TOI TE ORA
PUBLIC HEALTH
Bay of Plenty + Lakes Districts

**Medical Officer of Health Report**
**March 2019**

# Immunisation in the Bay of Plenty and Lakes

## An update

Outbreaks of vaccine preventable diseases, urgent vaccination campaigns and immunisation uptake have been discussed extensively in the media in the last few months. I last reported to CPHAC in 2016 on immunisation, but enough has changed both here and worldwide to warrant an early return to the topic.

**The New Zealand Immunisation Schedule**
The current routine New Zealand vaccination schedule protects against the illnesses caused by 14 different infectious viruses and bacteria. The range of illness and disability which can be averted is wide, ranging across gastroenteritis, pneumonia, meningitis, epiglottitis, septicaemia, congenital damage, deafness, blindness, paralysis, cirrhosis, and cancers. Premature deaths are also prevented.

*The importance of high uptake*
Immunisation protects individuals who choose to accept vaccination from a range of diseases; however, unlike most treatments, there is a wider family and community dimension to vaccination. A vaccinated family member is unlikely to become ill and infect their closest contacts. A vaccinated individual is unlikely to catch rubella and unwittingly infect a pregnant woman.

At the wider community or national level, another issue arises. Where most people are immune to an infection such as measles (either through previous illness, or immunisation), a case of measles is very unlikely to spread the illness, despite being very contagious. This is called community (or herd) immunity and protects individuals who cannot be immunised for medical reasons, such as those receiving cancer treatments.

**Progress**
There has been considerable progress in recent years, and, whilst more can be done; it is important to reflect on this, as well as face the current challenges.

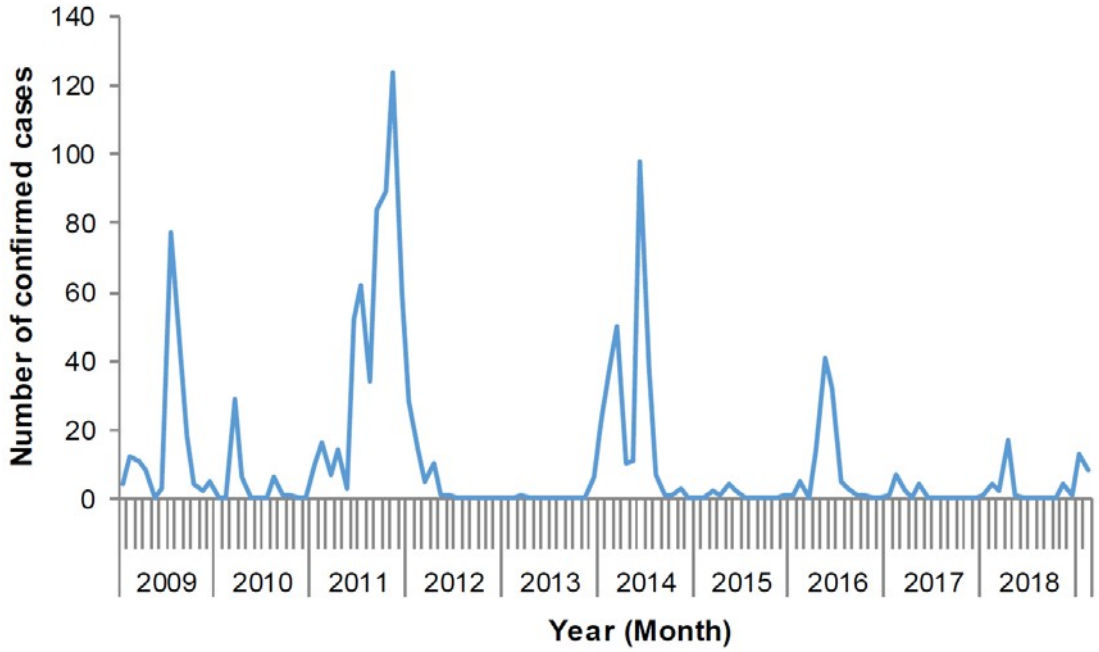
*Increasing and more equitable uptake nationally*
One of the most crucial aspects of an immunisation programme is uptake: that is, the proportion of the population that completes a full course of the recommended vaccinations appropriate for their age. In 2005, only 77% of two year old children in New Zealand were fully vaccinated. By 2017 this had risen to 92.8%.

Here in the Bay of Plenty and Lakes districts there has also been good progress in recent years. My reports to CPHAC in 2008 noted uptake at two years of age to be around 65% in both areas. By the end of 2016, the Bay of Plenty uptake was 88.6% and 91.6% in Lakes.

*Widening protection*
The number of vaccines to the National Schedule has increased offering further protection against infectious diseases.

| Vaccine | Year of introduction | Impact/Potential (in New Zealand) |
|---|---|---|
| **Pneumococcal** for young children (Prevents pneumonia and meningitis in young children ) | 2008 | Invasive pneumococcal disease affected **100** per 100,000 children under 2 years of age in **2006/07.** By **2015** the infection rate had decreased to **11.8** cases per 100,000. |
| **Rotavirus**<br><br>(Prevents gastroenteritis in young children) | 2014 | Almost all NZ children caught rotavirus by the time they were five years old. Although the gastroenteritis it causes varies in severity, a fifth of children require medical attention. In **2014, more than 700** children under five years old were admitted to hospital due to rotavirus infection**. In 2015 the number had dropped to 99.** |
| **Human papilloma virus** (HPV) for boys and girls or for young adults<br><br>(Prevents some cancers in later life)<br><br>For boys and girls or for young people born after 1990 | 2008 – girls only<br>2017 – boys and all young adults to age 27 | In Australia – where the programme started much earlier:<br>• **77% reduction in HPV** types responsible for almost 75% of cervical cancer<br>• **50% reduction in** the incidence of **high-grade cervical abnormalities** (data from the state of Victoria) girls under 18 years of age<br>• **90% reduction in genital warts** in heterosexual men and women under 21 years of age.<br><br>These benefits are quite possible here. |
| Chickenpox vaccine | 2017 | Although it is generally a mild illness in children, however, a significant number of children can have much more serious infections. In families, children are often affected one after the other, causing considerable disruption. Adding the chickenpox vaccine to the childhood schedule will reduce infection dramatically in the coming years. |

Indeed despite the recent concerns about imported cases of measles, and the fairly frequent and recent outbreaks we have seen in the past few years, New Zealand is officially measles free. We do not have any evidence of sustained transmission here. The graph below shows the significant improvement in the numbers of confirmed cases in New Zealand.




*Source ESR Measles report March* 2019

**Challenges**

Despite all of this good news, we still have many challenges in maintaining progress.

*Rising uptake has stalled with a recent downturn*

The percentage of children fully vaccinated at 24 months nationally held steady between 92 and 93% for a few years, but fell to 91% in 2018.

*Recent falls in uptake locally*

From 2017, there have been indications that the timeliness of immunisation, which is measured by uptake at eight months, has been weakening, with emerging inequities in uptake between Māori and New Zealand European children.

*Increasing risks of disease*

New Zealand has been in the midst of an outbreak of pertussis (whooping cough) since late 2017, with over 4000 cases by January this year. Whooping cough is most dangerous for infants. Clearly this risk is heightened whilst the infection remains common in our communities.

Measles has become significantly more common overseas. The World Health Organization was notified of 60,000 cases in January this year. All cases in New Zealand in recent times are likely to have been as a result of overseas visitors or returning travellers.

*Unhelpful publicity*

Some people actively discourage immunisation, and there have been episodes of media interest in these minority views, both nationally and locally.

**Vaccine Safety**

The safety of all medicines is important in healthcare, however it is particularly crucial for immunisations, which are actively offered to well individuals to prevent rather than treat illness. They are also offered to individuals, at least in part, to protect others. An example of this is the rubella vaccine offered to boys, largely to protect pregnant women. Vaccines have to be, and be seen to be, as safe as possible.

*Safety record of vaccines*
Although minor side effects such a local tenderness at the vaccine site and mild fever are common, vaccines are well tolerated. Anaphylaxis, which is a severe allergic reaction, although rare, is a foreseeable and potentially fatal side effect. Vaccinators are trained regularly in managing anaphylaxis, and vaccination takes place in controlled settings.

*Training of vaccinators*
Most vaccines in the routine schedule are given by nurses in primary care. It is recommended that they have undergone the training and assessment to vaccinate as an authorised independent vaccinator. This means that in our area, each authorised vaccinator has had their training and assessment personally approved by one of the Medical Officers of Health. In addition, vaccinators are required to attend professional development for reauthorisation every two years.

**Protecting the community is a constant task**
Immunisation is a long game. Thousands of newborn babies arrive each year, many to first time parents, and there are additions to the schedule from time to time, which are new to experienced parents. Each decision to protect a child is a new one, taken afresh.

We therefore constantly need:

- Clear, reliable, up to date, evidence based and accessible information for all parents-to-be, parents, caregivers, and other relevant adults.
- Convenient and easy to access immunisation services
- Well trained staff delivering immunisation
- Active support of immunisation by the wider healthcare community.

The recent falls in immunisation uptake, particularly at eight months, are a concern; however addressing this and other challenges in immunisation should build on the strengths we have developed in recent years.

We have excellent and timely data on uptake, easy access to evidence on the effectiveness of interventions, expert advice, and dedicated and well trained staff across our area. We also know that we can improve uptake. We have done it before.

**Dr Jim Miller**
**Medical Officer of Health**
**26 March 2019**