HotDoc | CPD WEBINAR

Flu Vaccine Clinical Update 2023

HOSTED BY

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AAPM Approved 2023

5 CPD Points

Wed 29 Mar

12:30pm AEDT

In the spirit of reconciliation, HotDoc acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community.

We pay our respect to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

2023
Influenza Season Update

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Declarations

Advisory Board Member – Seqirus, Pfizer, GSK, Sanofi Pasteur

Honoraria received from Seqirus, Sanofi Pasteur, MSD and Seqirus

Session Outline

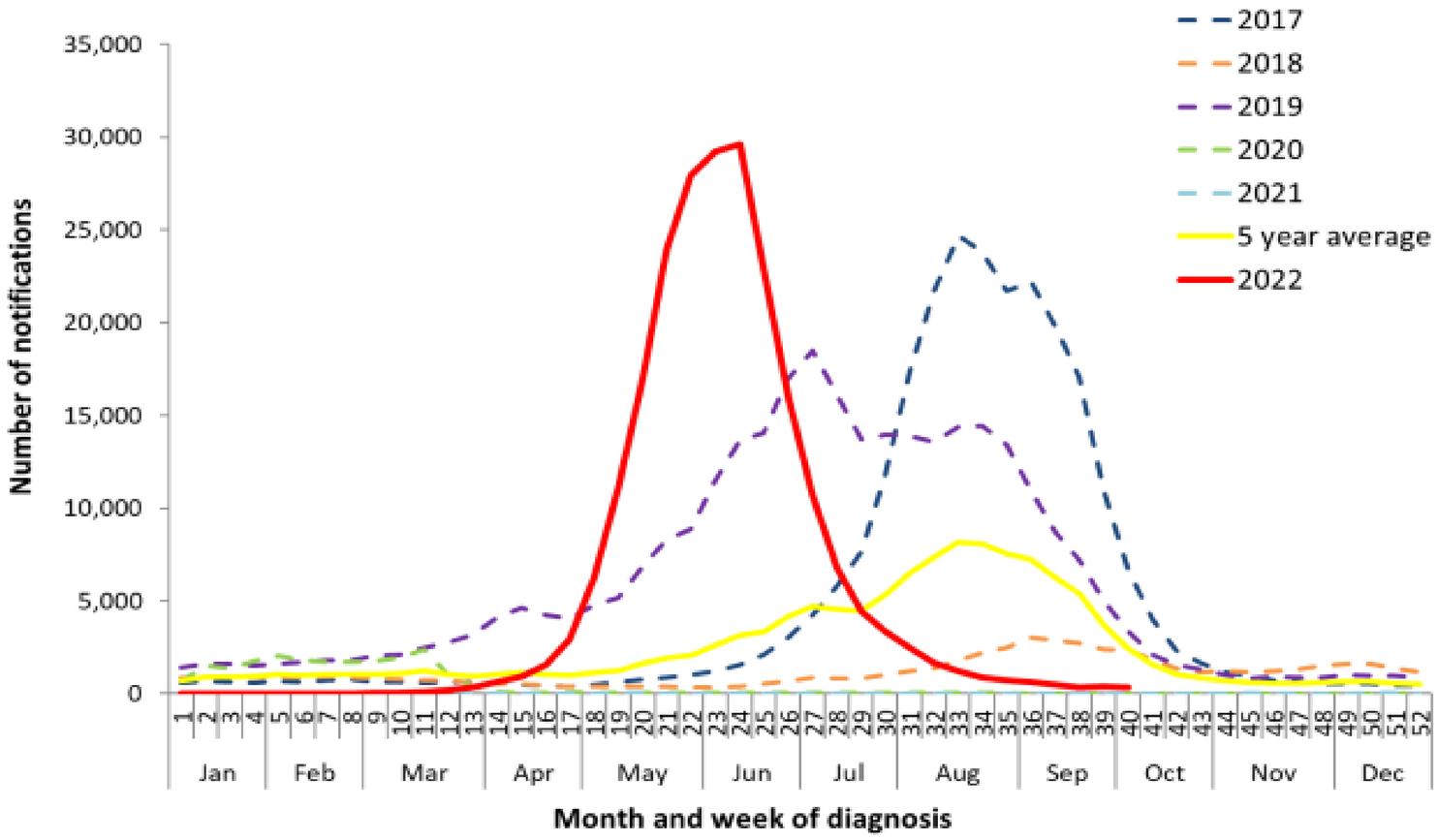
- Brief overview of influenza disease and expectation in 2023
- Discussing ‘at risk’ groups, vaccine choice and recommendations and the National Influenza Program
- Practicalities
  - Setting up a flu clinic
  - Standing medication orders
- Adverse events following vaccination
- Tips and tricks

Influenza

- What is influenza?
  - Respiratory disease caused by influenza virus infection
  - Influenza virus are type A, type B and type C
  - Highly infectious
  - Estimated R_0 in community is 1.2 to 2.4, school settings 2.8 – 16.9
- Influenza infection can cause a wide spectrum of disease

Australian Immunisation Handbook

Figure 4. Notifications of laboratory-confirmed influenza, Australia, 01 January 2017 to 09 October 2022, by month and week of diagnosis*



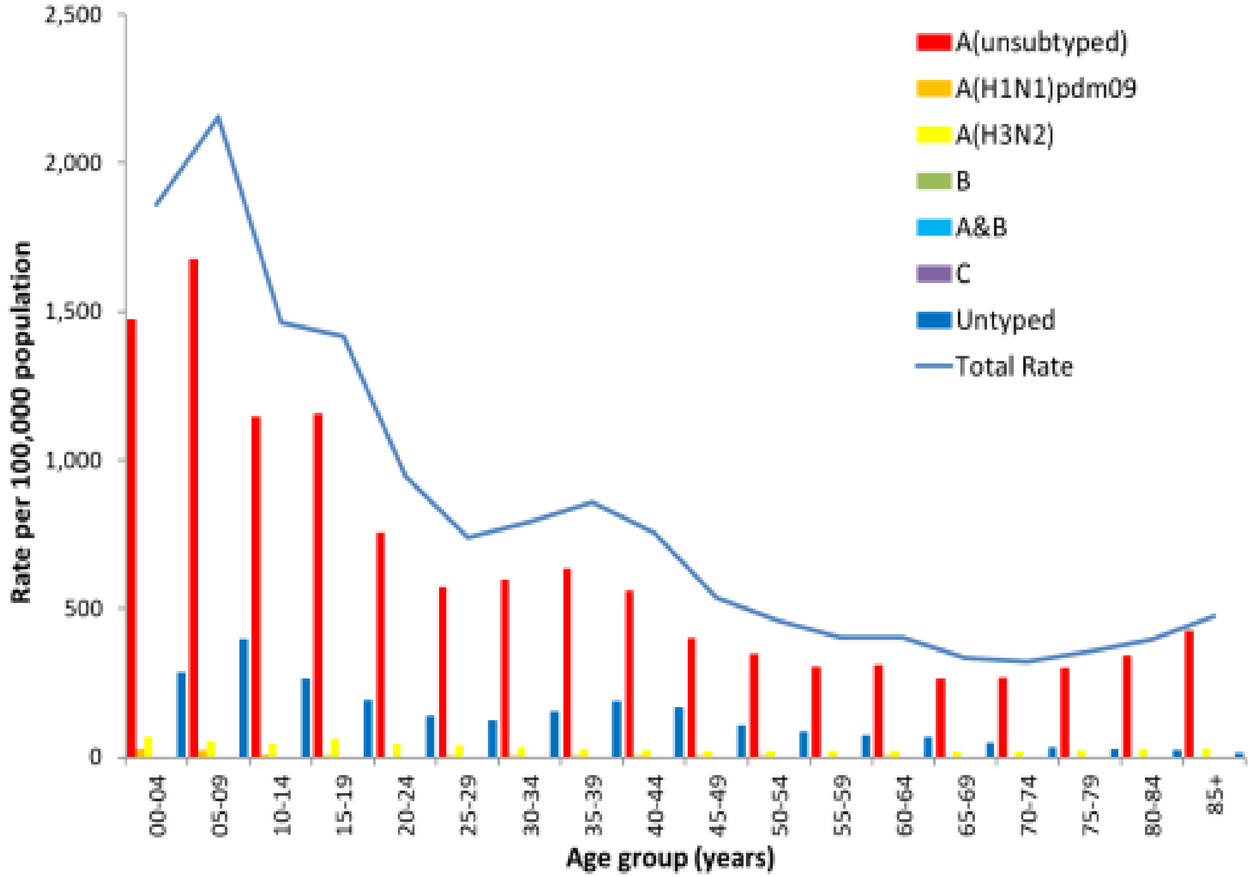
Source: NNDSS

*NNDSS notification data provided for the current and most recent weeks may be incomplete. All data are preliminary and subject to change as updates are received, with most recent weeks considered particularly subject to revisions. Please refer to Data considerations for interpretation of the 5 year average.

Ref: https://www.health.gov.au/sites/default/files/documents/2022/10/aisr-fortnightly-report-no-14-26-september-to-9-october-2022.pdf
Accessed 29/10/22

People aged 5–9 years, children aged younger than 5 years, and people aged 10–19 years have the highest notification rates in 2022

Figure 8. Rate of notifications of laboratory-confirmed influenza, Australia, 01 January to 09 October 2022, by age group and subtype*



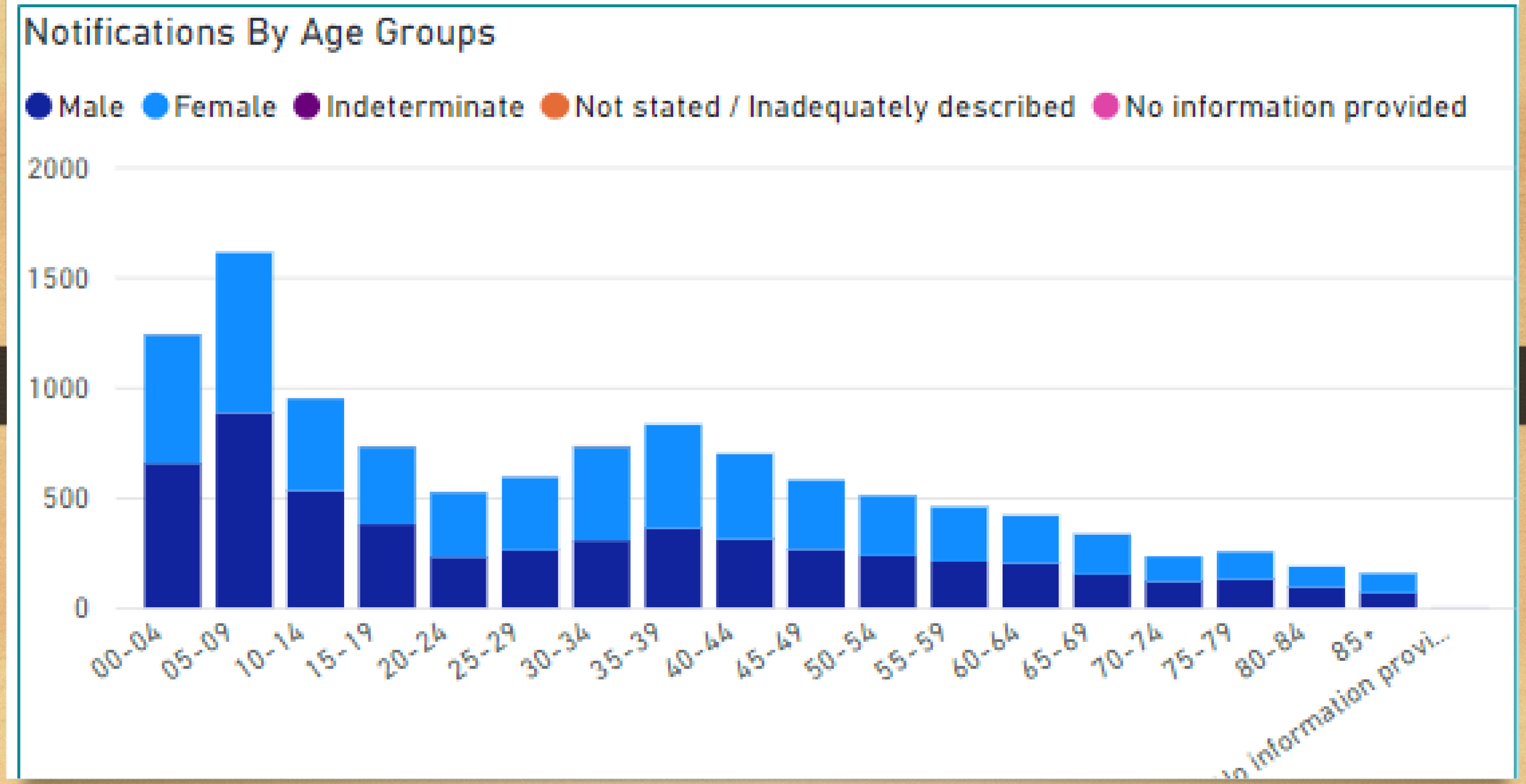
Source: NNDSS

*All data are preliminary and subject to change as updates are received

Ref: :https://www.health.gov.au/sites/default/files/documents/2022/10/aisr-fortnightly-report-no-14-26-september-to-9-october-2022.pdf
Accessed 29/10/22

What we know so far in 2023

- Influenza epidemiology may be atypical this year
  - Early start to the season
- Some Northern Hemisphere countries have seen a surge of influenza H1N1, H3N2 and B/Victoria
  - 2 months earlier than ‘usual’ years
- Vaccination is the most important measure to prevent influenza and its complications.
- While protection is generally expected to last throughout the year, the highest level of protection occurs in the first 3 to 4 months after vaccination.
- Vaccination should continue to be offered as long as influenza viruses are circulating, and a valid vaccine (before expiration date) is available. Some vaccine brands have an expiry date of February 2024



Source Accessed 14th March 2023: https://nindss.health.gov.au/pbi-dashboard/

Influenza vaccine

- Australian Immunisation Handbook, WHO and CDC recommends annual influenza vaccination for **everyone ≥6 months of age**

Table 3. Medical conditions associated with an increased risk of influenza disease complications and for which individuals are eligible for publicly funded vaccination under the NIP

Category	Medical conditions
Cardiac disease	Cyanotic congenital heart disease, congestive heart failure, coronary artery disease
Chronic respiratory conditions	Severe asthma, cystic fibrosis, bronchiectasis, suppurative lung disease, chronic obstructive pulmonary disease, chronic emphysema
Chronic neurological conditions	Hereditary and degenerative CNS diseases, seizure disorders, spinal cord injuries, neuromuscular disorders
Immunocompromising conditions	Immunocompromised due to disease or treatment, asplenia or splenic dysfunction, HIV infection
Diabetes and other metabolic disorders	Type 1 or 2 diabetes, chronic metabolic disorders
Renal disease	Chronic renal failure
Haematological disorders	Haemoglobinopathies
Long-term aspirin therapy in children aged 5 to 10 years	These children are at increased risk of Reye syndrome following influenza infection

Strongly recommended vaccination for:

- travellers
- homeless **(funded vaccine in some States and Territories)**
- certain occupations (healthcare & aged care workers, essential services providers, etc)

Ref: ATAGI. https://www.health.gov.au/sites/default/files/2023-02/atagi-advice-on-seasonal-influenza-vaccines-in-2023.pdf
Australian Immunisation Handbook, Australian Government Department of Health, Canberra, 2018. Available from: www.immunisationhandbook.health.gov.au Accessed March 2023.

ATAGI Advice 2023

Overview of key points and updates for 2023

- Annual vaccination is the most important measure to prevent influenza and its complications. It is recommended for all people ≥6 months of age.
- All vaccinations must be recorded on the Australian Immunisation Register (AIR).
- In 2022, there was a resurgence of influenza virus circulation arising from the reopening of international borders. In 2023, seasonal influenza activity is expected to continue and the importance of influenza vaccination should be emphasised.
- Influenza vaccines can be co-administered (given on the same day) as any COVID-19 vaccine.
- For adults aged ≥65 years, both the adjuvanted (Fluad® Quad) and high dose influenza vaccine (Fluzone High Dose Quadrivalent) are preferentially recommended over standard influenza vaccine. There is no preference for use between either Fluad® Quad or Fluzone High-Dose Quadrivalent in this age group.
- If a person had a 2022 influenza vaccine in late 2022 or early 2023, they are still recommended to receive a 2023 formulation of influenza vaccine when it becomes available (likely from March 2023).

Ref: ATAGI Statement of the administration of seasonal influenza vaccines in 2023. Accessed March 2023 https://www.health.gov.au/sites/default/files/2023-02/atagi-advice-on-seasonal-influenza-vaccines-in-2023.pdf

ATAGI Advice 2023

Table 1. Seasonal influenza vaccines registered and available for use in Australia in 2023, by age

Vaccine Registered / age group	Vaxigrip Tetra 0.5 mL (Sanofi)	Fluarix Tetra 0.5 mL (GSK)	Afluria Quad 0.5 mL (Seqirus)	FluQuadri 0.5 mL (Sanofi)	Influvac Tetra 0.5 mL (Mylan)	Flucelvax Quad 0.5 mL (Seqirus)	Fluad Quad 0.5 mL (Seqirus)	Fluzone High-Dose Quad 0.7 mL (Sanofi)
6 to 24 months (<2 years)	✓	✓	X	✓	✓	X	X	X
≥2 to <5 years	✓	✓	X	✓	✓	✓	X	X
≥5 to <60 years	✓*	✓*	✓*	✓	✓	✓	X	X
≥60 to <65 years	✓*	✓*	✓*	✓	✓	✓	X	✓
≥65 years	✓	✓	✓	✓	✓	✓	✓	✓

Ticks indicate age at which a vaccine is registered and available. White boxes indicate availability for free under the NIP.

* NIP funding only for Aboriginal and Torres Strait Islander people, pregnant women and people who have certain medical conditions.

Ref: ATAGI Statement of the administration of seasonal influenza vaccines in 2023. Accessed March 2023 https://www.health.gov.au/sites/default/files/2023-02/atagi-advice-on-seasonal-influenza-vaccines-in-2023.pdf

ATAGI Advice 2023

Table 2. Influenza virus strains included in the 2023 Southern Hemisphere seasonal influenza vaccines

Egg-based influenza vaccines	Cell-based influenza vaccines
A/Sydney/5/2021 (H1N1) pdm09-like virus	A/Sydney/5/2021 (H1N1) pdm09-like virus
A/Darwin/9/2021 (H3N2)-like virus	A/Darwin/6/2021 (H3N2)-like virus
B/Austria/1359417/2021 (B/Victoria lineage)-like virus	B/Austria/1359417/2021 (B/Victoria lineage)-like virus
B/Phuket/3073/2013 (B/Yamagata lineage)-like virus	B/Phuket/3073/2013 (B/Yamagata lineage)-like virus

Note: The chosen egg-based and cell-based viruses will sometimes differ if one virus cannot be used for both production systems. In this case, different viruses with similar properties are selected for vaccine production.

Ref: ATAGI Statement of the administration of seasonal influenza vaccines in 2023. Accessed March 2023 https://www.health.gov.au/sites/default/files/2023-02/atagi-advice-on-seasonal-influenza-vaccines-in-2023.pdf

Factors Impacting Influenza Vaccine Effectiveness

Patient Factors

Reduced immune response to the vaccine[2]

e.g. immunosenescence (declining immune function in the elderly)

Adjuvant & high-antigen vaccines[1]

Viral Factors

Potential for vaccine-virus mismatch[3]

e.g. antigenic drift (natural mutation in circulating flu strains)

Universal vaccines??[4]

Vaccine Factors

Potential for vaccine-virus mismatch[5]

e.g. egg-adaptation (changes introduced during egg-based manufacturing)

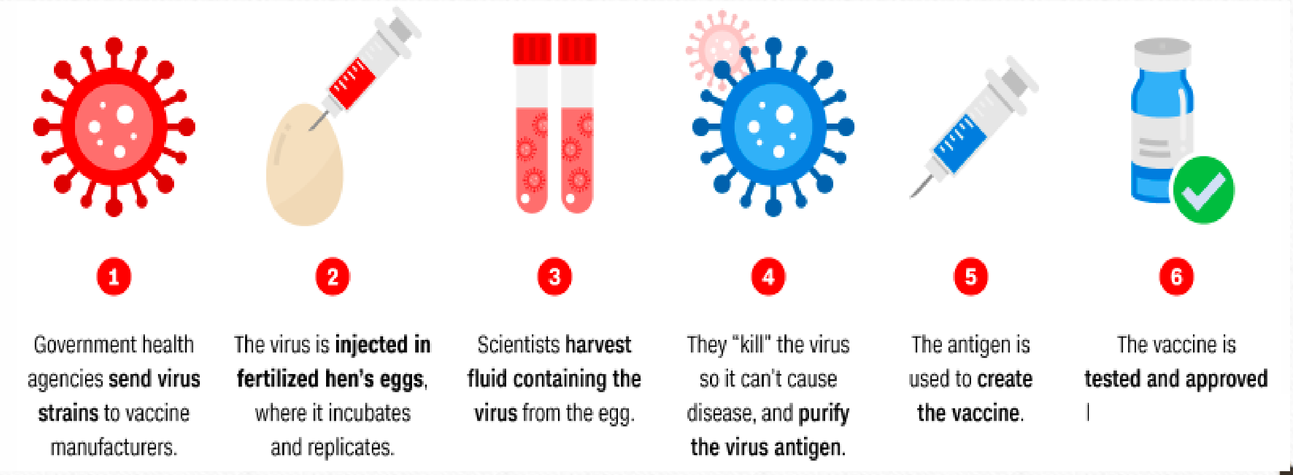
Non egg-based vaccines[5]

Utilisation Factors

e.g. lack of patient demand and/or provider recommendation leading to under-vaccination[6,7]

1. ATAGI. Australian Immunisation Handbook, Australian Government Department of Health, Canberra, 2018, immunisationhandbook.health.gov.au. Accessed Sept 2020. **2.** McElhaney JE. Aging Health. 2008;4(6):603-13. **3.** Ansaldi et al. Vaccine. 2010;s8:4123-29. **4.** Nachbagauer R et al. Annu Rev Med. 2020;71:315-27. **5.** Skowronski DM et al. PLoS One. 2014;9(3):e92153. **6.** Menzies RI et al. Med J Aust. 2017;206(6):238-239. **7.** Rao S et al. Hosp Pediatr. 2016;6(9):513-519.

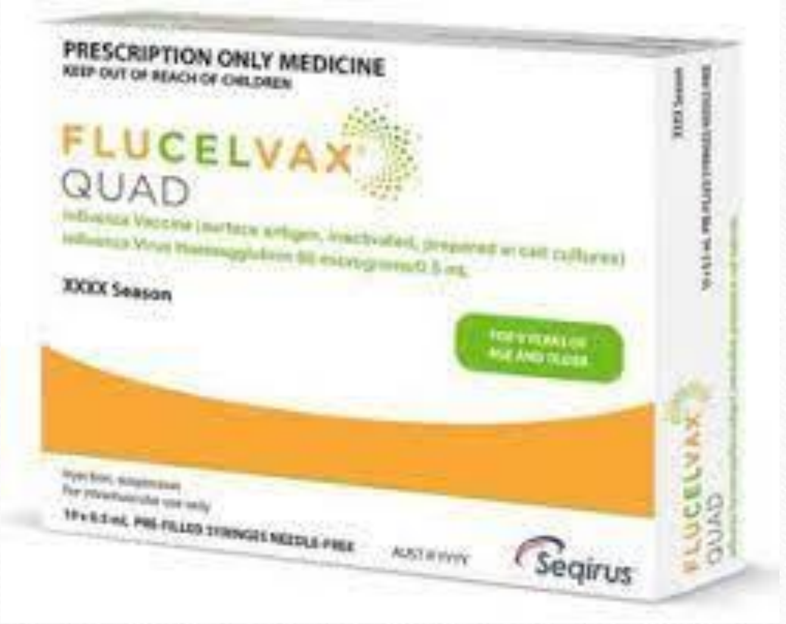
Standard Quadrivalent Influenza Vaccine



- Egg-based technology
  - Vaxigrip Tetra
  - Fluarix Tetra
  - FluQuadri
  - Influvac Tetra
- The above vaccines are recommended for everyone 6 months and older
  - Afluria Quad
- Recommended for anyone 5 years of age and older
- **Patients ≥65 years - both the adjuvanted (Fluad® Quad) and high dose influenza vaccine (Fluzone High Dose Quadrivalent) are preferentially recommended over standard influenza vaccine.**

Flucelvax Quad - Cell-Based Quadrivalent Influenza Vaccine

- Cell-based technology
  - Propagated in MDCK cells
  - Eliminates egg-adaptation
- Recommended for anyone 2 years and older
- Private market only in 2023



- **Patients ≥65 years - both the adjuvanted (Fluad® Quad) and high dose influenza vaccine (Fluzone High Dose Quadrivalent) are preferentially recommended over standard influenza vaccine.**

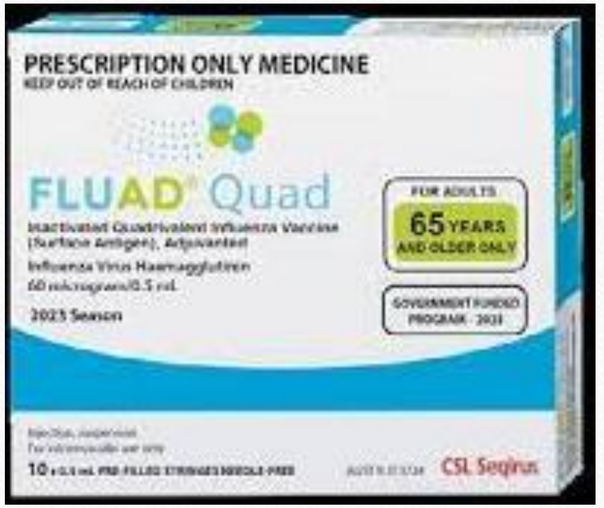
Fluzone High-Dose – High Dose Quadrivalent Influenza Vaccine

- Private market only in 2023
- Fluzone High-Dose Quadrivalent is indicated for use in persons 60 years of age and older
  - Contains 4 times the antigen of a standard dose of flu vaccine[1]
  - Provides better protection for those with immunosenescence than a standard QIV
  - 24.2% better protection against laboratory confirmed influenza compared to a standard dose vaccine[2]
- Eligible for patients aged 60 years and older
- **Patients ≥65 years - both the adjuvanted (Fluad® Quad) and high dose influenza vaccine (Fluzone High Dose Quadrivalent) are preferentially recommended over standard influenza vaccine.**

1. Fluzone High-Dose QIV Approved Product Information. Nov 2022. 2. DiazGranados et al. 2014, Efficacy of High-Dose versus Standard-Dose Influenza Vaccine in Older Adults. N Engl J Med 2014; 371:635-645

Fluad Quad – Adjuvanted Quadrivalent Influenza Vaccine

- NIP only – **not** available on the private market
- Funded for persons 65 years of age and older
  - Provides better protection for those with immunosenescence than a standard QIV
  - Adjuvanted vaccine - MF59C.1 adjuvant



- Reduce strain on health system resources
- Reduce risk of infection, pneumonia hospitalisation, MI, death
- Reduce risk of loss of function
- Reduce risk of chronic disease worsening
- Loss of productivity, work, social activities, childcare
- Reduce suffering
- Protect loved ones
- Pregnant women - self and baby
- HCWs *primum non nocere*
- Travellers: cruise, airplanes, Hajj…travel bubbles

- It gives me the flu
- The doctor didn’t recommend it to me
- I meant to but I didn’t get around to it
- “I never get the flu” “it’s just a cold”
- There’s not much flu going around so infection risk is low…
- I don’t believe in flu vaccines / I heard it doesn’t work very well
- I don’t want side effects
- I don’t like needles / Allergic / Vaccine refuser
- Cost or No vaccine available

Strategies to increase uptake

- Normalise it
- Talk the talk
- Offer it, Recommend it, Promote it and be opportunistic
- Health professional recommendation carries weight!
- Sending a personal invitation to all eligible patients – pre-call rather than re-call
- Make it accessible
  - Nurse-led clinics (SMO's)
  - Fee for service vaccine stock in the fridge
  - Home visiting for elderly, infirmed etc
- Set targets…..and get rewarded
- Consider advertising 'flu vaccination days' with 'the lot' (small gift cards, raffle prizes, lucky dip, pizza parties, costume parties etc.)
- Nominate a CHAMPION or CHAMPIONS in your practice

Standing Medication Orders (SMO's)

- Does your State or Territory allow RN's can work under a Standing Medication (SMO) Order?
- If so, it must be signed by a Medical Officer.
- All RN's working under an SMO must sign that they have read and understood it.
- The RN will be required to undertake the pre-vaccination checklist, discuss risks and benefits, and gain valid consent. The RN may then administer the vaccine or delegate the administration of the vaccine to an EN.
- Check if your State or Territory allows EN's to work under a SMO.
- If the RN is not working under Standing Medication Orders, they MUST only administer vaccines with a medical officer order ….therefore the GP will see the patient, undertake the pre-vaccination checklist, discuss risks and benefits, and gain valid consent, and then delegate the administration to the RN or the EN.
- The patient does not need to see the GP, however, there is no avenue to bill Medicare for this activity…..**BUT**, the workforce payments received by accredited practices who are registered for PIP covers the old 'nurse immunisation' item number 10993

- Does your State or Territory allow 'Authorised Immunisers' to work in General Practice?

Strategies to increase uptake

Time constraints during acute-care consults make it challenging for GPs to address preventative health initiatives

A short pitch about recommended vaccinations may be enough to prompt a high-risk patient to get vaccinated

GP's could consider preparing ahead two versions of a vaccination pitch:

- a short 1-minute pitch:
  - Inform patient they are due for vaccination(s)
  - Recommend vaccination to patient
  - Provide printed information and book future appointment to discuss and vaccinate **OR** refer to the busy practice nurse to discuss and vaccinate

- a longer 5-minute pitch:
  - Inform patient about all vaccines recommended for them
  - Highlight briefly the efficacy and safety of vaccine(s) and any relevant contraindications/ precautions – support with printed resources
  - Recommend vaccination to patient

The Consultation

- Friendly, welcoming, professional, confident
- Watch the cold chain
    - Esky on desk
    - Fridge temp check each time
- The process:
    - Follow all the ‘Rights’ (patient, drug, dose etc)
    - pre-vaccination checklist
        - Is your patient well enough to receive the vaccine?
        - Have they reacted previously to vaccines?
        - Do they have allergies?
        - Do they faint?
    - Risks and benefits
    - Valid consent
        - Opportunity to ask questions

The Consultation

- AIR check before any vaccine administered
- written medication order (S4 medicine) – 3 vaccine checks
- safe administration – IM – 90° or S/C – 45°
  - Antero-lateral thigh for babies under 12 months of age
    - Alternative site for all age groups
  - Deltoid for individuals over 12 months of age
    - Clinical decision to use all 4 limbs for multiple vaccines
- documentation – take home record, clinical record, AIR
- verbal and written post vaccination advice
  - 15-minute post observation
  - when and how to report an adverse event
- Reminders – other vaccines, health checks, breast/bowel screening
- Be opportunistic – discuss vaccination with accompanying person

Influenza Vaccine Adverse Events

- Common side effects of influenza vaccines include:
  - Injection site pain, redness, swelling
  - Fever, tiredness, body aches (flu-like symptoms).
  - Headaches
  - Nausea, vomiting, diarrhoea, loss of appetite

- Rare side effects post influenza vaccination, including anaphylaxis are possible:
  - These are **RARE**
  - Remember DRSABCD
  - Anaphylaxis and BLS training and have a kit ready!

Summary

- Vaccination is the most important measure to prevent influenza and its complications.
- While protection is generally expected to last throughout the year, the highest level of protection occurs in the first 3 to 4 months after vaccination.
- Vaccination should continue to be offered as long as influenza viruses are circulating, and a valid vaccine (before expiration date) is available. Some vaccine brands have an expiry date of February 2024.
- Always offer non funded vaccines such as High Dose Fluzone and Flucelvax Quad to patients…..it is part of the valid consenting process and ultimately it is their choice.
- Consider increasing access to vaccine by using SMO’s to run nurse-led flu clinics.

PneumoSmart

The *PneumoSmart Vaccination Tool* (herein referred to as "the tool") has been created using the pneumococcal disease vaccination recommendations in the online Australian Immunisation Handbook, and has been developed to assist GPs, medical specialists and other immunisation providers to comply with them. As pneumococcal disease vaccination recommendations change, the tool will be updated by clinical experts at the Immunisation Coalition.

Take Home Messages

- Considerations:
  - Ensure age-appropriate vaccine
  - Egg based v cell based
  - High-dose vaccine for 60+ (especially if non-NIP eligible at 65 years)
- We are ‘seed planters’
- Check, check and check – right vaccine, right age-group
- Strains have changed - importance of getting a shot every year
- ‘Normalise’ the vaccine
- Have it yourself!
- Keep asking/offering/promoting!
- It’s never too late to vaccinate – we don’t know what will happen to flu in 2023