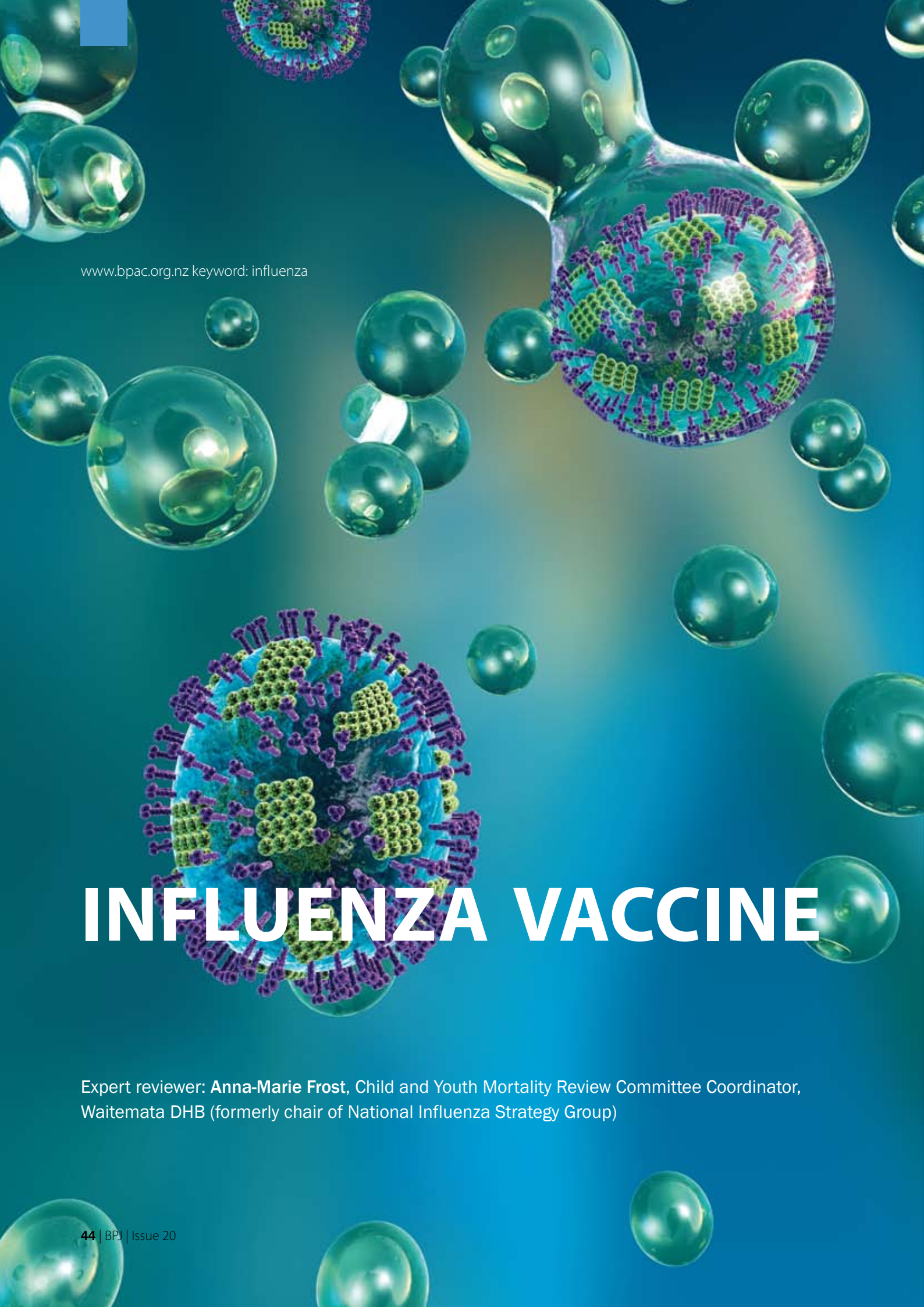
www.bpac.org.nz keyword: influenza



INFLUENZA VACCINE

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influenza

Influenza is a highly infectious acute respiratory disease

Influenza is characterised by fever, headache, severe malaise, myalgia, cough, sore throat and runny nose. While cough and malaise can persist for weeks, acute illness usually only lasts for about three days.[1]

Seasonal rates of influenza vary from year to year. Mortality rates depend on spread and virility of the virus. Approximately one in five people will catch influenza each year and approximately 40 New Zealanders die from influenza annually.

The influenza vaccine

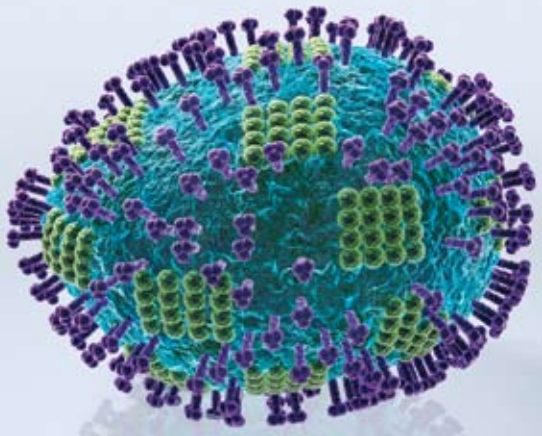
The influenza virus has a marked ability to mutate, therefore strains are surveyed each year and new vaccines against influenza are designed to match the circulating strains most likely to cause influenza activity over the winter months.[2]

Influenza vaccines for 2009, Fluvax and Vaxigrip, contain the following inactivated virus strains.[4]

- A/Brisbane/59/2007 (H1N1) – like virus
- A/Brisbane/10/2007 (H3N2) – like virus
- B/Florida/4/2006 – like virus

Potentially deadly influenza strain for 2009

The "Brisbane strain", contained in this year's vaccine, killed six children in Australia last year and has medical authorities in Europe warning that it could be the most deadly influenza virus seen for 20 years. Oseltamivir-resistant strains have also been seen in the United States this season. These factors combined with low immunisation rates, seen in both the general public and in health professionals, could result in a potentially severe influenza season this year[3]



Influenza immunisation is the most effective protection against influenza

Influenza vaccination is approximately 70–90% effective at preventing infection in healthy adults, when the vaccine and circulating influenza strains are well matched.[4, 5] In elderly people, vaccination is less effective at preventing infection, however it reduces the risk of death from influenza by 48%, and reduces the risk of hospitalisation for pneumonia or influenza by 27%.[4]

The vaccine is free for those at high risk of influenza and complications

The incidence of influenza is usually higher in children, elderly people and those living in crowded conditions. Elderly people and people with chronic co-morbidity are most at risk of complications including pneumonia, bronchitis, exacerbations of chronic respiratory disease and death.[5]

Anyone can be immunised against influenza however the influenza vaccine is funded until June 30, 2009 for the following people:[4]

1. Anyone aged 65 years or over
2. Anyone over six months old with chronic medical conditions, such as:
   - Cardiovascular disease (ischemic heart disease, congestive heart failure, rheumatic heart disease, congenital heart disease, cerebrovascular disease)
   - Chronic respiratory disease (asthma if on preventive therapy; other chronic respiratory disease with impaired lung function)
   - Diabetes
   - Chronic renal disease
   - Cancer (patient currently has cancer), excluding basal and squamous skin cancers if not invasive
   - Other conditions (autoimmune disease, immune suppression, HIV, transplant recipients, neuromuscular and CNS diseases, haemoglobinopathies, children on long term aspirin*)

* aspirin therapy puts children at risk of Reye's syndrome if they develop a fever

People with the following conditions are **not** eligible for the funded vaccine:

- Asthma not requiring regular preventive therapy
- Hypertension and/or dyslipidaemia without evidence of end-organ disease
- Pregnancy in the absence of other risk factors that meet the eligibility criteria

There are very few contraindications to the influenza vaccine

Influenza vaccine should not be given to people who have had an anaphylactic reaction to eggs, chicken proteins, neomycin, polymyxin B or any other vaccine components.[4] Vaccination should be delayed in people who have acute systemic illness or fever over 38°C.

Pregnancy is not a contraindication to influenza immunisation

Maternal influenza immunisation has substantial benefits for both mothers and infants. One study showed that maternal immunisation against influenza reduced rates of respiratory illness with fever in both infants and mothers.[6]

Evidence shows there is no risk to the foetus from vaccinating pregnant women with inactivated viral vaccines. Influenza vaccination is safe for breastfeeding women.[3, 4]

In the UK, influenza vaccine is recommended for pregnant women who are in the high risk group, regardless of their stage of pregnancy. For other pregnant women, it is recommended that vaccination is delayed until after their first trimester.

In New Zealand, influenza vaccines are licensed for use after the first trimester (i.e. greater than 14 weeks gestation) and are recommended for women who are beyond their first trimester during the influenza season.[7, 8] Influenza vaccine is only funded for pregnant women with other risk factors that meet the eligibility criteria (see above).

Children

Influenza immunisation of children with chronic co-morbidities is currently recommended and funded in New Zealand.

In the US, in addition to children with co-morbidities, it is recommended that all children aged less than five years are immunised, as well as caregivers of children aged under five years.[9]

Children have high rates of influenza and are often the major cause of influenza spread in the community. The benefit of influenza immunisation appears greater in children than adults. Immunising healthy children also results in less influenza in their families.[4]

Parents who wish to immunise their healthy children against influenza can purchase the vaccine.[4]

Healthcare workers

Influenza immunisation is effective in healthy adults. Immunisation of healthcare workers has additional benefits because it protects patients who are at risk of serious complications of influenza.[2, 4]

However, there are low immunisation rates in New Zealand healthcare workers, with influenza vaccination uptake reported to be only approximately 20–40%.[10] One survey of Canterbury District Health Board employees, who were offered free influenza vaccine in 2004 and 2005, showed that uptake was greatest in laboratory workers and administration staff, followed by doctors and the lowest uptake was by nurses (estimated 16%).[11]

Consent is required prior to giving the injection. This can be written consent or documentation of verbal consent. It is good practice to record what was discussed and that consent was obtained.[8]

Vaccine administration and dosage

Influenza vaccine can be given intramuscularly or subcutaneously.

It is usually given:[2]

- By intramuscular injection to the vastus lateralis muscle on the lateral thigh for infants under 15 months of age
- By intramuscular injection to either the vastus lateralis or deltoid muscle for young children over 15 months
- By intramuscular injection into the deltoid muscle for adults, adolescents and older children
- By deep subcutaneous injection for people with a bleeding disorder

Patients are required to stay for 20 minutes after receiving the influenza vaccine to allow monitoring for immediate allergic reaction.

See Table 1 for vaccine doses.

Influenza vaccines are well tolerated

The most common adverse effect reported following vaccination, affecting 10–64% of individuals, is mild tenderness at the immunisation site. Rarely, systemic reactions such as fever, malaise, and myalgia occur and usually only last one to two days.[5] Immediate allergic reactions such as urticaria, bronchospasm and anaphylaxis are rare.[2]

Influenza immunisation is required before the influenza season begins

In New Zealand, the influenza season usually occurs between May and September but may occur earlier or later.[4] In 2007, influenza activity peaked in July but was low overall compared to previous years.[12]

The effectiveness of the influenza vaccine does not rapidly diminish, however as there is significant change in influenza viruses circulating each year, annual immunisation is necessary. It takes up to two weeks for the vaccine to induce immunity therefore it is recommended that people are immunised against influenza as soon as the current year's vaccine is available and before the expected exposure to high influenza activity in May to September.

Table 1: Recommended vaccine doses in adults and children

Age	Dose
Children aged 6 – 35 months	0.25 mL; repeated 4 weeks later if receiving vaccine for the first time*
Children aged 3 – 8 years	0.5 mL; repeated 4 weeks later if receiving vaccine for the first time*
Adults and children 9 years of age and over	A single injection of 0.5 mL

*Two doses are required to produce a satisfactory immune response in children less than 9 years of age who have not previously received the influenza vaccine (i.e. in the first year they receive the vaccine).[8] Children under nine, who received only one dose in their first year of vaccination, should receive two doses the following year.

Health professional endorsement of influenza vaccination increases uptake

Health professional endorsement of influenza vaccination is one of the most effective measures to increase vaccination uptake. An important message to give patients is that the influenza vaccine cannot cause influenza because it contains no live viruses.[4] Emphasise that the vaccine is made from inactivated virus which means it is incapable of producing infection within the body.

Influenza vaccinations can be carried out in dedicated "flu clinics", opportunistically when a patient presents for a consult, or in workplaces. When actively organising eligible patients to come in for influenza immunisation there is evidence that reminding patients by letters, postcards, telephone or face-to-face is effective in increasing vaccination rates. Reminding people by telephone and providing multiple reminders can be more effective but is also likely to cost more.[2, 13]

www.influenza.org.nz

This website contains information and resources about influenza immunisation including:

- The "Influenza Kit" information booklet
- Posters and other materials for informing patients about influenza vaccination
- Example recall letters and PMS downloads for query builders

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