PERTUSSIS REPORT   November 2018

This report summarises pertussis notifications for the period from January to November 2018 (a cumulative summary). It includes the distribution of cases by time, age, prioritised ethnicity and DHB. Data contained within this monthly report are based on information recorded on EpiSurv by public health service staff as at 10 December 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 significant increase in notifications compared with the previous month.
- A significant decrease in pertussis notifications for the current month compared with the same month in 2017.
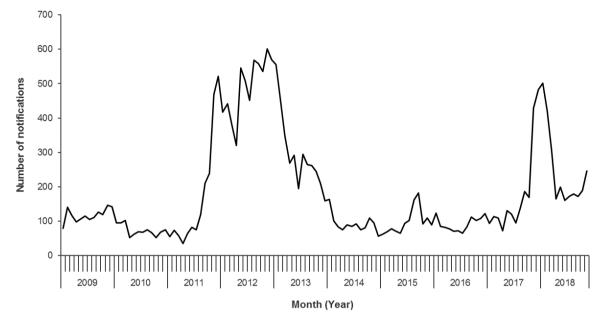

Summary

- In the past month 246 cases of pertussis were notified. This included 184 confirmed, 60 probable, and two suspect cases. Twenty-three (9.3%) cases were aged < 1 year and 15 of these cases were hospitalised. Of all 246 cases, 32 cases were hospitalised and no deaths were reported.

- For the period January to November 2018:

    o there was a total of 2708 confirmed, probable and suspect cases of pertussis notified (56.5 cases per 100,000). Of the 2708 cases, 166 cases (6.1%) were aged < 1 year, of which 82 (49.4%) were hospitalised (Table 1). Of all 2708 cases, 196 cases (7.2%) were hospitalised;

    o the highest reported pertussis rates were among those aged < 1 year and 1–4 years (274.1 and 139.0 per 100,000, respectively). Pacific and Māori had the highest notification rates among those aged < 1 year (507.7 and 457.0 per 100,000 respectively), while the highest rate among children aged 1–4 years was in European or Other (181.2 per 100,000) followed by Māori (130.4 per 100,000) (Figure 2);

    o the highest numbers of pertussis cases were reported by Nelson Marlborough (358 cases), Waikato (311 cases) and Bay of Plenty (288 cases) DHBs (Table 2). The DHB with the highest rate was West Coast (461.5 per 100,000, 150 cases), followed by Nelson Marlborough (240.6 per 100,000), Wairarapa (128.1 per 100,000, 57 cases) and Bay of Plenty (124.2 per 100,000) DHBs.

- From the beginning of the current national outbreak period (commencing 16 October 2017) to the end of November 2018, there was a total of 3709 cases (2264 confirmed, 1340 probable, and 105 suspect cases).

Trends in pertussis notifications

Figure 1 shows pertussis notifications by calendar month, since January 2009. A four-to- five-year cycle can be seen with large peaks in the number of notifications in 2011/12 and at the end of 2017/early 2018.

Figure 1: Number of pertussis notifications by month and year, January 2009–November 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 1: Number of (confirmed, probable and suspect) pertussis notifications, rates and hospitalisations by age group, January–November 2018

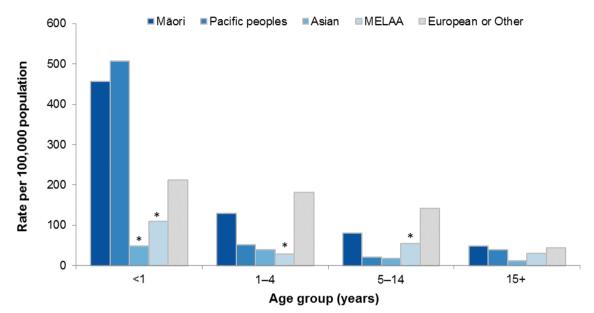| Age group (years)	Total			Hospitalised		
	November	2018[1]	Rate[2]	November	2018[1]	Percent[3]
<1	23	166	274.1	15	82	49.4
1–4	32	341	139.0	5	27	7.9
5–9	43	364	111.5	0	5	1.4
10–14	27	277	91.9	0	2	0.7
15–19	18	178	56.2	0	4	2.2
20+	103	1382	39.0	12	76	5.5
All ages	**246**	**2708**	**56.5**	**32**	**196**	**7.2**

[1] Cumulative total January–November 2018.
[2] Rate for January to November per 100,000 population calculated using 2017 mid-year population estimates.
[3] Percentage of notified cases for January to November that were hospitalised.

Ethnicity

Pertussis rates by age group and ethnicity are shown in Figure 2.

Figure 2: Pertussis rates by age group and ethnicity, January–November 2018

Note: Includes confirmed, probable and suspect cases only. Ethnicity is prioritised. Rates are based on the proportion of people in each ethnic group from the 2013 Census applied to the 2017 mid-year population estimates.
MELAA: Middle Eastern/Latin American/African.
* Rate based on fewer than five cases.

District health board

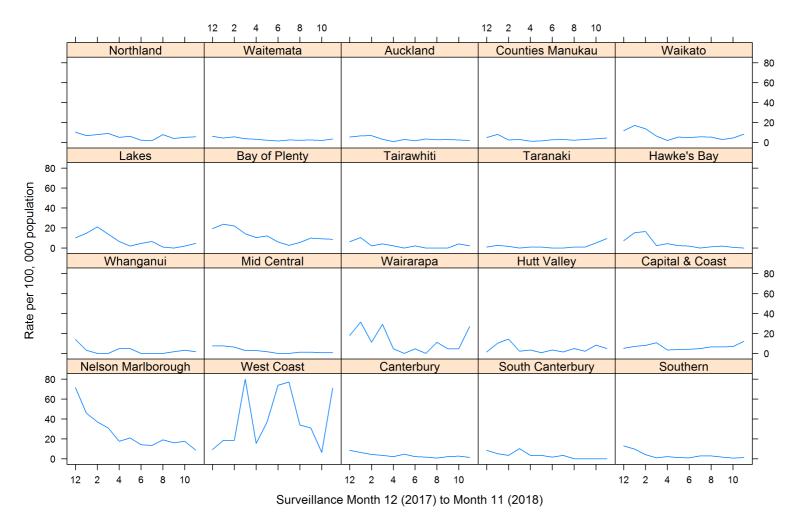The numbers and rates of pertussis notifications by DHB are shown in Table 2 below.

Table 2: Number of (confirmed, probable and suspect) pertussis notifications, rate and hospitalisations by district health board, 2018

District health board	Total			Hospitalised			<1 year		
	November	2018[1]	Rate[2]	November	2018[1]	Percent[3]	November	2018[1]	Rate[2]
Northland	10	109	62.1	3	8	7.3	4	15	649.9
Waitemata	22	209	34.5	3	26	12.4	1	7	86.2
Auckland	11	191	36.5	3	23	12.0	3	7	119.5
Counties Manukau	25	195	35.7	16	56	28.7	5	25	296.0
Waikato	34	311	76.1	2	24	7.7	3	20	357.7
Lakes	5	83	76.5	0	1	1.2	0	1	66.0
Bay of Plenty	20	288	124.2	2	7	2.4	2	9	296.8
Tairawhiti	1	13	26.8	0	0	0.0	0	0	0.0
Taranaki	11	26	22.0	1	2	7.7	0	0	0.0
Hawke's Bay	0	76	46.4	0	4	5.3	0	8	363.3
Whanganui	1	12	18.7	0	1	8.3	0	1	116.3
MidCentral	1	43	24.3	0	8	18.6	0	9	408.3
Hutt Valley	7	81	54.8	0	3	3.7	0	1	50.2
Capital & Coast	38	229	73.2	0	8	3.5	0	15	417.1
Wairarapa	12	57	128.1	2	2	3.5	2	4	769.2
Nelson Marlborough	13	358	240.6	0	4	1.1	2	24	1519.0
West Coast	23	150	461.5	0	4	2.7	1	4	1105.0
Canterbury	8	169	30.6	0	9	5.3	0	12	185.6
South Canterbury	0	18	30.2	0	3	16.7	0	1	149.7
Southern	4	90	27.8	0	3	3.3	0	3	83.7
Overall	**246**	**2708**	**56.5**	**32**	**196**	**7.2**	**23**	**166**	**271.3**

[1] Cumulative notifications January–November 2018.
[2] Rate for January to November per 100,000 population calculated using 2017 mid-year population estimates.
[3] Percentage of notified cases for January to November that were hospitalised.

Figure 3: Pertussis rates per 100,000 population by DHB, December 2017 to November 2018

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

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