

# Seasonal influenza vaccination: update for 2018

Two subsidised seasonal influenza vaccines, Influvac Tetra (for adults and children aged three years and over) and Fluarix Tetra (for children aged six months to three years), are expected to be available by mid-April. Both vaccines contain four strains of inactivated influenza virus, a new A strain sometimes known as “Australian flu” and an extra B strain.

Overall, 1.2 million doses of influenza vaccine were distributed in New Zealand last year.<sup>1</sup> However, influenza vaccine uptake was slightly lower in 2017 than in the previous three years.<sup>1</sup> A goal of the 2018 Influenza Immunisation Programme is to increase uptake among people eligible for a fully-subsidised vaccination and among healthcare workers, who are often able to access a free vaccination through their workplace.<sup>2</sup>

Annual vaccination is recommended because protection from influenza immunisation wanes over time, and the circulating virus strains change each year.<sup>2</sup> Protection against influenza varies depending on factors such as an individual's health status and age, and how well the vaccine matches the circulating viruses. Estimates of vaccine effectiveness can range from inconclusive up to nearly 50% in adults aged 65 years or over, and over 50% in healthy adults, pregnant women and children.

Effectiveness is also higher in years when the vaccine is well matched to the circulating viruses and may be higher against more severe complications.<sup>2</sup>

In the 2017 Southern Hemisphere influenza season, the approved vaccine was not well matched to one of the circulating influenza viruses, an influenza A(H3N2) strain referred to in the media as “Australian flu”.<sup>3</sup> In Australia, the recommended influenza vaccine offered an estimated protection of just 10% for that strain.<sup>3</sup> The composition of the recommended influenza vaccine used in the Northern Hemisphere 2017/2018 influenza season was identical to the Australian vaccine, and as the same influenza A strain was predominant, the season was severe.<sup>3,4</sup> Changes have been made to the recommended vaccination for the 2018 influenza season to ensure optimal coverage for the predicted circulating viruses.

## Four influenza strains are included in the 2018 subsidised vaccines

For the first time in New Zealand, the subsidised influenza vaccines are quadrivalent rather than trivalent, containing four inactivated influenza strains.<sup>1, 2, 5</sup> Quadrivalent vaccines are believed to provide broader protection by containing an additional influenza B strain, and the safety profile is similar to that of trivalent vaccines.<sup>1</sup> This year, the subsidised vaccines provide protection against an additional influenza B strain, and the influenza A strain known as the "Australian flu":<sup>1, 2, 5</sup>

- A/Michigan/45/2015 (H1N1)pdm09-like virus
- A/Singapore/INFIMH-16-0019/2016 (H3N2)-like virus (new, "Australian flu")
- B/Phuket/3073/2013-like virus (new, belonging to B/Yamagata lineage)
- B/Brisbane/60/2008-like virus (belonging to B/Victoria lineage)

## Vaccine choice differs by age group

Two influenza vaccines are subsidised for the 2018 season. Influvac Tetra is approved for use in people aged three years and over, and is the subsidised vaccination for eligible people in this age group. Fluarix Tetra is approved from age six months, therefore is the subsidised vaccination for younger children:<sup>1, 2, 6</sup>

- Influvac Tetra is subsidised for adults and children aged three years and over
- Fluarix Tetra is subsidised for children aged six to 35 months

Influenza vaccine is given as one 0.5 mL dose.<sup>1, 2</sup> The exception to this is children aged six months to eight years who are receiving influenza vaccine for the first time; a second dose should be given four weeks later to achieve an optimal immune response. Infants aged under six months should not be administered influenza vaccine.

If the patient is not eligible for a subsidised vaccine, either vaccine can be administered (Fluarix Tetra from age six months and Influvac Tetra from age three years).

## Subsidies extended to include people aged under 18 years in areas affected by natural disaster

Subsidised influenza vaccinations are intended to prevent serious complications of influenza among at-risk groups.<sup>2</sup> While eligibility criteria largely remain the same as in 2017, a new group able to receive a subsidised influenza vaccination is young people aged under 18 years living in specified areas recently affected by natural disaster.<sup>2</sup>

Patients able to receive a subsidised influenza vaccination include:<sup>\*</sup>

- Pregnant women
- People aged 65 years and over
- People aged under 65 years with:
  - Cardiovascular conditions (not including hypertension or dyslipidaemia without end-organ disease)
  - Asthma, if on regular preventive therapy
  - Other chronic respiratory diseases such as chronic obstructive pulmonary disease
  - Diabetes
  - Chronic renal disease
  - Autoimmune disease or immunosuppression
- Children aged under five years with a history of significant respiratory illness or hospitalisation for respiratory illness
- People aged under 18 years who are:
  - Living in the Seddon/Ward or rural Eastern Marlborough region
  - Living in the Kaikoura or Hurunui areas
  - Displaced from their homes in the Edgecumbe region

\* The full list of conditions and criteria that qualify a patient for subsidised vaccination is available from: [www.pharmac.govt.nz/medicines/your-health/influenza/](http://www.pharmac.govt.nz/medicines/your-health/influenza/)

## Updated influenza vaccine precautions


### Caution is no longer required for people with severe egg allergy

Most people aged six months and over can receive an influenza vaccination.<sup>2</sup> However, influenza vaccination is contraindicated in people who have had an anaphylactic reaction to a previous dose of the vaccine or an ingredient included in the vaccine.<sup>1, 2</sup> One exception to this contraindication is egg allergy, including anaphylaxis.<sup>1, 2</sup> Influenza vaccines manufactured using chicken eggs contain some residual egg white protein (ovalbumin), but recent studies have demonstrated that vaccines containing less than one microgram of ovalbumin do not trigger anaphylaxis.<sup>1, 7</sup> The residual ovalbumin in one dose of Influvac Tetra or Fluarix Tetra is substantially lower than one microgram, therefore the vaccine can now be safely administered at general practices, pharmacies or a workplace to people with a history of anaphylaxis to eggs.<sup>1</sup>

Fluarix Tetra is latex-free and is safe for use in patients with a latex allergy.<sup>2</sup> Influvac Tetra syringes do not contain any latex, but the supplier is unable to confirm that the product did not come into contact with any latex materials during the manufacturing and packaging process.<sup>2</sup>


## Precaution for patients taking new cancer medicines

For patients currently taking an immune checkpoint inhibitor (atezolizumab, ipilimumab, nivolumab or pembrolizumab), or who have taken one in the last six months, influenza vaccination may increase the risk of developing an autoimmune adverse effect. Contact the patient's oncologist or call **0800 IMMUNE (0800 466 863)** for advice before administering the influenza vaccine.<sup>1,2</sup>

 For further information on Immune Checkpoint Inhibitors, see: [bpac.org.nz/2018/checkpoint.aspx](http://bpac.org.nz/2018/checkpoint.aspx)

## Risk of Guillain-Barré syndrome extremely rare

Fear of Guillain-Barré syndrome may be a deterrent for some people to receiving an influenza vaccine. Patients can be reassured that this is an extremely rare event and it may not have a causal link with influenza vaccination. A 2018 Cochrane systematic review found that seasonal influenza vaccination was not significantly associated with the development of Guillain-Barré syndrome within six weeks of vaccination.<sup>8</sup> Influenza itself is also associated with Guillain-Barré syndrome in very rare cases; a Canadian study found that the risk of Guillain-Barré syndrome after influenza illness was higher than after influenza vaccination.<sup>9</sup>

 For further information on influenza:  
For health professionals, see: [www.influenza.org.nz](http://www.influenza.org.nz)  
For patients, see: [www.fightflu.co.nz](http://www.fightflu.co.nz)

---

**Acknowledgement:** Thank you to **Dr Nikki Turner**, Director of the Immunisation Advisory Centre (IMAC) for expert review of this article.

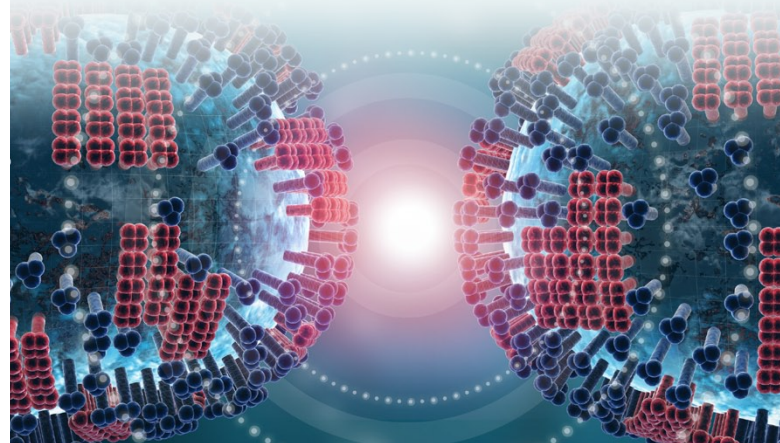
---

## References:

1. Ministry of Health (MOH). Immunisation Handbook 2017 (2nd edition, March 2018). Wellington, New Zealand: MOH, 2018. Available from: [www.health.govt.nz](http://www.health.govt.nz) (Accessed Mar, 2018).
2. The Immunisation Advisory Centre. 2018 Influenza Kit, 2018. Available from: [www.influenza.org.nz](http://www.influenza.org.nz) (Accessed Mar, 2018).
3. Sullivan SG, Chilver MB, Carville KS, et al. Low interim influenza vaccine effectiveness, Australia, 1 May to 24 September 2017. *Euro Surveill* 2017;22(43):pii=17-00707.
4. Paules CI, Sullivan SG, Subbarao K, et al. Chasing seasonal influenza - the need for a universal influenza vaccine. *New Engl J Med* 2018;378:7-9.
5. Huang QS, Lopez L, Wood T, et al. Recommendation for seasonal influenza vaccine composition for New Zealand 2018. Institute of Environmental Science and Research Ltd (ESR): Wellington, New Zealand, 2017. Available from: [www.surv.esr.cri.nz](http://www.surv.esr.cri.nz) (Accessed Mar, 2018).
6. Pharmaceutical Management Agency (PHARMAC). Influenza vaccine for 2018 season. 2018. Available from: [www.pharmac.govt.nz](http://www.pharmac.govt.nz) (Accessed Mar, 2018).
7. Australasian Society of Clinical Immunology and Allergy. Vaccination of the egg-allergic individual. ASCIA Guidelines. 2017. Available from: [www.allergy.org.au](http://www.allergy.org.au) (Accessed Mar, 2018).
8. Demicheli V, Jefferson T, Ferroni E, et al. Vaccines for preventing influenza in healthy adults. *Cochrane Database Syst Rev* 2018:CD001269.
9. Kwong J, Vasa P, Campitelli M, et al. Risk of Guillain-Barré syndrome after seasonal influenza vaccination and influenza health-care encounters: a self-controlled study. *Lancet Infect Dis* 2013;13(9):769-76.
10. World Health Organization (WHO). Vaccines against influenza WHO position paper – November 2012. *Wkly Epidemiol Rec* 2012;47(87):461-76.
11. Huang Q. Key findings - SHIVERS. 2016 New Zealand Influenza Symposium, 2016. Available from: [www.immune.org.nz](http://www.immune.org.nz) (Accessed Mar, 2018).

## Healthcare worker immunisation protects patients

Evidence indicates that healthcare worker immunisation reduces morbidity and mortality among patients, and healthcare workers are recommended by the World Health Organization to receive an annual influenza vaccination.<sup>10</sup> Due to frequent exposure with influenza virus, healthcare workers are at a high risk of infection, which impacts on the health of themselves and their families and may impact on overall health service provision.<sup>10</sup> Healthcare workers can also transmit influenza to patients without realising they are infected. A 2015 study based in Auckland revealed that 80% of people with serological evidence of recent influenza infection were asymptomatic, meaning they could have transmitted influenza to others unknowingly.<sup>11</sup> As healthcare workers are in frequent contact with vulnerable groups at high-risk of influenza infection and its complications such as elderly people, immunisation is particularly important.



This article is available online at:  
[www.bpac.org.nz/2018/influenza.aspx](http://www.bpac.org.nz/2018/influenza.aspx)