Increasing whooping cough cases put pēpi at risk. What can be done about it?

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Summary

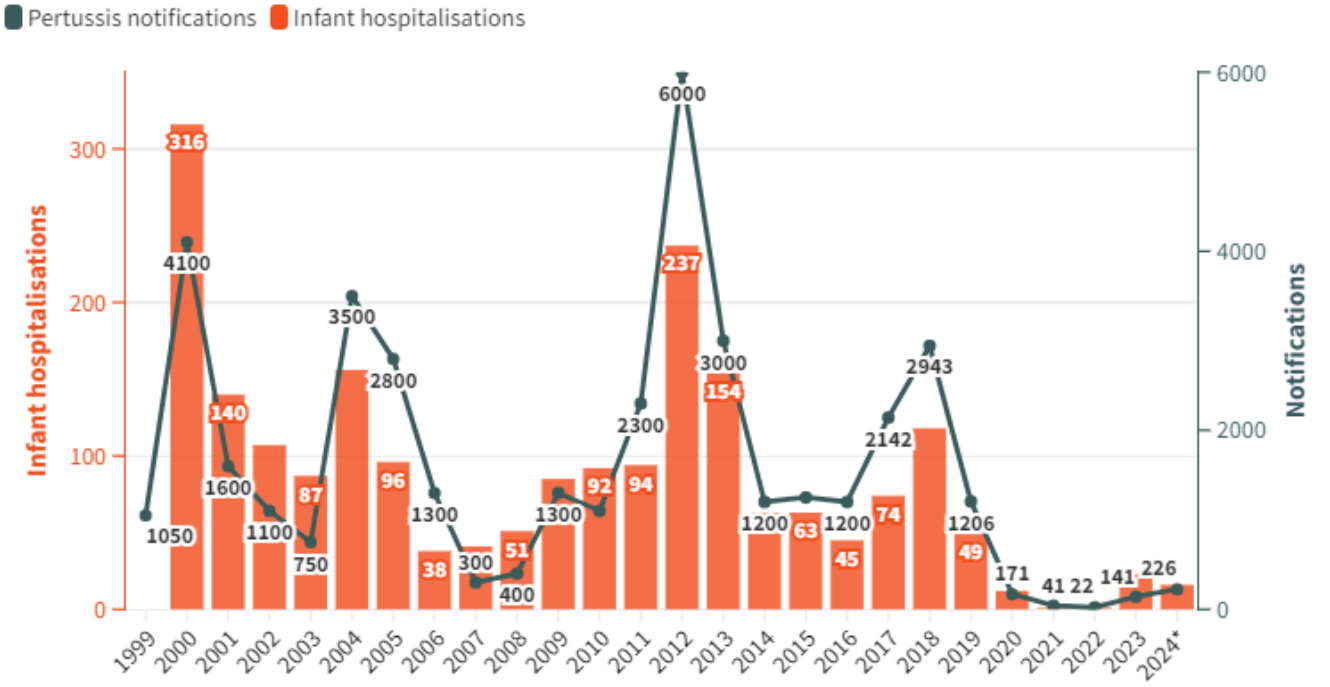
Aotearoa New Zealand (NZ) is experiencing a marked increase in whooping cough cases. Unimmunised pēpi (infants) are the most vulnerable to severe illness and death. We recommend two key priority areas to reduce the impact of severe pertussis in our communities. Firstly, ensure equitable access to pertussis immunisation in every pregnancy by: establishing a centrally-governed, accountable antenatal immunisation system; investing in credible, evidence-based patient-facing immunisation information; and enabling Lead Maternity Carers (LMCs) to deliver antenatal immunisations. Secondly, we need to intensify all initiatives to enable universal pēpi enrolment and engagement with primary care by 6 weeks.

Pertussis (whooping cough) is a highly infectious respiratory disease with very limited treatment options once symptoms have developed. Around half of pēpi (infants) who are notified to ESR with pertussis under the age of 12 months are hospitalised.[1,2] Unimmunised pēpi are the most vulnerable to severe illness and death,[3] and Māori, Pacific, and people

living in areas of high deprivation carry a disproportionately high burden of disease.[4] Tragically, in 2023 three very young pēpi died from pertussis in NZ,[5] despite low rates of recognised pertussis at the time.[5 6]

Pertussis is always circulating in NZ and epidemics typically occur every 3-5 years (see Figure 1).[7] There has been a marked increase in the number of notified cases in NZ with 83 in June 2024, more than triple the number in April 2024 (n=22).[6] This resurgence mirrors trends in other countries.[8]

Figure 1. Number of pertussis notifications and infant hospitalistions in New Zealand, 1999 to June 2024



*Up to June 2024
Sources: Notifications: 1999-2022, McIntrye et al., 2023; 2023-2024, ESR Pertussis Dashboard.
Hospitalisations: 2000-2021, [DISCHARGE DATA]; 2022-2024, ESR Pertussis Dashboard .

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Immunisation is our best protection from severe pertussis

The first four immunisation events protect pēpi when they are most vulnerable to severe disease: maternal vaccination during pregnancy, and immunisation at 6 weeks, 3 months and 5 months. Booster doses at 4 and 11 years also reduce disease in childhood, and may reduce the risk of spread to young pēpi in the whānau.[9 10]

Alarmingly, it’s estimated that only 52% of pregnant women/people who gave birth between December 2023 and February 2024 had received their pertussis immunisations, with large ethnic inequities (68% and 28% coverage for Asian and Māori respectively).[11]

We’re also underperforming in delivering on-time immunisations to pēpi. See appendix.

These low immunisation rates leave NZ pēpi vulnerable to severe disease, especially if a national epidemic of pertussis were to occur. Urgent action is required to increase

immunisation coverage, particularly in pregnancy, to protect pēpi from severe disease and death.

Actions to reduce the impact and spread of pertussis in NZ

1. Establish a centrally-governed maternal immunisation system

The single most important public health measure to protect pēpi is ensuring access to pertussis immunisation in **every pregnancy**. Antenatal pertussis immunisation protects pēpi before they can be immunised themselves. It has an excellent safety profile and can reduce the risk of hospitalisation by approximately 90% up to 3 months of age.[12]

As explored in a recent PHCC briefing,[13] NZ's inequitably low antenatal immunisation coverage is multi-factorial and likely perpetuated by health system barriers including differential access to maternity care.[14]

To counter the barriers that pregnant women/people face, NZ should convene a centrally-governed and accountable antenatal immunisation system. This system should be centred on equity and Te Tiriti obligations to monitor and co-ordinate efforts to improve coverage.[15] Although this was recommended by the Immunisation Taskforce,[15] progress is unclear.

2. Ensure whānau are empowered to make informed decisions around vaccination

Whilst systematically addressing access barriers to antenatal immunisation services, we also need to ensure that pregnant people are empowered to make informed decisions about immunisation. Although some women/people may be adequately informed about immunisation by their healthcare providers, this advice doesn't reach everyone,[16] and may not be provided in a way that encourages them to be immunised.[17]

Two factors which have been shown to improve uptake include a strong, clear recommendation from a trusted healthcare provider,[18 19] and having access to credible information about maternal immunisation.[17] The latter need can best be met by investing in evidence-based information in a range of formats, culturally appropriate to NZ communities but similar to resources available in Australia.[20]

3. Enable Lead Maternity Carers to deliver antenatal immunisations

NZ research has shown that pregnant women would value being able to receive antenatal immunisations from their LMC within routine antenatal appointments,[21] and perceive immunisation being immediately available once they've had a discussion with a trusted provider to be an enabler. [22]

Pro-equity service delivery models which would enable LMCs to provide this service include co-location of a vaccinator with a midwifery clinic, primary birthing facilities providing walk-in antenatal immunisation services by midwives on shift (especially in rural areas) and obstetric outpatient clinics offering immunisation onsite. Although these models have been trialled in some areas, they are not yet available NZ-wide.

4. Remove barriers to on-time childhood immunisation

Whilst antenatal vaccination must be our top priority, it is important to follow this up with **on-time** immunisation throughout infancy. Unfortunately, Māori and Pacific pēpi are less likely to receive timely immunisations despite being at greater risk of infectious disease.[23] Access is the major issue, as even though the vaccinations are free, transport, child-care, and time off work are not.[21 24] Our current newborn enrolment system also drives inequities in timely immunisation.[15 25 26]

To improve access to immunisation, pertussis-containing vaccinations should be available in multiple settings, including primary care, pharmacies,[27] and non-clinical locations. Although it is important that whānau can choose from a range of services, it is also vital that they don't encounter barriers to enrolling pēpi in primary care. Co-benefits of being enrolled with a GP by an infant's 6-week immunisations include being able to receive a 6-week health check, pre-call and recall for future immunisations, and other health needs.[28] Work to improve the newborn enrolment system is underway, but needs to continue to be prioritised.[15]

What this briefing adds

- Incidence of pertussis infection is rapidly increasing, and an epidemic could occur
- NZ has very low antenatal and 6-month immunisation coverage, putting young pēpi who are most vulnerable to severe disease and death from pertussis at risk
- Not all pregnant women/people receive sufficient information to enable them to make an informed choice about pertussis immunisation
- Pregnant women would value being able to receive antenatal immunisations from their trusted LMC within routine antenatal appointments

Implications for policy and practice

- NZ needs a centrally-governed and accountable maternal immunisation system centred on equity and Te Tiriti obligations
- We should invest in credible, evidence-informed, culturally appropriate resources for whānau on antenatal immunisation
- NZ should enable LMCs to deliver antenatal immunisations through resourcing a range of service delivery options
- There is an urgency to overcome access barriers for whānau in obtaining vaccinations on-time for newborn pēpi, especially through addressing barriers to primary care enrolment

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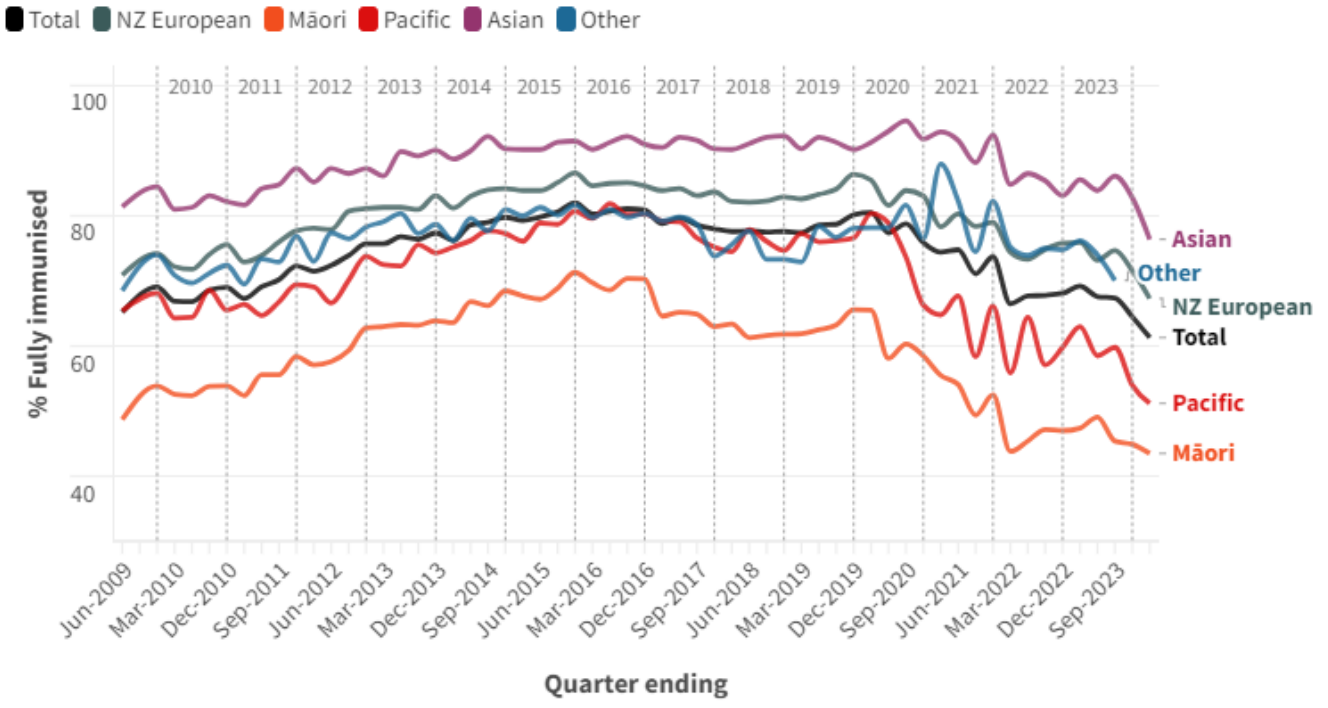
Appendix: Immunisation coverage at 6 months

Immunisation coverage at 6-months is a measure of immunisation timeliness, and NZ is underperforming in delivering on-time vaccinations to pēpi by this age. Data from September-December 2024 showed that only 67.4% of infants had received all of the immunisations that they were due for, including their primary three doses of pertussis-containing vaccines, by 6 months of age. [29] Delayed receipt of immunisation is even more common among Māori and Pacific infants, and infants who are not enrolled with a general practice.[26] [15] [29]

Figure A1: Immunisation coverage at 6 months of age, by ethnicity



Source: Ministry of Health/Te Whatu Ora, Immunisation Advisory Center • Note: As of 2024, NZ European and Other are merged into a single category

These low immunisation rates leave NZ pēpi vulnerable to severe disease, especially if a national epidemic of pertussis were to occur. Urgent action is required to increase

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