
Data contained within this fortnightly report is based on information recorded on EpiSurv by public health service staff as at 24 October 2017. 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 non-significant increase in pertussis notifications for the current four weeks (weeks 38–41) compared with the previous four weeks (weeks 34–37) in 2017.
- A significant increase in pertussis notifications for the current four weeks (16 September–13 October 2017) compared with the same four surveillance weeks in 2016.

Summary

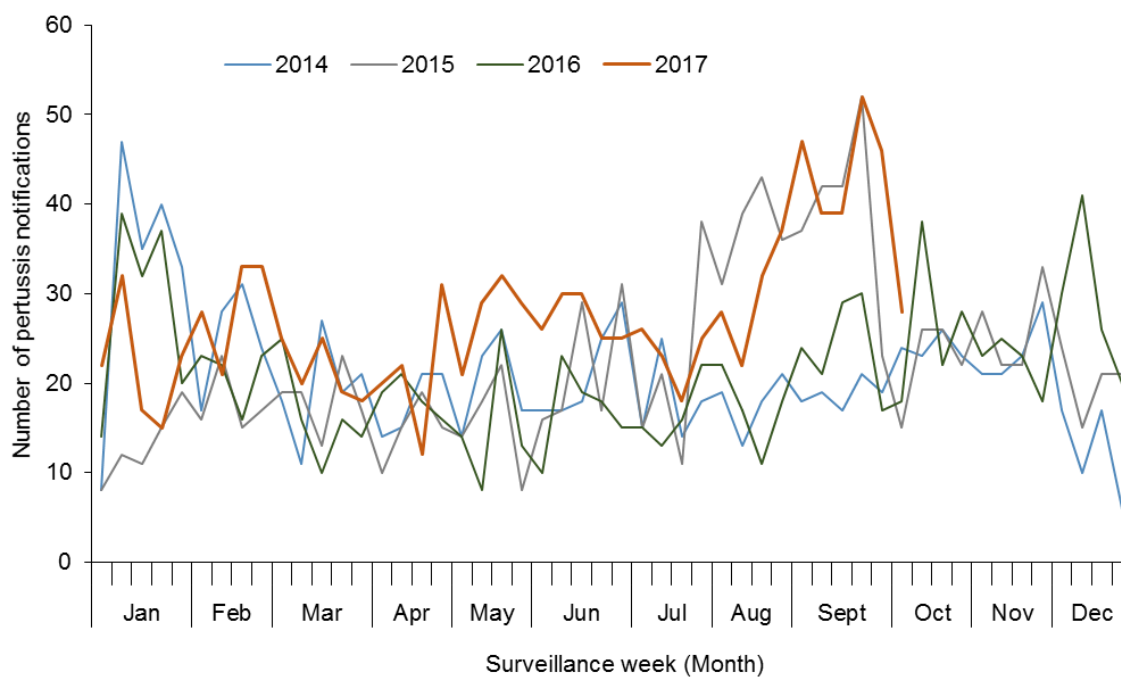
- In the past four surveillance weeks (weeks 38–41, 16 September–13 October 2017), 165 cases of pertussis were notified (39, 52, 46 and 28 cases, consecutively – Figure 1).¹ This included 110 confirmed, 50 probable, and five suspect cases. This is significantly higher than the 94 cases reported in the same four surveillance weeks in 2016 (Table 2). In the past four surveillance weeks in 2017, 15 (9.1%) cases were aged less than 1 year and nine of these cases were hospitalised. Of all 165 cases, 15 cases were hospitalised and no deaths were reported.
- From 1 January–13 October 2017, there were a total of 1125 confirmed, probable and suspect cases of pertussis notified (24.0 cases per 100,000). Of the 1125 cases, 69 cases (6.1%) were aged less than 1 year, of which 35 (50.7%) were hospitalised (Table 1). Of all 1125 cases, 87 cases (7.7%) were hospitalised.
- From 1 January–13 October 2017, the highest reported pertussis rates were among the less than 1 year and 1–4 years age groups (116.5 and 54.2 per 100,000, respectively). The ethnic groups with the highest notification rates were European or Other (26.6 per 100,000) followed by MELAA (24.9 per 100,000, 13 cases) (Figure 4). The highest single number of cases was reported in the European or Other ethnic group (830 cases).
- From 1 January–13 October 2017, the highest numbers of pertussis cases were reported by Southern (165 cases), Canterbury (143 cases) and Capital & Coast (115 cases) DHBs (Table 3). The DHB with the highest rate was Southern DHB (51.7 per 100,000), followed by Taranaki (42.8 per 100,000, 50 cases), Hawke’s Bay (41.5 per 100,000, 67 cases), Nelson Marlborough (37.6 per 100,000, 55 cases) and Capital & Coast (37.5 per 100,000) DHBs.
- This report summarises pertussis notifications for the period from 1 January–13 October 2017 (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 (16 September–13 October 2017) 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 2014–2017 (to week ending 13 October 2017) are shown in Figure 1 below.

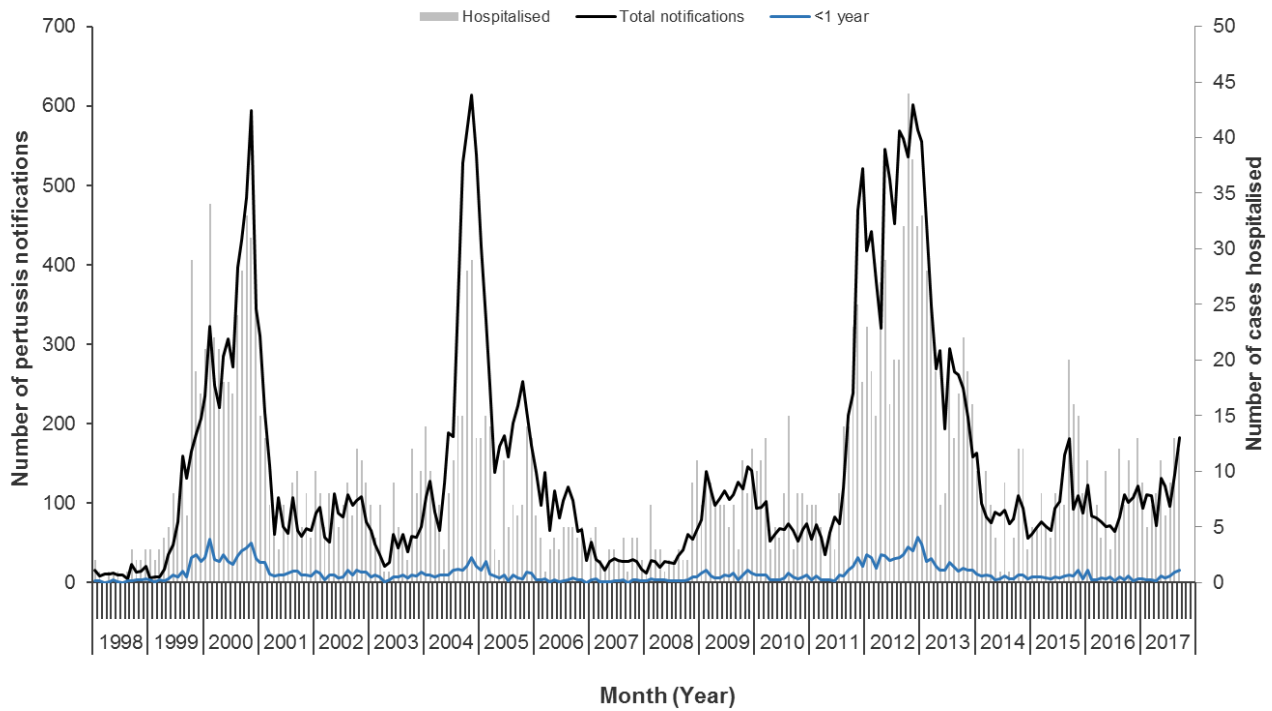
Figure 1: Number of pertussis notifications by week reported, 2014–2017



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 September 2017. A four-to- five-year cycle can be seen with large peaks in notifications in years 2000 and 2004 and 2011/12.

Figure 2: Number of pertussis notifications and hospitalisations by month and year, 1998–2017



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 below in Table 1 (cumulative total for 2017). Table 2 shows the number of notifications and hospitalisations during the current four surveillance weeks in 2017 compared with the same four surveillance weeks in 2016.

Table 1: Number of (confirmed, probable and suspect) pertussis notifications, rates (cases per 100,000 population) and hospitalisations by age group, 1 January–13 October 2017

Age group (years)	Total for 2017 ¹		Hospitalised ¹	
	Number of cases	Rate ²	Number of cases	Percent (%)
<1	69	116.5	35	50.7
1–4	133	54.2	8	6.0
5–9	147	45.6	4	2.7
10–14	111	37.7	0	0.0
15–19	104	32.7	2	1.9
20+	561	16.2	38	6.8
All ages	1125	24.0	87	7.7

¹ Cumulative total 1 January–13 October 2017

² Rate of pertussis cases per 100,000 population calculated using 2016 mid-year population estimates. Where fewer than five cases have been notified a rate has not been calculated.

Table 2: Number of (confirmed, probable and suspect) pertussis notifications and hospitalisations in surveillance weeks 38–41 in 2017, compared with the same period in 2016

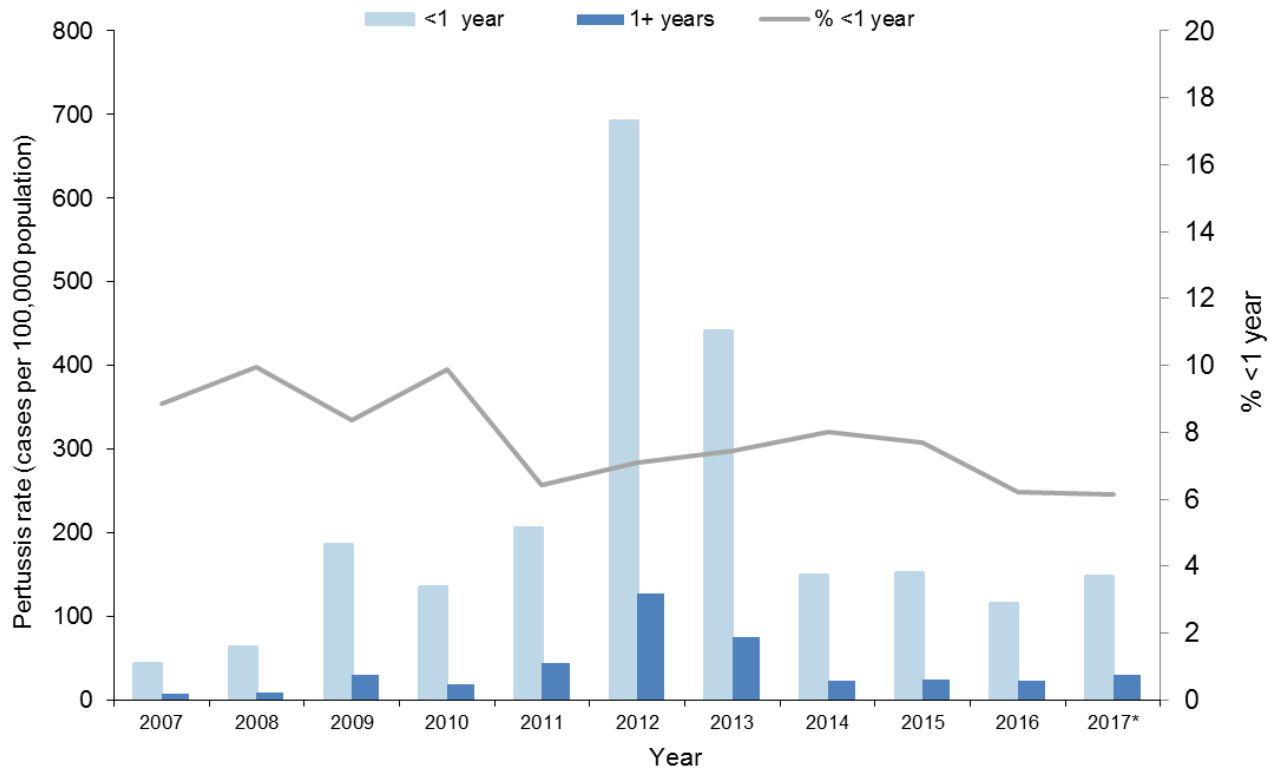
Age group (years)	Recent four surveillance weeks in 2017 (weeks 38–41) ¹		Same four surveillance weeks in 2016 (weeks 38–41) ²	
	Number of cases	Cases hospitalised	Number of cases	Cases hospitalised
<1	15	9	5	4
1–4	11	1	8	1
5–9	21	0	6	1
10–14	21	0	7	0
15–19	15	1	12	0
20+	82	4	56	4
All ages	165	15	94	10

¹ 16 September–13 October 2017

² 17 September–14 October 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, 2007–2017



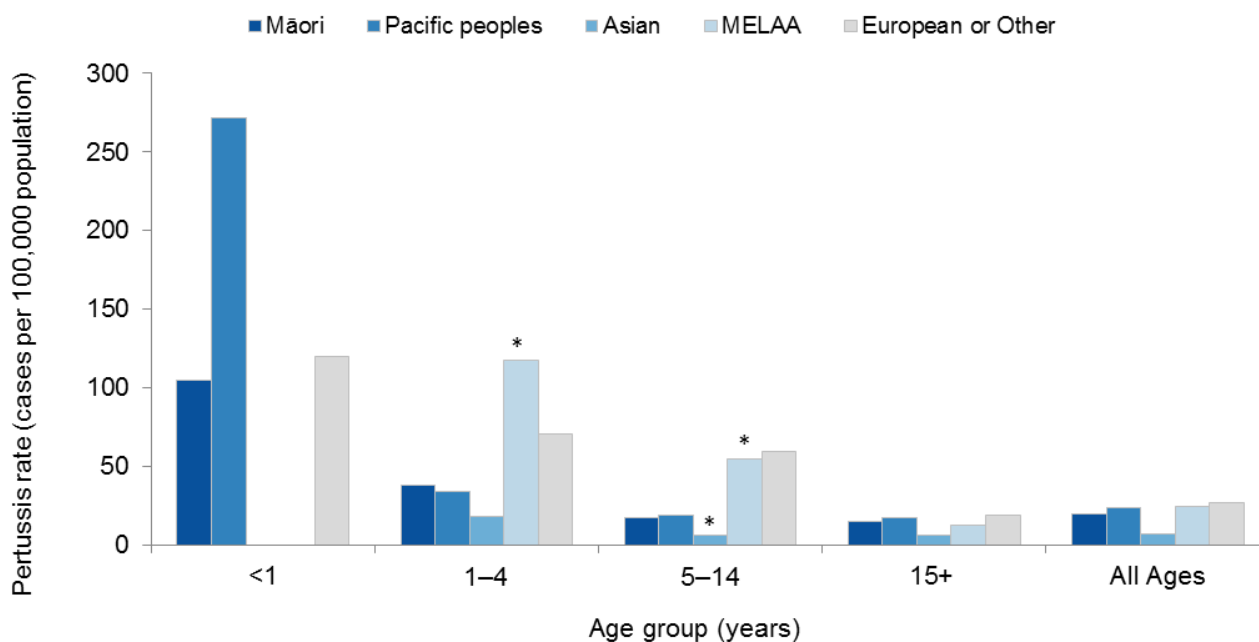
Note: Includes confirmed, probable and suspect cases only. Rate of pertussis cases per 100,000 population calculated using mid-year population estimates.

*Rate for 2017 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–13 October 2017



Note: Notifications 1 January–13 October 2017, 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.

* Rate based on fewer than five cases. MELAA: Middle Eastern/Latin American/African.

District health board

The numbers and rates of pertussis notifications by DHB are shown in Table 3 below.

Table 3: Number of (confirmed, probable and suspect) pertussis notifications, rate (cases per 100,000 population) and hospitalisations by district health board, 2017

District health board	Total for 2017 ¹			<1 year old ¹		16 September–13 October 2017		
	Cases	Rate ²	Hosp ³	Cases ⁴	% ⁵	Cases	Hosp ³	<1 year old ⁴
Northland	22	12.8	0	0	0.0	11	0	0
Waitemata	111	18.8	17	10	9.0	19	3	2
Auckland	83	16.4	10	6	7.2	18	3	3
Counties Manukau	57	10.7	17	6	10.5	12	2	1
Waikato	92	23.0	7	7	7.6	23	0	1
Lakes	32	30.0	2	3	9.4	1	0	0
Bay of Plenty	41	18.1	5	5	12.2	4	0	0
Tairāwhiti	11	23.0	2	2	18.2	0	0	0
Taranaki	50	42.8	0	0	0.0	2	0	0
Hawke's Bay	67	41.5	3	4	6.0	17	1	2
Whanganui	9	14.3	2	3	33.3	4	1	2
MidCentral	17	9.8	0	1	5.9	1	0	0
Hutt Valley	45	30.8	2	0	0.0	6	1	0
Capital & Coast	115	37.5	2	5	4.3	11	0	0
Wairarapa	3	-	0	0	0.0	0	0	0
Nelson Marlborough	55	37.6	2	2	3.6	3	0	1
West Coast	4	-	0	0	0.0	0	0	0
Canterbury	143	26.5	3	5	3.5	20	1	0
South Canterbury	3	-	0	0	0.0	0	0	0
Southern	165	51.7	13	10	6.1	13	3	3
Overall	1125	24.0	87	69	6.1	165	15	15

¹ Cumulative notifications 1 January–13 October 2017.

² Rate of pertussis cases per 100,000 population calculated using 2016 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

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