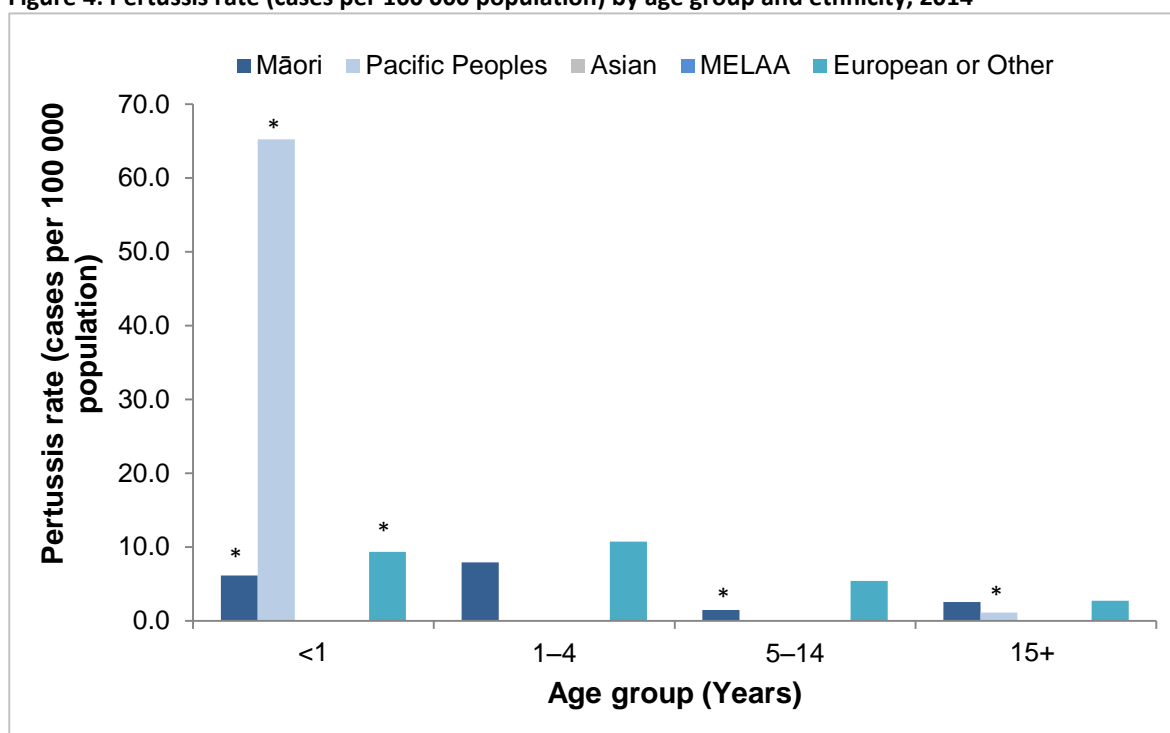
Table 1: Number of pertussis notifications and rate (cases per 100 000 population) by age group, 2014

Age group (Years)	January ¹ notifications		
	All cases	Rate ²	Hospitalisations
<1	10	16.7	3
1–4	23	9.3	2
5–9	14	4.7	0
10–14	12	4.2	0
15–19	6	2.0	0
20–29	17	2.7	1
30–39	15	2.7	1
40–49	19	3.1	0
50–59	14	2.4	0
60–69	18	4.1	2
70+	6	1.4	1
Overall	154	3.4	10

¹ Cumulative notifications for 1–31 January 2014, includes confirmed, probable and suspect cases only.

² Rate of pertussis cases per 100 000 population calculated using 2013 mid-year population estimates.

Figure 4: Pertussis rate (cases per 100 000 population) by age group and ethnicity, 2014



Note: Cumulative notifications for 1–31 January 2014, includes confirmed, probable and suspect cases only. Denominator data used to determine rates are based on the proportion of people in each ethnic group from the estimated resident 2006 census population applied to the 2012 mid-year population estimates from Statistics New Zealand.

* Rate based on fewer than five cases.

Ethnicity

Table 2: Number of pertussis notifications and rate (cases per 100 000 population) by ethnicity (prioritised), 2014

Ethnicity	January ¹ notifications				
	All cases (Rate ²)	Hosp ³	(% ⁴)	<1 year ⁵	(Rate ²)
Māori	19 (2.8)	0	-	1	-
Pacific Peoples	6 (2.2)	2	(33.3)	4	-
Asian	0	0	-	0	-
MELAA	0	0	-	0	-
European or Other	105 (3.5)	6	(5.7)	3	-
Unknown	24	2	-	2	-
Overall	154 (3.4)	10	(6.5)	10	(16.7)

¹ Cumulative notifications for 1–31 January 2014, includes confirmed, probable and suspect cases only.

² Rate of pertussis cases per 100 000 population. Denominator data used to determine rates are based on the proportion of people in each ethnic group from the estimated resident 2006 census population applied to the 2012 mid-year population estimates from Statistics New Zealand. Where fewer than five cases have been notified a rate has not been calculated.

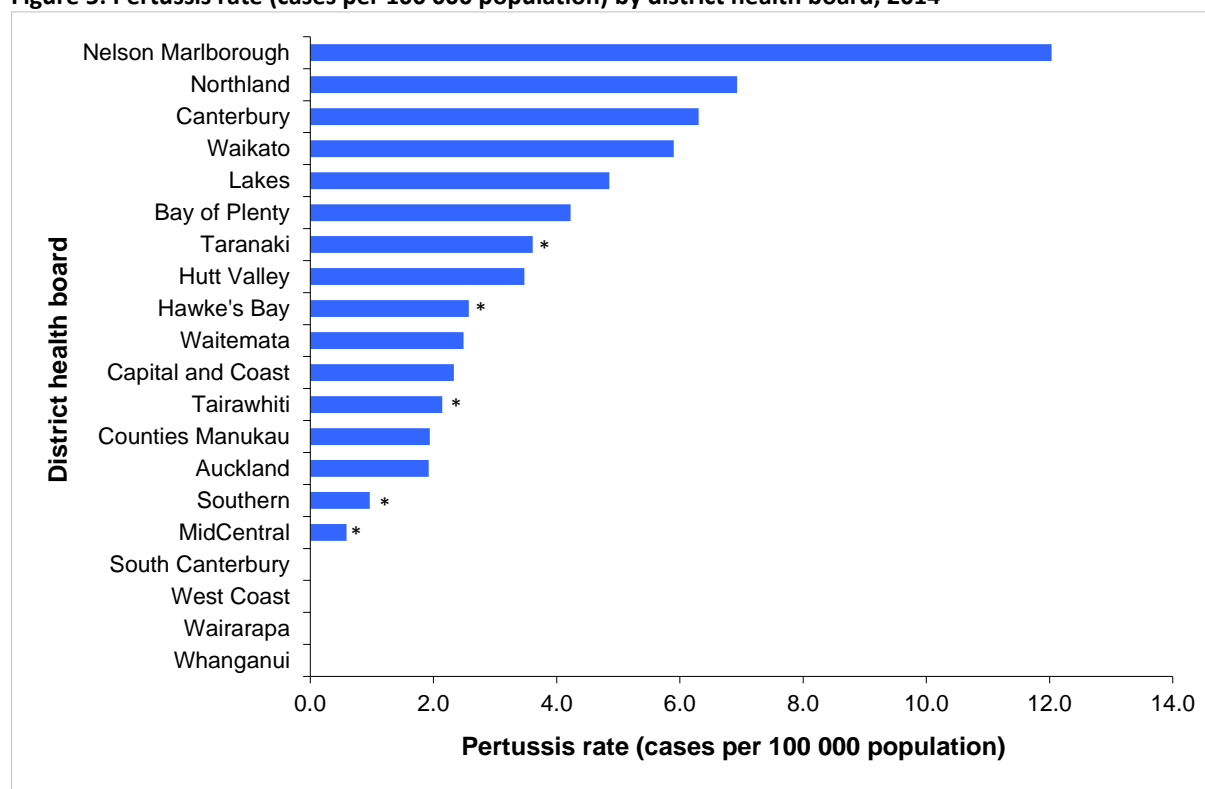
³ Number of hospitalised notifications.

⁴ Percentage of hospitalised notifications.

⁵ Number of notifications in the <1 year age group.

District health board

Figure 5: Pertussis rate (cases per 100 000 population) by district health board, 2014



Note: Cumulative notifications for 1–31 January 2014, includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100 000 population calculated using 2013 mid-year population estimates.

* Rate based on fewer than five cases.

Immunisation status of confirmed notifications

Table 3: Immunisation status of confirmed pertussis notifications, January 2014

Age group	Total cases	One dose	Two doses	Three doses	Four doses	Five doses	Vaccinated (no dose info)	Not vaccinated	Unknown
<6wks ¹	0								
6wks–2mths	5	4						1	
3–4mths	1		1						
5mths–3yrs	15	1	1	7			1	4	1
4–10yrs	11				5	2	1	1	2
11+ yrs	38	1				1	3	8	25
Total	70	6	2	7	5	3	5	14	28

Note: Immunisation status has been extracted from EpiSurv. Health professionals may use a range of sources to update immunisation status including the National Immunisation Register, parental recall and Well Child book records.

¹Children aged <6 weeks are not eligible for immunisation.

Appendix

Table 4: Number of pertussis notifications and rate (cases per 100 000 population) by district health board, 2014

District health board	All cases	January ¹ notifications		
		Rate ²	Hosp ³	<1 year ⁴
Northland	11	6.9	0	0
Waitemata	14	2.5	3	5
Auckland	9	1.9	1	0
Counties Manukau	10	1.9	0	1
Waikato	22	5.9	3	1
Lakes	5	4.9	0	0
Bay of Plenty	9	4.2	1	0
Tairāwhiti	1	-	0	1
Taranaki	4	-	0	0
Hawke's Bay	4	-	0	0
Whanganui	0	-	0	0
MidCentral	1	-	0	0
Hutt Valley	5	3.5	1	0
Capital and Coast	7	2.3	0	2
Wairarapa	0	-	0	0
Nelson Marlborough	17	12.0	0	0
West Coast	0	-	0	0
Canterbury	32	6.3	1	0
South Canterbury	0	-	0	0
Southern	3	-	0	0
Total	154	3.4	10	10

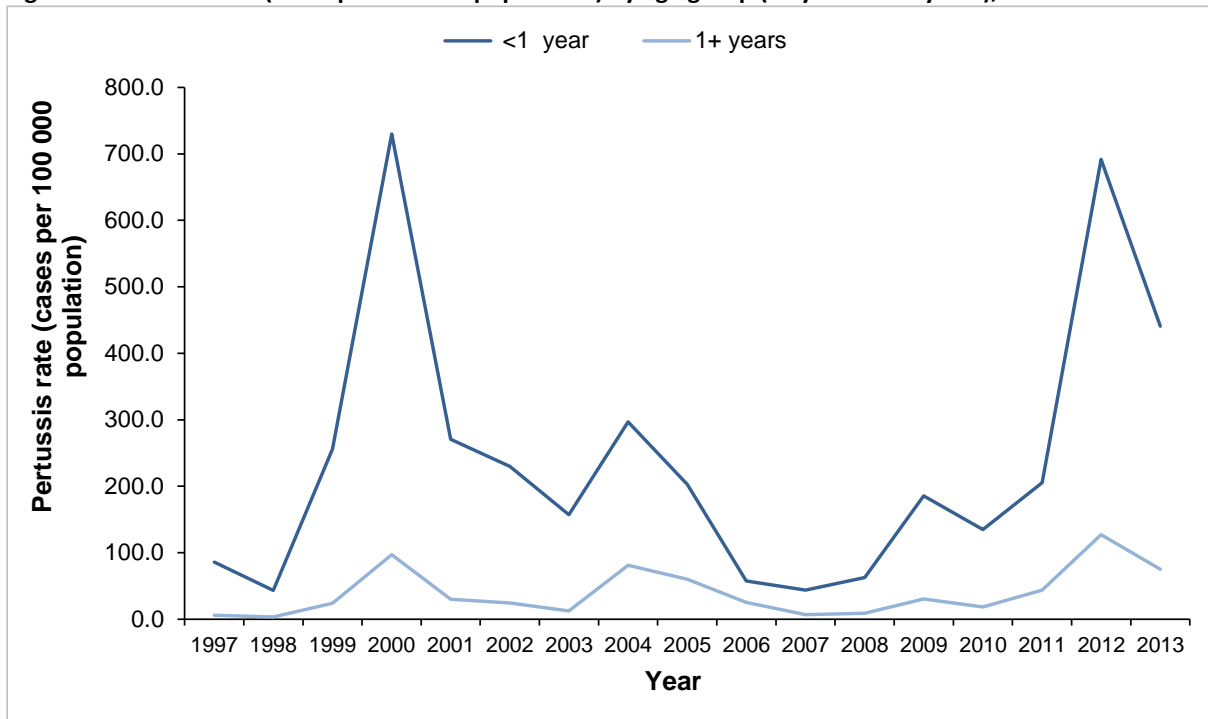
¹ Cumulative notifications for 1–31 January 2014, includes confirmed, probable and suspect cases only.

² Rate of pertussis cases per 100 000 population calculated using 2013 mid-year population estimates, rates have not been calculated where fewer than five cases were notified.

³ Number of hospitalised notifications.

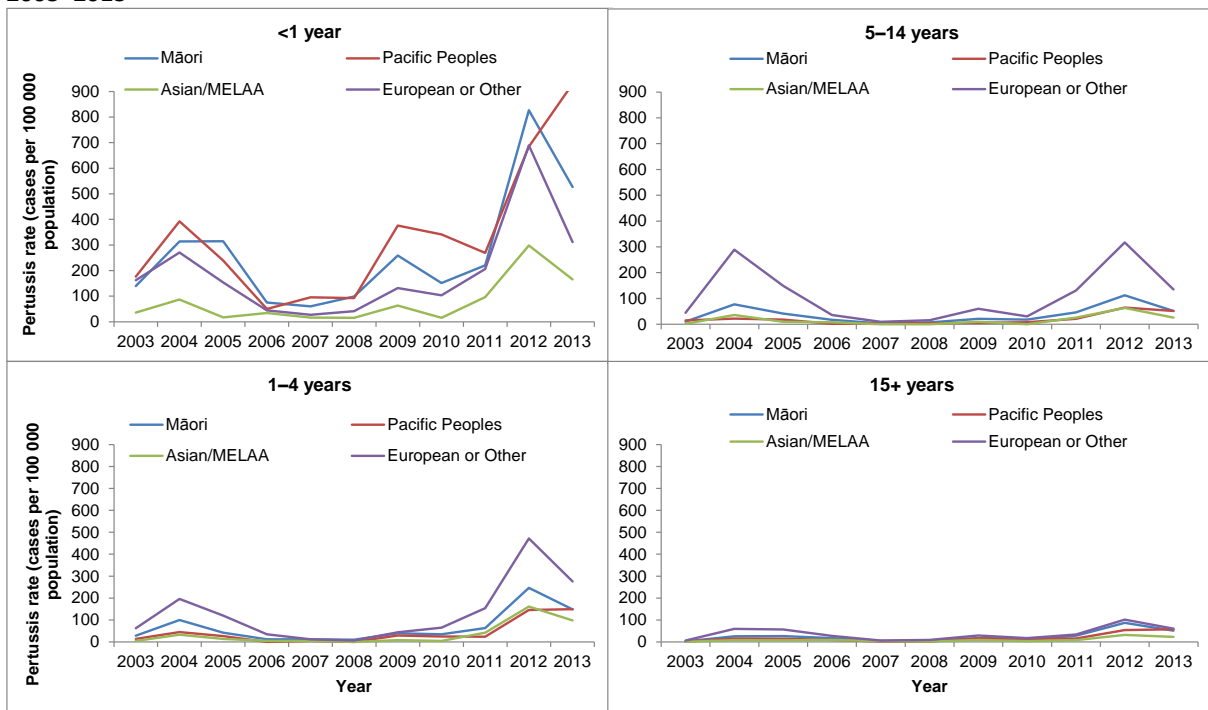
⁴ Number of cases in the <1 year age group.

Figure 6: Pertussis rate (cases per 100 000 population) by age group (<1 year vs. 1+ years), 1997–2013



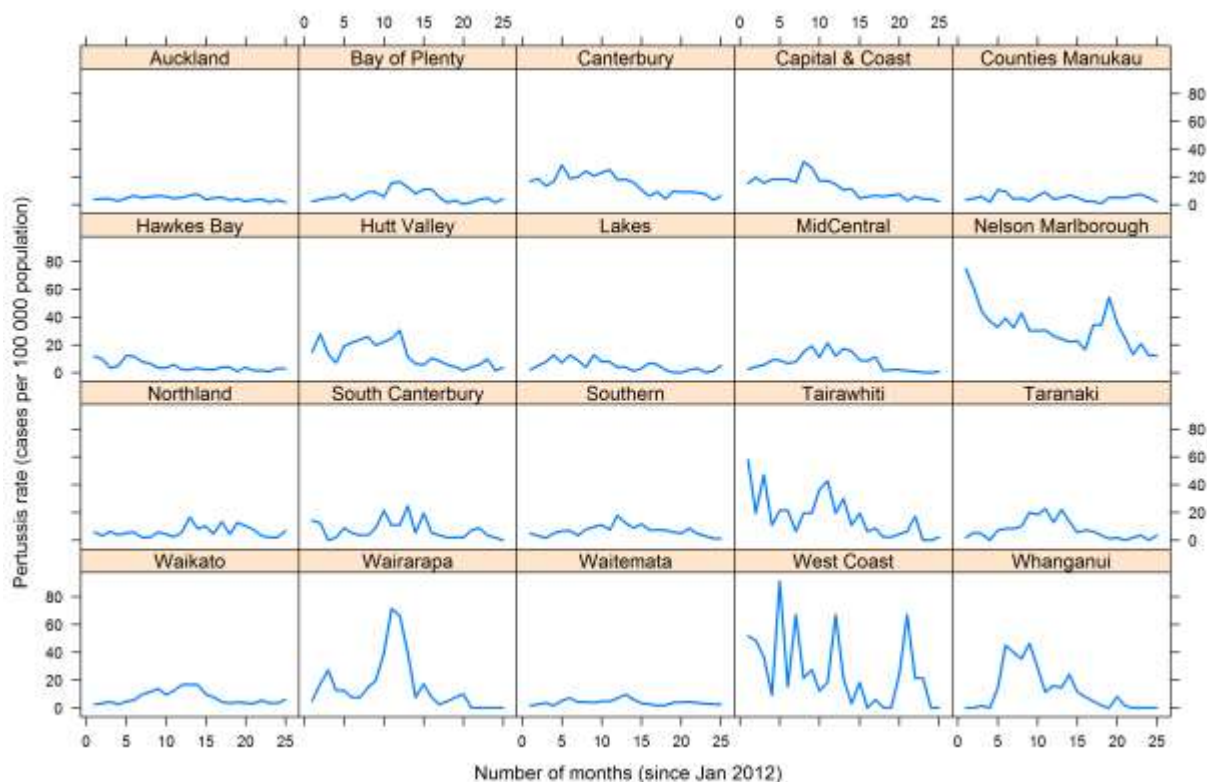
Note: Includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100 000 population calculated using mid-year population estimates.

Figure 7: Trends in pertussis rates (cases per 100 000 population) by age group and ethnicity, 2003–2013



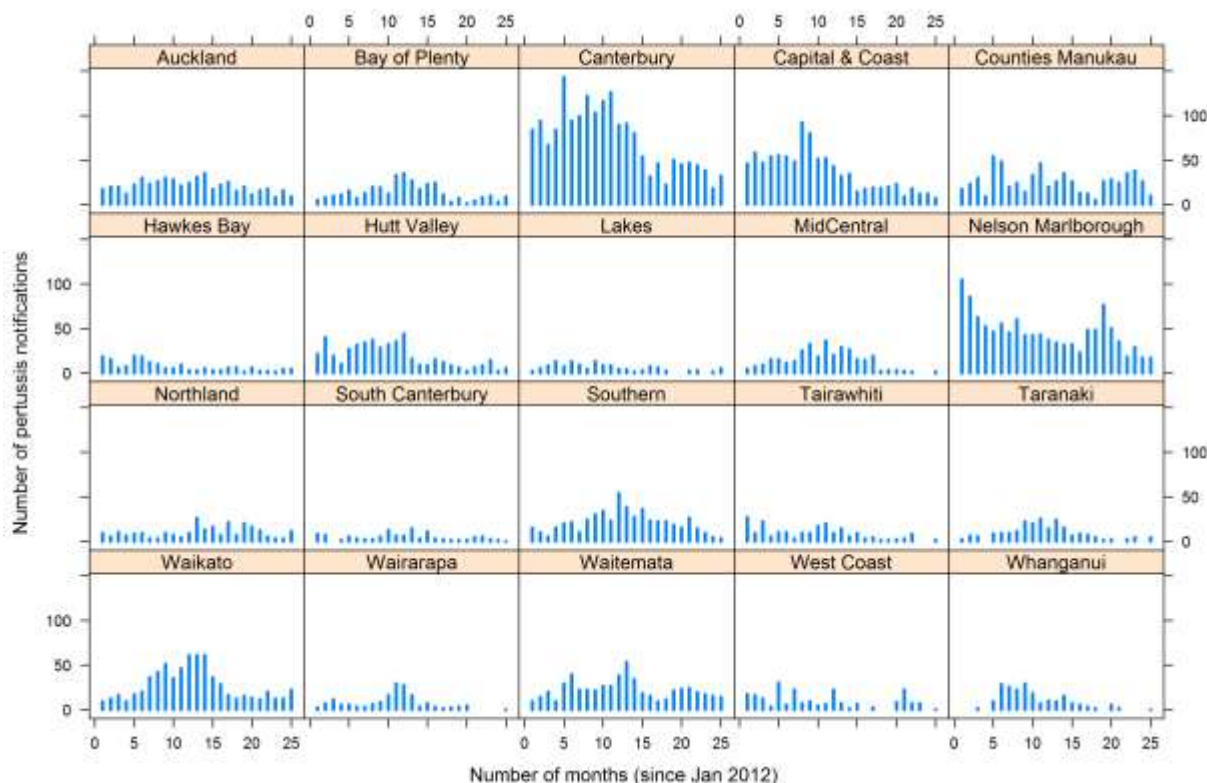
Note: Includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100 000 population calculated using mid-year population estimates.

Figure 8: Monthly pertussis rate (cases per 100 000 population) by district health board, since January 2012



Note: Includes confirmed, probable and suspect cases only.

Figure 9: Monthly pertussis cases by district health board, since January 2012



Note: Includes confirmed, probable and suspect cases only.

Case classification for pertussis notification in New Zealand up to 30 May 2012

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.

Case classification for pertussis notification in New Zealand from 31 May 2012

Confirmed	A clinically compatible illness that is laboratory confirmed by isolation of <i>B. pertussis</i> or detection of <i>B. pertussis</i> nucleic acid, preferably from a nasopharyngeal swab, or is epidemiologically linked to a confirmed case.
Probable	A clinically compatible illness with a high <i>B. pertussis</i> IgA test or a significant increase in antibody levels between paired sera at the same laboratory OR A cough lasting longer than two weeks and with one or more of the following, for which there is no other known cause: <ul style="list-style-type: none"> • Paroxysmal cough • Cough ending in vomiting or apnoea • Inspiratory whoop
Suspect	In children under five years of age any paroxysmal cough with whoop, vomiting or apnoea for which there is no other known cause.
Under investigation	A case that has been notified, but information is not yet available to classify it as suspect, probable or confirmed.
Notifications	Include confirmed cases, probable, suspect and under investigation as specified above.

This report is available at: <http://www.surv.esr.cri.nz/surveillance/PertussisRpt.php>