

# PERTUSSIS REPORT

## 22 February–21 March 2025

This fortnightly report summarises pertussis (whooping cough) notifications for the four-week period, 22 February–21 March 2025, and cumulative numbers since the onset of a national pertussis epidemic on 19 October 2024. It includes the distribution of cases by time, region, district, age group and prioritised ethnicity. Four-weekly rates are presented to enable comparisons between groups and over time. This report supplements the [Pertussis dashboard](#) which is updated weekly.

Data contained within this report is based on information recorded in EpiSurv as at 11am on 26 March 2025. Changes made to EpiSurv after this time will not be reflected here. Data presented may be further updated and should be regarded as provisional. Cases still under investigation are not included in this report. Because cases that are under investigation are still to be classified, case numbers may change in future reports.

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## Summary

- A national pertussis epidemic was declared on 22 November 2024 following an increase in cases throughout New Zealand beginning on 19 October 2024.
- Case numbers and hospitalisations are significantly lower in the four-week period 22 February–21 March 2025 than in the prior four-week period.

In the past four surveillance weeks (weeks 8–11, 22 February–21 March 2025):

- there were 231 cases (162 confirmed and 69 probable) notified in EpiSurv, compared with 410 cases for the prior four weeks (weeks 4–7) This comprises 80, 50, 65 and 36 cases, respectively in weeks 8–11;
- 15 cases were hospitalised, compared with 46 cases in weeks 4–7; no deaths were reported;
- 20 cases (8.7%) were aged less than 1 year, of which seven (35.0%) were hospitalised;
- notification rates were highest among infants aged less than 1 year (34.6 per 100,000, 20 cases), followed by children aged 1–4 (18.5 per 100,000, 45 cases);
- the ethnic group with the highest notification rate was Māori (10.1 per 100,000, 90 cases), followed by Pacific peoples (5.6 per 100,000, 20 cases), and European or Other (3.1 per 100,000, 100 cases);

- rates have decreased in all regions. Rates were highest in Te Waipounamu (5.5 per 100,000, 69 cases), followed by Te Manawa Taki (4.9 per 100,000, 52 cases) and Central (4.6 per 100,000, 46 cases).

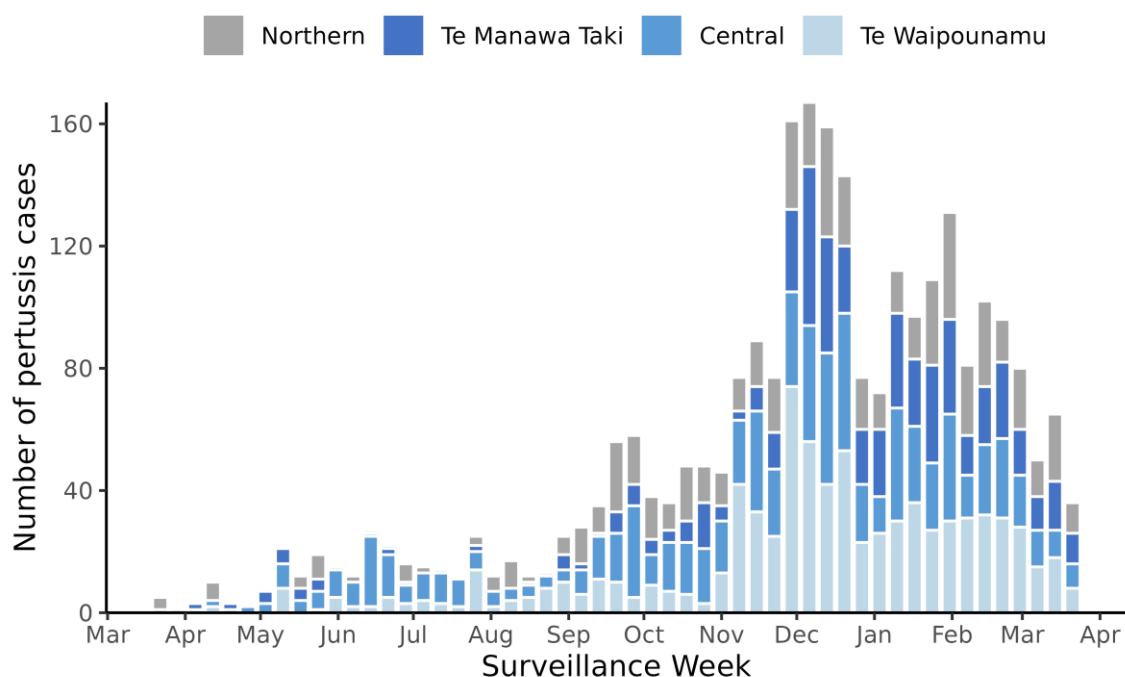
From the beginning of the current national epidemic on 19 October 2024 to 21 March 2025:

- a total of 2075 confirmed, probable and suspect cases of pertussis were notified;
- overall, 175 cases (9.0%) were hospitalised and there has been one death;
- of the 160 cases (7.7%) aged less than 1 year, 84 (53.2%) were hospitalised.

## Trends in pertussis cases

A national epidemic was declared on 22 November following a sustained increase in cases throughout New Zealand beginning on 19 October 2024 (Figure 1). Numbers continued to increase in November and December, peaking in the weeks leading up to Christmas. Weekly numbers varied between 80 and 131 cases during January and February and remained below the December peak. Weekly case numbers have decreased further in the first three weeks of March.

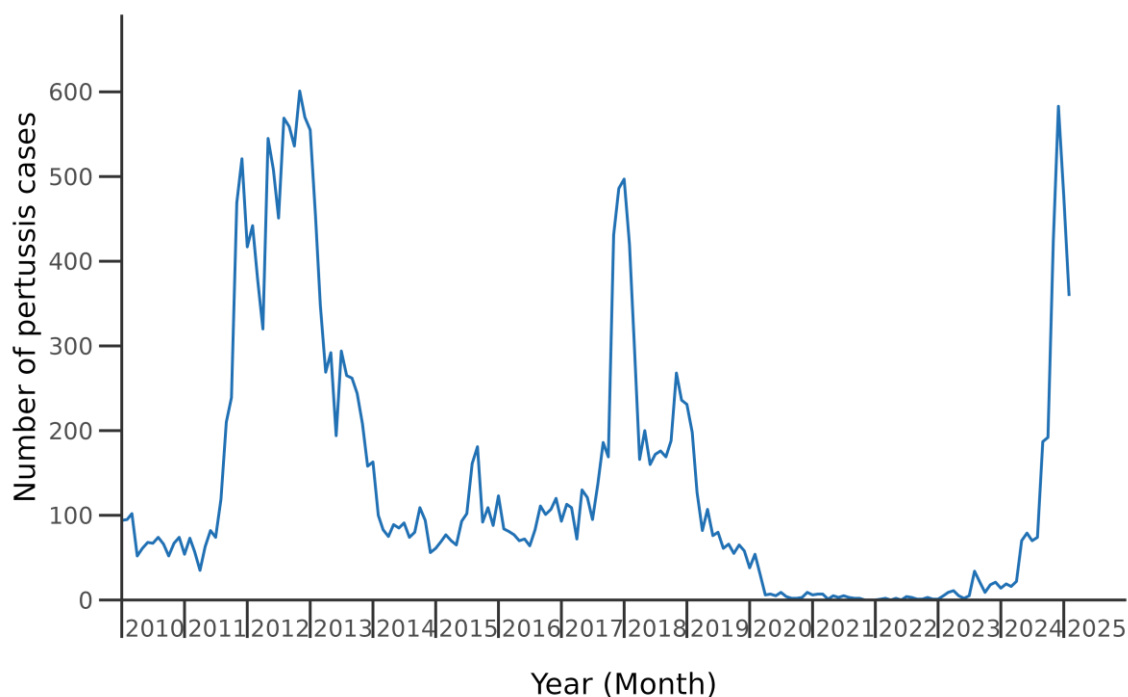
**Figure 1. Pertussis cases by week and region, 12 months to 21 March 2025**



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

Figure 2 shows monthly pertussis cases since 2010. This shows the current epidemic with case numbers in December equalling or exceeding the highest months seen during the two previous epidemics in 2011–2013, and 2017–2019.

**Figure 2. Pertussis cases by month, January 2010–February 2025**



Note: Data for March are not presented as the month is not yet complete.



## Cases by age

In the past four weeks, notification rates were highest among infants aged less than 1 year, followed by children aged 1–4 years (Table 1). Infants aged less than 1 year are most vulnerable to severe disease, with a high proportion requiring hospitalisation. Among infants, those aged less than 2 months are at highest risk of severe disease and death.

**Table 1. Number and rate of pertussis cases and hospitalisations by age group**

Age Group (years)	Past 4 weeks			National epidemic to date	
	22 February–21 March 2025			19 October 2024–21 March 2025	
	Cases <sup>1</sup>	Rate <sup>2</sup>	Hospitalised	Cases <sup>1</sup>	Hospitalised
<1	20	34.6	7 (35.0%)	160	84 (53.2%)
1–4	45	18.5	1 (2.3%)	369	26 (7.4%)
5–9	30	9.1	2 (7.1%)	332	10 (3.1%)
10–14	26	7.5	1 (4.2%)	288	9 (3.4%)
15–19	25	7.3	0 (0.0%)	161	2 (1.4%)
20–64	74	2.4	4 (5.8%)	669	31 (5.0%)
65+	11	1.2	0 (0.0%)	96	13 (15.5%)
<b>Total</b>	<b>231</b>	<b>4.3</b>	<b>15 (6.9%)</b>	<b>2,075</b>	<b>175 (9.0%)</b>

<sup>1</sup> Includes confirmed, probable and suspect cases only

<sup>2</sup> Four week rate of pertussis cases per 100,000 population calculated using 2024 mid-year population estimates from Statistics New Zealand. Rate suppressed if based on fewer than five cases.

## Cases by Ethnicity

In the past four weeks, the ethnic group with the highest notification rate was Māori (10.1 per 100,000, 90 cases), followed by Pacific peoples (5.6 per 100,000, 20 cases), and European or Other (3.1 per 100,000, 100 cases) (Table 2).

Hospitalisation rates since 19 October were highest among Māori and Pacific peoples, both overall and for cases <1 year of age.

Further breakdowns of case numbers by age and ethnicity are available on the [ESR Pertussis dashboard](#).

**Table 2. Number and rate of pertussis cases by ethnicity**

Ethnicity	Past 4 weeks		National epidemic to date			
	22 February–21 March 2025		19 October 2024–21 March 2025			
	Cases <sup>1</sup>	Rate <sup>2</sup>	Cases <sup>1</sup>	Hospitalised	Cases <1yr	Hospitalised <1yr
Māori	90	10.1	684	83 (12.7%)	102	58 (57.4%)
Pacific peoples	20	5.6	132	27 (21.6%)	12	7 (58.3%)
Asian	13	1.6	73	7 (10.9%)	5	1 (20.0%)
European or Other	100	3.1	1,156	55 (5.1%)	39	17 (44.7%)
Unknown	8	-	30	3 (11.5%)	2	1 (50.0%)

Note: Ethnicity is prioritised. European and Other includes the MELAA category.

<sup>1</sup> Includes confirmed, probable and suspect cases only

<sup>2</sup> Four week rate of pertussis cases per 100,000 population calculated using 2024 mid-year population estimates from Statistics New Zealand. Rate suppressed if based on fewer than five cases.

## Cases by district

Lakes District reported the highest rate (14.1 per 100,000) in the last four weeks, followed by Northland (13.7 per 100,000). Rates in the Auckland, Waitemata and Waikato districts are lower than for most other districts (Table 3).

**Table 3. Number of pertussis cases, rate and hospitalisations by health district**

District	Past 4 weeks			National epidemic to date	
	22 February–21 March 2025			19 October 2024–21 March 2025	
	Cases <sup>1</sup>	Rate <sup>2</sup>	Hospitalised	Cases <sup>1</sup>	Hospitalised
Northland	28	13.7	4	163	16
Waitematā	10	1.5	0	100	16
Auckland	5	1.0	2	72	11
Counties Manukau	21	3.3	2	90	15
Waikato	9	1.9	3	97	14
Lakes	17	14.1	2	80	7
Bay of Plenty	15	5.3	0	166	17
Tairāwhiti	6	11.3	0	40	2
Taranaki	5	3.8	0	64	8
Hawke's Bay	10	5.4	1	136	13
Whanganui	1	-	0	35	9
MidCentral	11	5.7	0	104	5
Hutt Valley	9	5.5	0	72	5
Capital and Coast	13	4.0	0	150	8
Wairarapa	2	-	0	30	3
Nelson Marlborough	19	11.3	0	81	0
West Coast	0	-	0	45	5
Canterbury	36	5.7	1	265	12
South Canterbury	1	-	0	18	4
Southern	13	3.6	0	267	5

<sup>1</sup> Includes confirmed, probable and suspect cases only.

<sup>2</sup> Four week rate of pertussis cases per 100,000 population calculated using 2024 mid-year population estimates from Statistics New Zealand. Rate suppressed if based on fewer than five cases.

## Vaccination status of cases aged <12 months

Pertussis vaccination is funded in New Zealand during every pregnancy and as part of the childhood immunisation schedule. The primary series is given at 6 weeks, 3 months and 5 months. Together with the antenatal vaccine, this schedule aims to protect infants against pertussis infection, severe disease requiring hospitalisation, and death.

Table 4 shows the vaccination status of infant pertussis cases notified since the beginning of the national pertussis epidemic and whether they were hospitalised. All but one of the hospitalised cases to date are either aged <4 months or have not received all of their age-appropriate pertussis vaccine doses.

Information about antenatal vaccination doses for pertussis cases <12 months is not currently available.

**Table 4. Vaccination status of cases aged <12 months, by age and hospitalisation, 19 October 2024–21 March 2025**

Age Group	Hospitalised		Not Hospitalised	
<2mths <sup>1</sup>	27		6	
	Not vaccinated for age <sup>2</sup>	Vaccinated for age <sup>2</sup>	Not vaccinated for age <sup>2</sup>	Vaccinated for age <sup>2</sup>
2–3mths	24	6	3	3
4–5mths	8	0	6	0
6–11mths	16	1	32	19

Note: table excludes nine cases where vaccination status is unknown and two cases where hospitalisation status is unknown.

Source: EpiSurv

<sup>1</sup> Vaccination information is not provided for infants <2 months as the first infant dose is offered at 6 weeks and protection takes 14 days to develop.

<sup>2</sup> A case is considered to be vaccinated for age if they have received at minimum: 1 dose for cases 2 to <4 months; 2 doses for cases 4 to <6 months and 3 doses for cases 6–<12 months.

Note: Vaccine doses given <14 days prior to date of illness onset are excluded from this analysis as protection is expected to take 14 days to develop.



## Appendix – Case definition

*Note: The pertussis case definition was revised on 18 December 2024. The suspect case definition was retired as part of this revision.*

The case definition in place at the time of preparing this report is provided below. The current case classification used in Aotearoa New Zealand can be found on the [Health New Zealand | Te Whatu Ora Communicable Disease Control Manual](#) site.

### *Clinical criteria*

A clinically compatible illness is characterised by a new onset cough without a clear alternative cause and one or more of the following features:

- paroxysms of coughing
- cough ending in vomiting
- inspiratory whoop
- apnoea or cyanosis (in infants aged under 12 months).

### *Epidemiological criteria*

An epidemiological link is established when there is contact between two people at a time when one of them is likely to be infectious AND the other has an illness which starts within 5 to 21 days after this contact AND at least one case in the chain of [epidemiologically linked](#) cases (which may involve many cases) has [laboratory definitive evidence of pertussis](#).

### *Laboratory criteria*

Laboratory definitive evidence: Detection of *Bordetella pertussis* nucleic acid by polymerase chain reaction (PCR), OR Isolation of *B. pertussis*

### *Case classification*

- **Confirmed:** a person who has laboratory definitive evidence; OR a person who has a clinically compatible illness AND who has an epidemiological link to a confirmed case.
- **Probable:** a person who has a clinically compatible illness AND either has a cough lasting 14 days or more OR exposure as part of an outbreak<sup>1</sup>

<sup>1</sup>an institutional outbreak or community-wide outbreak (when there is limited access to testing)

- **Under investigation:** a person who has been notified, but information is not yet available to classify further.
- **Not a case:** a person who has been investigated and subsequently found not to meet the case definition.