We know pertussis ...

- is caused by a bacterial infection - *Bordetella pertussis*
- is highly transmissible and one of the most infectious vaccine preventable diseases
- immunisation is funded on the National Immunisation Schedule for:
  - babies and children at ages 6 weeks, 3 and 5 months, 4 and 11 years
  - pregnant women
- immunisation and surveillance is aimed at protecting those most at risk i.e. infants aged under one
- disease burden falls on infants younger than age two months, especially those from Maori or Pacific ethnicity or living in the most deprived areas
- epidemics occur every two to five years
Pertussis symptoms and stages

Disease Progression: Pertussis

Weeks

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**Stage 1 - Catarrhal Stage**
May last 1 to 2 weeks

- Symptoms: runny nose, low-grade fever, mild, occasional cough – Highly contagious

**Stage 2 - Paroxysmal Stage**
Lasts from 1-6 weeks; may extend to 10 weeks

Symptoms: fits of numerous, rapid coughs followed by "whoop" sound; vomiting and exhaustion after coughing fits (called paroxysms)

**Stage 3 - Convalescent Stage**
Lasts about 2-3 weeks; susceptible to other respiratory infections for many

Recovery is gradual. Coughing lessens but fits of coughing may return.

http://www.cdc.gov/pertussis/images/pertussis-timeline-lg.jpg
Pertussis in the under ones

- Half are hospitalised.
- Around:
  - 5 in 10 infants who catch pertussis before six months require hospitalisation.
  - 1 to 2 in 100 will die
  - Around 2 in 1000 children with paroxysmal cough develop permanent brain damage, paralysis, deafness or blindness.

Source: http://www.immune.org.nz/diseases/pertussis
Since 2010.....

- Health targets for immunisation for two year olds from July 2010 to July 2012
- From July 2012, focus shifted to protecting younger more vulnerable children with a health target for immunisation at age 8 months
  - increased progressively to 95% by December 2014
- New Zealand has experienced another pertussis outbreak - peaking between August 2011 – December 2013
  - highest notification rates were those aged under 1 year
  - nearly half of the cases aged under 1 year were hospitalised
  - Maori and Pacific infants aged under 1 year had the highest incidence rates and were more likely to be hospitalised
  - three notified pertussis deaths in unimmunised children – 2 were too young to be immunised
Since 2010 (continued)...

• In January 2013, pertussis immunisation was introduced for pregnant women between 28 - 38 weeks gestation as an epidemic control strategy

• Immunisation coverage at eight months has increased from 86% in the June 2012 quarter to 93% in 2015

• Immunisation Team commissioned audience research on the Barriers to Immunisation for Pregnant women

• On 30 April 2015 the Ministry of Health held a ‘Pertussis Control Strategies: A Consistent Approach for New Zealand’ Workshop
Pertussis Control Strategies: A Consistent Approach for New Zealand Workshop

To minimise the impact of future outbreaks on those most vulnerable infants aged under one year

Focused on five key areas
1. National Immunisation Schedule timing and doses
2. Immunisation coverage, timeliness and service delivery
3. Antenatal pertussis immunisation
4. Data, surveillance and reporting
5. Communications
National Immunisation Schedule & timing

• The National Immunisation Schedule (the Schedule) needs regular review

• Our Schedule is in line with international recommendations to prevent severe pertussis in childhood and there is no New Zealand or international evidence to indicate any changes are needed

• New Zealand evidence does not indicate the need for a toddler pertussis booster to be introduced

• The timing of the pertussis boosters at ages 4 and 11 years are appropriate

• We do not need to change to a whole cell pertussis vaccine as the Schedule is working well and the reactogenicity of these vaccines could affect uptake

• Effective cocooning strategies require booster doses for all contacts - cocooning strategies are being superseded by antenatal immunisation
Immunisation coverage, timeliness and service delivery

• To reduce severe disease we need to ensure excellent immunisation coverage for populations at greatest risk

• Focus on reducing barriers to accessible information and advice for Maori, Pacific peoples and pregnant women

• Raise awareness of the importance of the timeliness of the second primary dose

• Have ‘courageous conversations’ with parents/caregivers declining immunisation

• Improve NIR coverage so that all immunisations are recorded for the ‘whole of life’

• Make the NIR accessible to all immunisation providers
Antenatal pertussis immunisation

Working group recommendation

“The Ministry of Health review the evidence on maternal vaccination programmes and implement the necessary systems and processes in order to maximise their implementation and equity of coverage”

• Improve access to immunisation for pregnant women

• Improve coverage and record immunisations given in pregnancy on the NIR

• Promote antenatal immunisation key messages via social media, text messaging rather than leaflets

• Consider universal funded GP consultation in the first trimester

• Encourage general practices to recall pregnant women for immunisation
Data, surveillance and reporting

• Make better use of our existing data to develop a complete picture of what is happening in New Zealand
  - pertussis epidemiology
  - immunity
  - vulnerable populations

• Address data quality issues to improve completeness and accuracy
Communications

• Health care professionals need detailed information supporting the safety and efficacy of immunisation during pregnancy.

• Pregnant women need information about pertussis immunisation which addresses their safety concerns.

• Use personal stories to communicate the importance of immunisation during pregnancy.
Workshop conclusions

• New Zealand pertussis control continues to focus on the protection of infants from severe disease

• The National Immunisation Schedule is effective in preventing severe pertussis in childhood

BUT....

The burden of disease falls on infants younger than two months of age particularly those of Maori, Pacific ethnicity and those living in the most deprived areas

• These children are too young to be immunised and are likely to be protected by antenatal immunisation
When will the next epidemic be?

Are we ready for it?

Immunisation Coverage for children at 8 months

Source: Ministry of Health, National Immunisation Register
But we have low coverage at age 6 months

Source: Ministry of Health, National Immunisation Register
Improving antenatal immunisation coverage

- A new informed consent tool has been developed and will be available shortly
- Pregnancy will be reported on the NIR by the end of 2015
- From 1 August 2015, pertussis immunisation for pregnant women is now funded regardless of an epidemic
Immunise - their best protection

Source: http://www.cdc.gov/pertussis/images