

PERTUSSIS REPORT

8 March–4 April 2025

This fortnightly report summarises pertussis (whooping cough) notifications for the four-week period, 8 March–4 April 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 9 April 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 8 March–4 April 2025 than in the prior four-week period.

In the past four surveillance weeks (weeks 10–13, 8 March–4 April 2025):

- there were 216 cases (141 confirmed and 75 probable) notified in EpiSurv, compared with 328 cases for the prior four weeks (weeks 6–9) This comprises 65, 43, 56 and 52 cases, respectively in weeks 10–13;
- 19 cases were hospitalised, compared with 24 cases in weeks 6–9; no deaths were reported;
- 28 cases (13.0%) were aged less than 1 year, of which six (21.4%) were hospitalised;
- notification rates were highest among infants aged less than 1 year (48.4 per 100,000, 28 cases), followed by children aged 1–4 years (18.9 per 100,000, 46 cases);
- the ethnic group with the highest notification rate was Māori (9.7 per 100,000, 86 cases), followed by Pacific peoples (4.7 per 100,000, 17 cases), and European or Other (3.0 per 100,000, 95 cases);

- rates were highest in Te Waipounamu (6.2 per 100,000, 78 cases) followed by Te Manawa Taki (4.6 per 100,000, 49 cases), Central (3.6 per 100,000, 36 cases), and Northern (2.6 per 100,000, 53 cases).

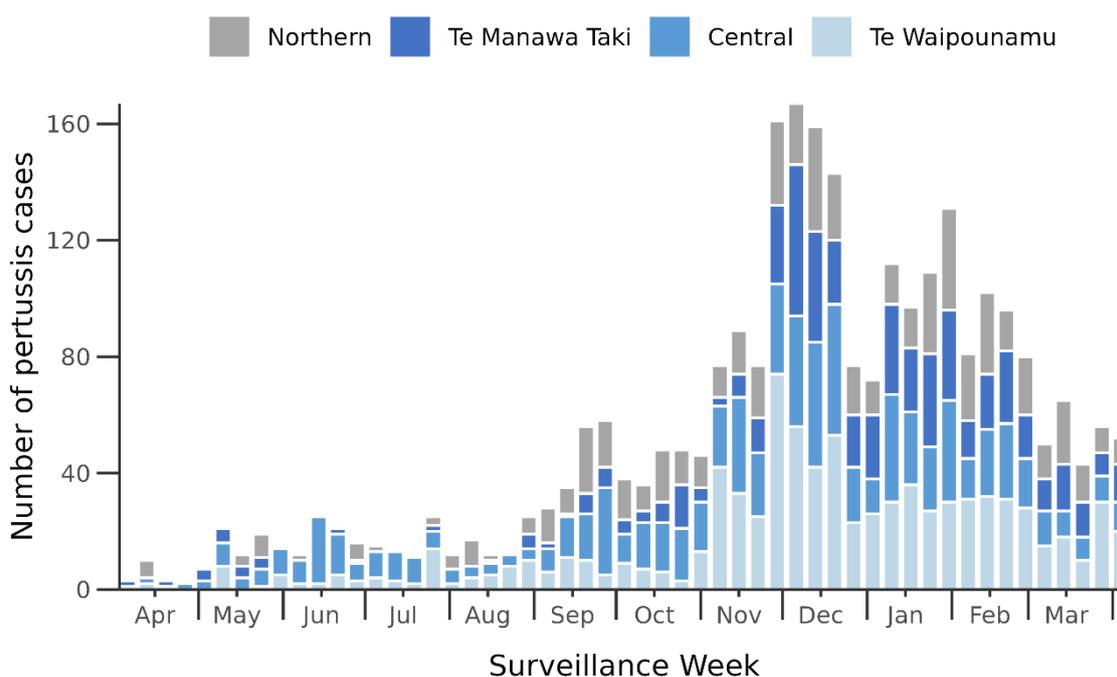
From the beginning of the current national epidemic on 19 October 2024 to 4 April 2025:

- a total of 2190 confirmed, probable and suspect cases of pertussis were notified;
- overall, 187 cases (8.5%) were hospitalised and there has been one death;
- of the 175 cases (8.0%) aged less than 1 year, 86 (49.1%) 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 case numbers decreased below this peak in January and February, and have decreased further in March.

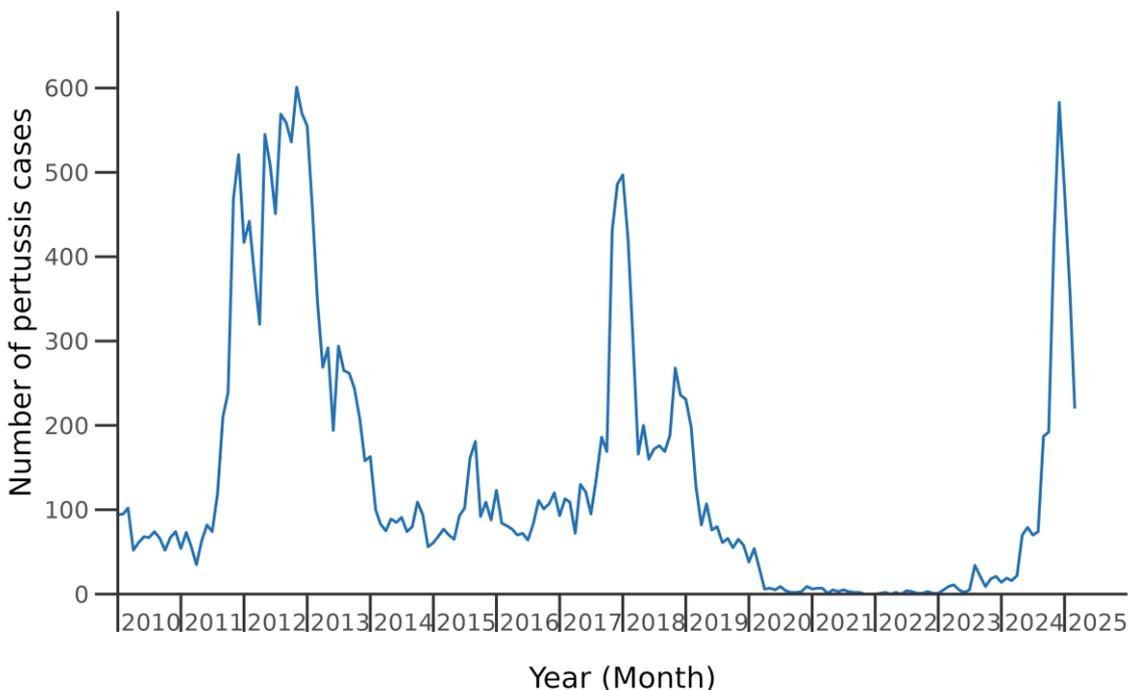
Figure 1. Pertussis cases by week and region, 12 months to 4 April 2025



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–March 2025

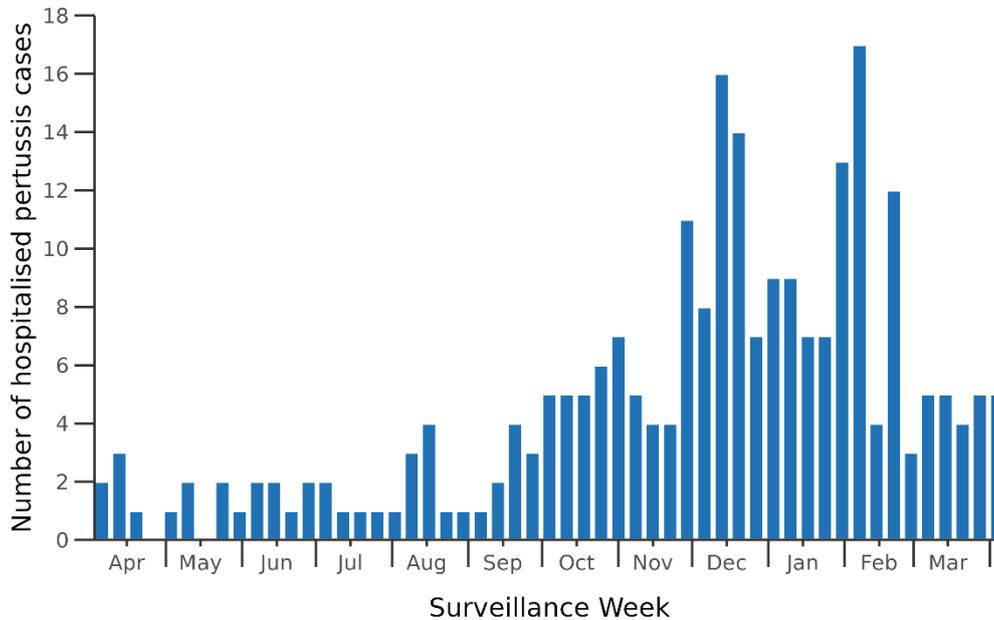


Note: Data for April are not presented as the month is not yet complete.

Trends in pertussis hospitalisations

Pertussis hospitalisations increased in December 2024 and remained high into February, noting there is large week to week variation (Figure 3). In the past four weeks, 19 cases were hospitalised, compared with 24 in the prior four-week period.

Figure 3. Pertussis hospitalisations by week, 12 months to 4 April 2025



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 | |
|-------------------|----------------------|-------------------|------------------|------------------------------|-------------------|
| | 8 March–4 April 2025 | | | 19 October 2024–4 April 2025 | |
| | Cases ¹ | Rate ² | Hospitalised | Cases ¹ | Hospitalised |
| <1 | 28 | 48.4 | 6 (22.2%) | 175 | 86 (49.7%) |
| 1–4 | 46 | 18.9 | 3 (6.5%) | 399 | 29 (7.6%) |
| 5–9 | 30 | 9.1 | 1 (3.8%) | 350 | 11 (3.3%) |
| 10–14 | 23 | 6.6 | 1 (5.0%) | 300 | 9 (3.3%) |
| 15–19 | 21 | 6.2 | 2 (9.5%) | 168 | 4 (2.6%) |
| 20–64 | 60 | 1.9 | 5 (8.5%) | 698 | 34 (5.2%) |
| 65+ | 8 | 0.9 | 1 (12.5%) | 100 | 14 (15.9%) |
| Total | 216 | 4.0 | 19 (9.2%) | 2,190 | 187 (9.1%) |

¹ Includes confirmed, probable and suspect cases only

² 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 (9.7 per 100,000, 86 cases), followed by Pacific peoples (4.7 per 100,000, 17 cases), and European or Other (3.0 per 100,000, 95 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 | | | |
|-------------------|----------------------|-------------------|------------------------------|--------------|------------|-------------------|
| | 8 March–4 April 2025 | | 19 October 2024–4 April 2025 | | | |
| | Cases ¹ | Rate ² | Cases ¹ | Hospitalised | Cases <1yr | Hospitalised <1yr |
| Māori | 86 | 9.7 | 727 | 90 (12.9%) | 110 | 59 (54.1%) |
| Pacific peoples | 17 | 4.7 | 142 | 29 (21.5%) | 14 | 8 (57.1%) |
| Asian | 8 | 1.0 | 77 | 7 (10.3%) | 5 | 1 (20.0%) |
| European or Other | 95 | 3.0 | 1,220 | 59 (5.2%) | 44 | 17 (39.5%) |
| Unknown | 10 | - | 24 | 2 (10.0%) | 2 | 1 (50.0%) |

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

¹ Includes confirmed, probable and suspect cases only

² 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

Tairāwhiti District reported the highest rate (18.8 per 100,000) in the last four weeks, followed by Lakes (13.3 per 100,000) (Table 3).

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

| District | Past 4 weeks | | | National epidemic to date | |
|--------------------|----------------------|-------------------|--------------|------------------------------|--------------|
| | 8 March–4 April 2025 | | | 19 October 2024–4 April 2025 | |
| | Cases ¹ | Rate ² | Hospitalised | Cases ¹ | Hospitalised |
| Northland | 19 | 9.3 | 2 | 166 | 16 |
| Waitematā | 10 | 1.5 | 1 | 106 | 17 |
| Auckland | 0 | - | 0 | 72 | 11 |
| Counties Manukau | 24 | 3.8 | 3 | 102 | 17 |
| Waikato | 8 | 1.7 | 2 | 102 | 16 |
| Lakes | 16 | 13.3 | 3 | 84 | 8 |
| Bay of Plenty | 8 | 2.8 | 0 | 169 | 17 |
| Tairāwhiti | 10 | 18.8 | 1 | 47 | 3 |
| Taranaki | 7 | 5.3 | 2 | 68 | 10 |
| Hawke's Bay | 7 | 3.8 | 1 | 140 | 13 |
| Whanganui | 0 | - | 0 | 35 | 9 |
| MidCentral | 10 | 5.1 | 0 | 111 | 5 |
| Hutt Valley | 8 | 4.9 | 0 | 76 | 5 |
| Capital and Coast | 9 | 2.8 | 0 | 154 | 8 |
| Wairarapa | 2 | - | 0 | 30 | 3 |
| Nelson Marlborough | 7 | 4.2 | 0 | 84 | 0 |
| West Coast | 0 | - | 0 | 45 | 5 |
| Canterbury | 54 | 8.6 | 4 | 302 | 15 |
| South Canterbury | 0 | - | 0 | 18 | 4 |
| Southern | 17 | 4.7 | 0 | 279 | 5 |

¹ Includes confirmed, probable and suspect cases only.

² 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. The majority (77/85, 90.6%) of hospitalised infant cases are either aged <2 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 2024–4 April 2025

| Age Group | Hospitalised | | Not Hospitalised | |
|---------------------|-------------------------------------|---------------------------------|-------------------------------------|---------------------------------|
| <2mths ¹ | 28 | | 6 | |
| | Not vaccinated for age ² | Vaccinated for age ² | Not vaccinated for age ² | Vaccinated for age ² |
| 2–3mths | 24 | 6 | 5 | 5 |
| 4–5mths | 8 | 1 | 10 | 0 |
| 6–11mths | 17 | 1 | 38 | 21 |

Note: table excludes five cases where vaccination status is unknown and two cases where hospitalisation status is unknown.
 Source: EpiSurv

¹ 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.

² 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 outbreak¹
¹an 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.