

PERTUSSIS REPORT

5 May–1 June 2018

Data contained within this monthly report is based on information recorded on EpiSurv by public health service staff as at 12 June 2018. 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. Cases still under investigation are not included in this report.

- A national pertussis outbreak is ongoing.
- A non-significant increase in pertussis notifications for the current four weeks (weeks 19–22, 2018) compared with the previous four weeks (weeks 15–18, 2018).
- A significant increase in pertussis notifications for the current four weeks (weeks 19–22, 2018) compared with the same four surveillance weeks in 2017.

Summary

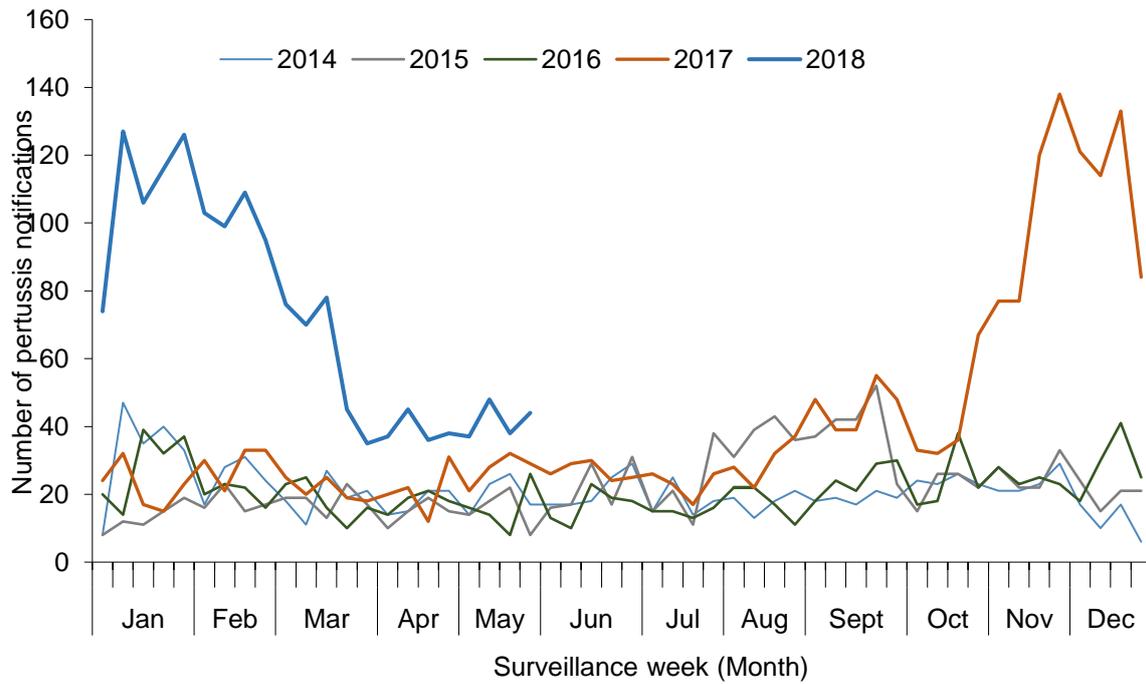
- In the past four surveillance weeks (weeks 19–22, 5 May–1 June 2018), 167 cases of pertussis were notified (37, 48, 38 and 44 cases, consecutively – Figure 1)¹. This included 93 confirmed, 62 probable, and 12 suspect cases. This is significantly higher than the 110 cases reported in the same four surveillance weeks in 2017 (Table 3). In the past four surveillance weeks in 2018, 14 (8.4%) cases were aged less than 1 year and six of these cases were hospitalised. Of all 167 cases, nine cases were hospitalised and no deaths were reported.
- From 1 January–1 June 2018, there was a total of 1582 confirmed, probable and suspect cases of pertussis notified (33.0 cases per 100,000). Of the 1582 cases, 91 cases (5.8%) were aged less than 1 year, of which 43 (47.3%) were hospitalised (Table 1). Of all 1582 cases, 103 cases (6.5%) were hospitalised.
- From 1 January–1 June 2018, the highest reported pertussis rates were among the less than 1 year and 1–4 years age groups (150.2 and 89.6 per 100,000, respectively). The ethnic groups with the highest notification rates were Māori (40.6 per 100,000, 283 cases) followed by European or Other (36.8 per 100,000) (Figure 4). The highest single number of cases was reported in the European or Other ethnic group (1148 cases).
- From 1 January–1 June 2018, the highest numbers of pertussis cases were reported by Nelson Marlborough (228 cases), Bay of Plenty (191 cases) and Waikato (181 cases) DHBs (Table 3). The DHB with the highest rate was West Coast (169.2 per 100,000, 55 cases), followed by Nelson Marlborough (153.2 per 100,000), Bay of Plenty (82.4 per 100,000) and Wairarapa (76.4 per 100,000, 34 cases) DHBs.
- From the beginning of the current national outbreak period (commencing 16 October 2017) to the end of 2017 there was a total of 1001 cases (592 confirmed, 387 probable, and 22 suspect cases).
- This report summarises pertussis notifications for the period from 1 January 2018 to 1 June 2018 (a cumulative summary). It includes the distribution of cases by time, age, prioritised ethnicity and DHB. A summary of the cases from the current four-week period (5 May–1 June 2018) is also provided.

¹ Cases still under investigation are not included in this report. Because cases under investigation have still to be classified (as confirmed, probable, suspect or not a case), the total case counts for surveillance weeks may change in future reports.

Trends in pertussis notifications

Total pertussis notifications by week for 2014–2018 (to week ending 1 June 2018) are shown in Figure 1 below.

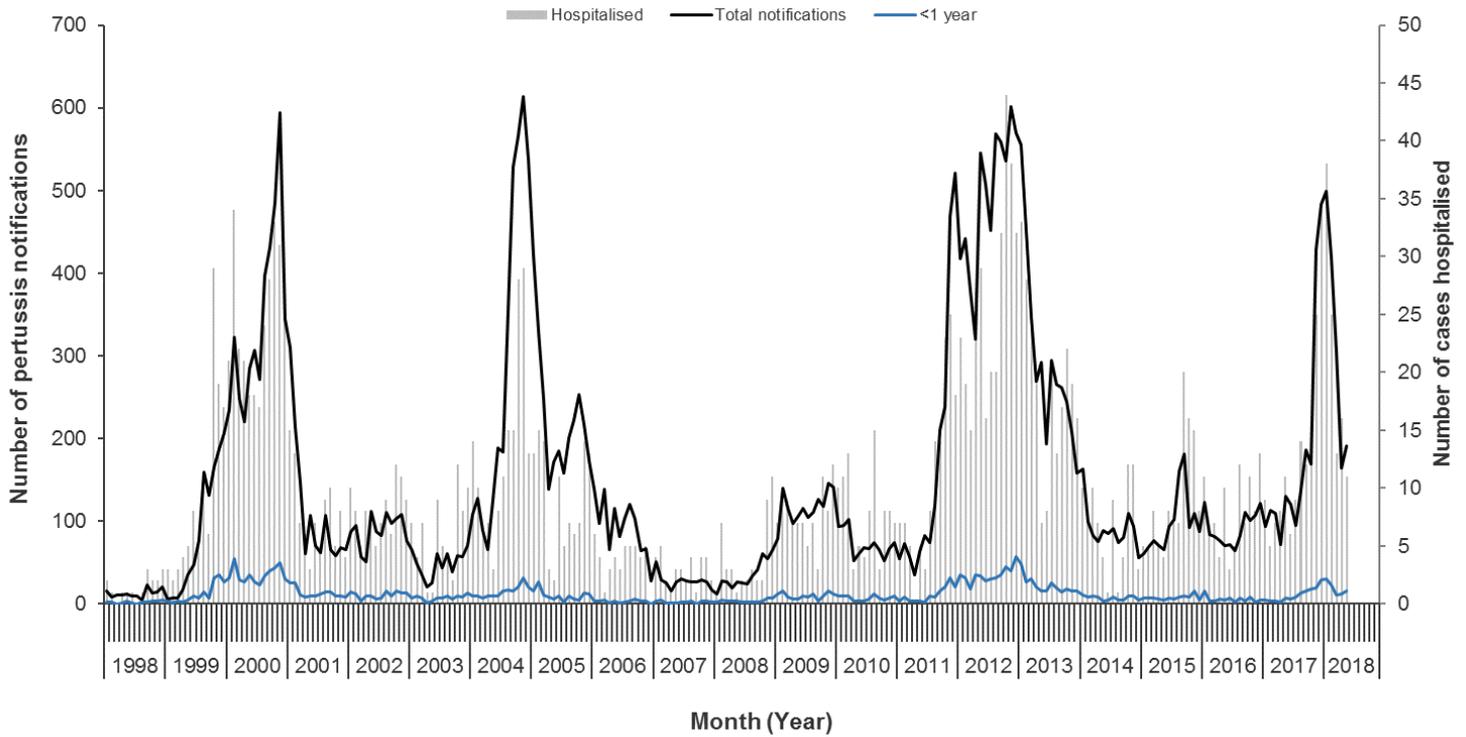
Figure 1: Number of pertussis notifications by week reported, 2014–2018



Note: Includes confirmed, probable, and suspect cases only. Cases still under investigation are excluded.

Figure 2 shows pertussis notifications and hospitalisations by calendar month, and notifications in those aged less than 1 year between January 1998 and May 2018. A four-to-five-year cycle can be seen with large peaks in the number of notifications in years 2000, 2004, 2011/12 and at the end of 2017/early 2018.

Figure 2: Number of pertussis notifications and hospitalisations by month and year, 1998–2018



Note: Includes confirmed, probable, and suspect cases only. Cases still under investigation are excluded.

Age

The number of pertussis notifications, rates and hospitalisations by age group are shown in Table 1 (cumulative total for 2018). Table 2 shows the number of notifications and hospitalisations during the current four surveillance weeks in 2018 compared with the same four surveillance weeks in 2017.

Table 1: Number of (confirmed, probable and suspect) pertussis notifications, rates (cases per 100,000 population) and hospitalisations by age group, 1 January–1 June 2018

Age group (years)	Total for 2018 ¹		Hospitalised ¹	
	Number of cases	Rate ²	Number of cases	Percent (%)
<1	91	150.2	43	47.3
1–4	220	89.6	15	6.8
5–9	218	66.8	5	2.3
10–14	159	52.8	1	0.6
15–19	89	28.1	3	3.4
20+	805	22.7	36	4.5
All ages	1582	33.0	103	6.5

¹ Cumulative total 1 January–1 June 2018

² Rate of pertussis cases per 100,000 population calculated using 2017 mid-year population estimates.

Table 2: Number of (confirmed, probable and suspect) pertussis notifications and hospitalisations in surveillance weeks 19–22 in 2018, compared with the same period in 2017

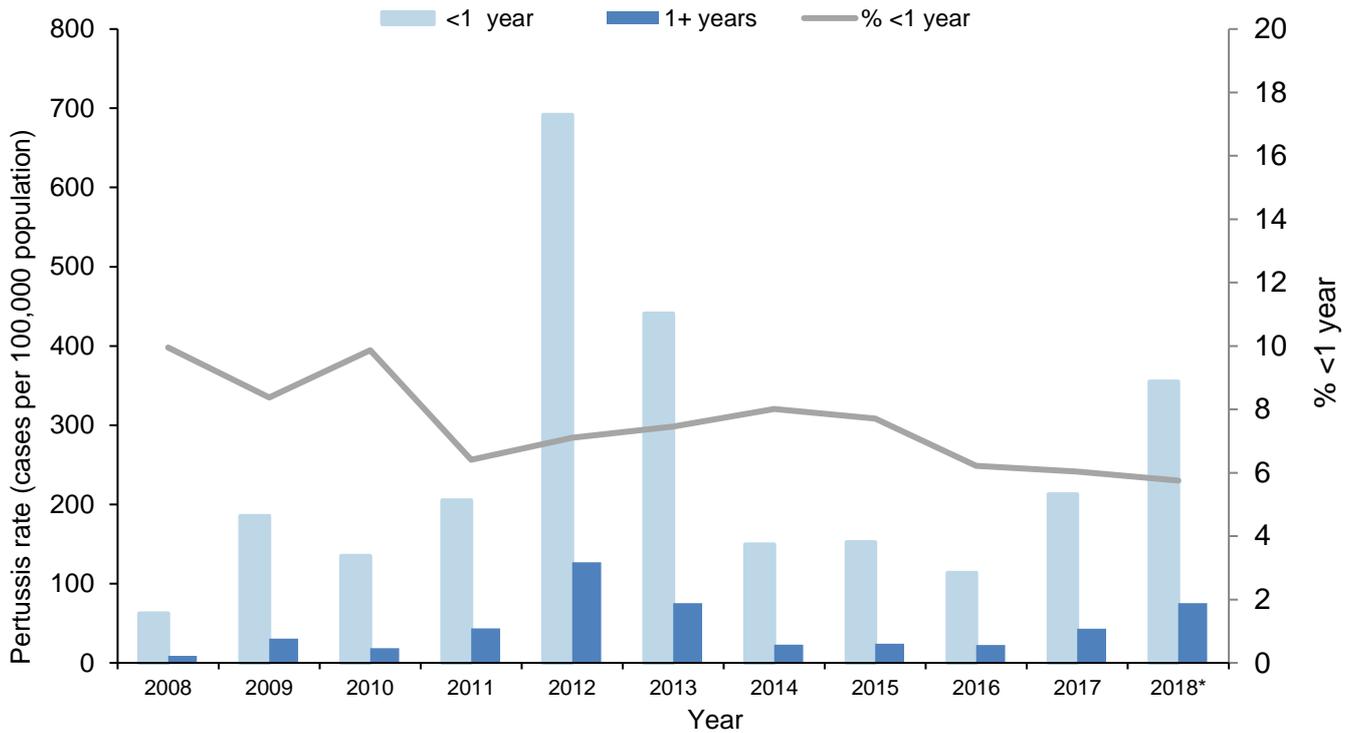
Age group (years)	Recent four surveillance weeks in 2018 (weeks 19–22) ¹		Same four surveillance weeks in 2017 (weeks 19–22) ²	
	Number of cases	Cases hospitalised	Number of cases	Cases hospitalised
<1	14	6	6	4
1–4	25	2	18	1
5–9	28	0	10	0
10–14	22	0	12	0
15–19	11	0	13	0
20+	67	1	51	5
All ages	167	9	110	10

¹ 5 May–1 June 2018

² 6 May–2 June 2017

Pertussis rates by age group (<1 year and 1+ years) are shown in Figure 3.

Figure 3: Pertussis rate (cases per 100,000 population) by age group (<1 year vs. 1+ years), and % < 1 year olds, 2008–2018



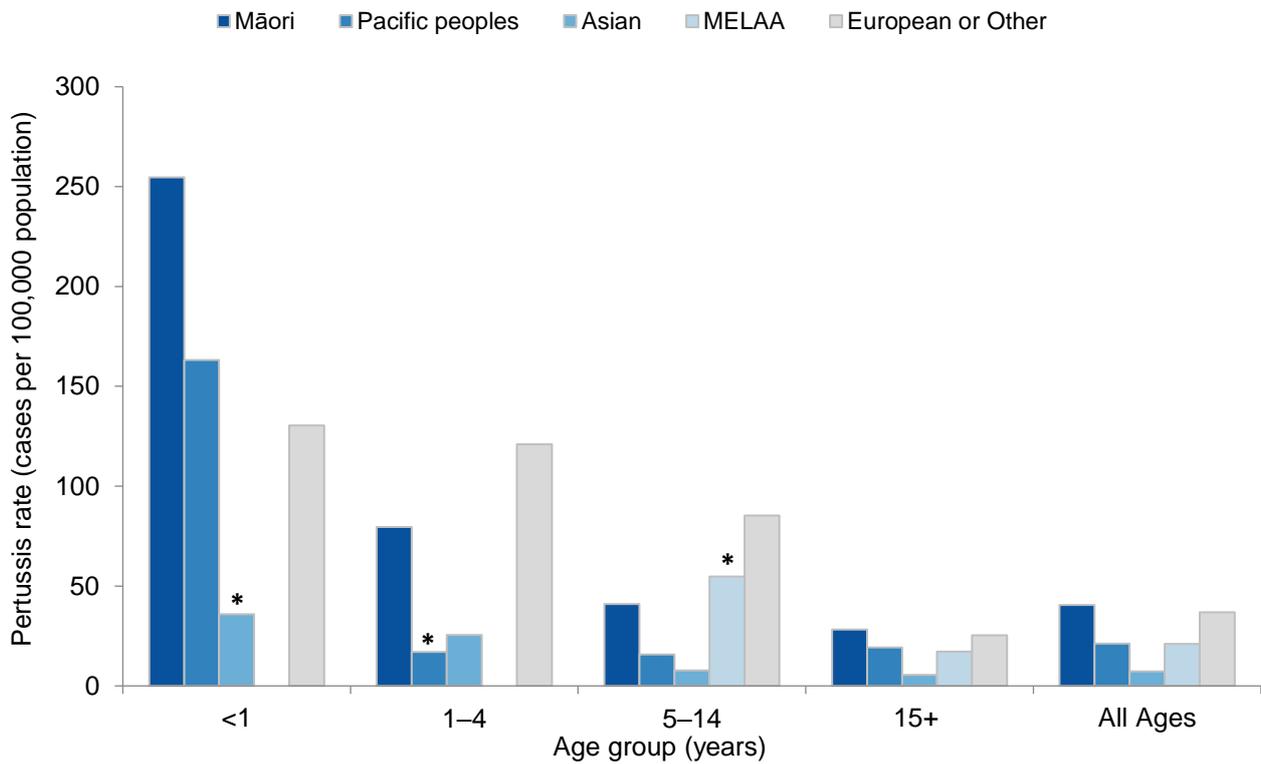
Note: Includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100,000 population calculated using 2017 mid-year population estimates.

* Rate for 2018 is an annualised rate. As this is an estimate for the year based on currently available data, it may differ from non-annualised rates presented elsewhere in this report for these age groups.

Ethnicity

Pertussis rates by age group and ethnicity are shown in Figure 4.

Figure 4: Pertussis rate (cases per 100,000 population) by age group and ethnicity, 1 January–1 June 2018



Note: Notifications 1 January–1 June 2018, includes confirmed, probable and suspect cases only. Ethnicity is prioritised. Denominator data used to determine disease rates for ethnic groups are based on the proportion of people in each ethnic group from the estimated resident 2013 Census population applied to the 2016 mid-year population estimates from Statistics New Zealand.

MELAA: Middle Eastern/Latin American/African.

* Rate based on fewer than five cases.

District health board

The numbers and rates of pertussis notifications by DHB are shown in Table 4 below.

Table 3: Number of (confirmed, probable and suspect) pertussis notifications, rate (cases per 100,000 population) and hospitalisations by district health board, 2018

District health board	Total for 2018 ¹					5 May–1 June 2018 (weeks 19-22)		
	Cases	Rate ²	Hosp ³	Cases ⁴	% ⁵	Cases	Hosp ³	<1 year old ⁴
Northland	58	33.1	5	9	15.5	6	1	1
Waitemata	120	19.8	15	5	4.2	11	2	1
Auckland	109	20.8	12	3	2.8	14	0	0
Counties Manukau	90	16.5	18	7	7.8	7	0	0
Waikato	181	44.3	13	10	5.5	18	1	2
Lakes	63	58.1	1	0	0.0	2	0	0
Bay of Plenty	191	82.4	4	4	2.1	25	0	1
Tairāwhiti	9	18.6	0	0	0.0	0	0	0
Taranaki	7	5.9	1	0	0.0	1	1	0
Hawke's Bay	67	40.9	3	5	7.5	4	0	0
Whanganui	7	10.9	1	1	14.3	1	0	0
MidCentral	34	19.3	7	6	17.6	2	0	0
Hutt Valley	45	30.4	1	0	0.0	0	0	0
Capital & Coast	103	32.9	6	9	8.7	12	0	2
Wairarapa	34	76.4	0	0	0.0	0	0	0
Nelson Marlborough	228	153.2	2	16	7.0	28	0	3
West Coast	55	169.2	2	1	1.8	11	0	0
Canterbury	109	19.8	8	11	10.1	21	4	4
South Canterbury	12	20.1	2	1	8.3	0	0	0
Southern	60	18.5	2	3	5.0	4	0	0
Overall	1582	33.0	103	91	5.8	167	9	14

¹ Cumulative notifications 1 January–1 June 2018.

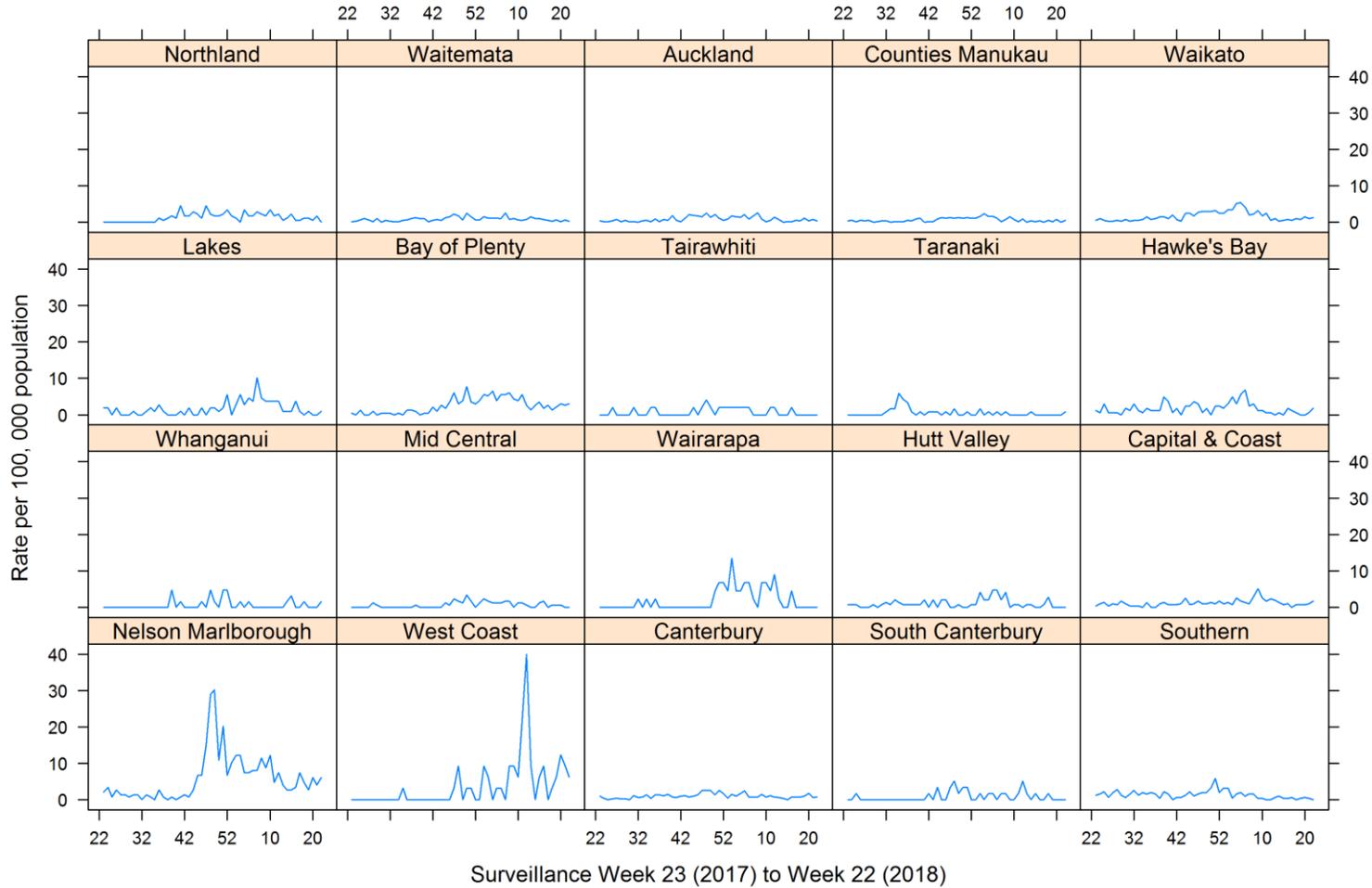
² Rate of pertussis cases per 100,000 population calculated using 2017 mid-year population estimates. Rates have not been calculated where fewer than five cases were notified.

³ Number of notifications that were hospitalised.

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

⁵ Percentage of notifications that were <1 year age group.

Figure 4: Pertussis rates per 100,000 population by DHB, surveillance week 23 of 2017 to week 22 of 2018



Note: Notifications 3 June 2017–1 June 2018, includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100,000 population calculated using 2017 mid-year population estimates.

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