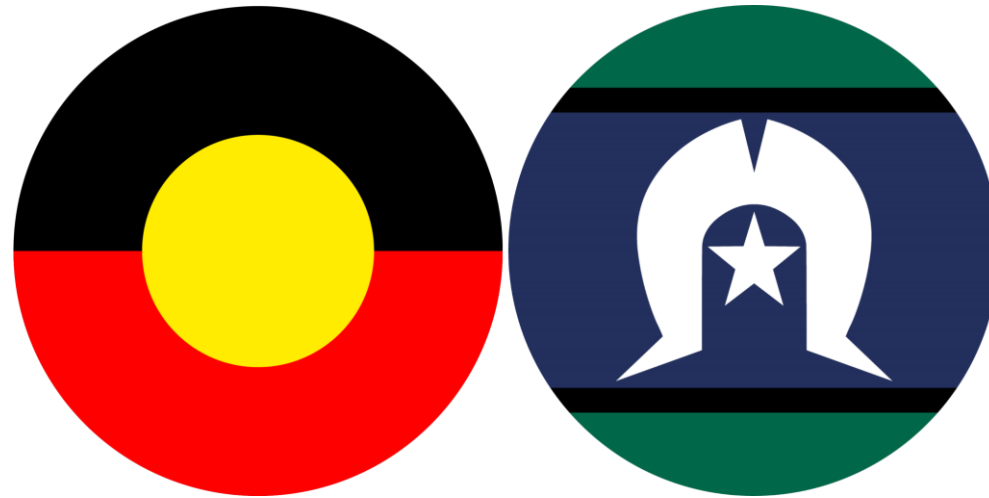


Immunisation update for winter 2023 – Influenza and COVID-19

**Dr. Shannon Melody & Ingrid Hartog (CNC)
Communicable Diseases Prevention Unit
Public Health Services**

April 2023

Acknowledgement of Country




In recognition of this island's deep history and culture, we would like to acknowledge and pay our respect to all Tasmanian Aboriginal people: the traditional Owners of the Lands upon which we are meeting.

Disclaimer



- Please note that all information in this presentation is **correct as of April 2023**.
- Immunisation advice is **frequently updated** and should be checked regularly from the following resources:
 - ✓ The **Australian Immunisation Handbook** (health.gov.au)
 - ✓ Australian Technical Advisory Group on Immunisation (**ATAGI**) | Australian Government Department of Health and Aged Care
 - ✓ National Centre for Immunisation Research and Surveillance | **NCIRS**

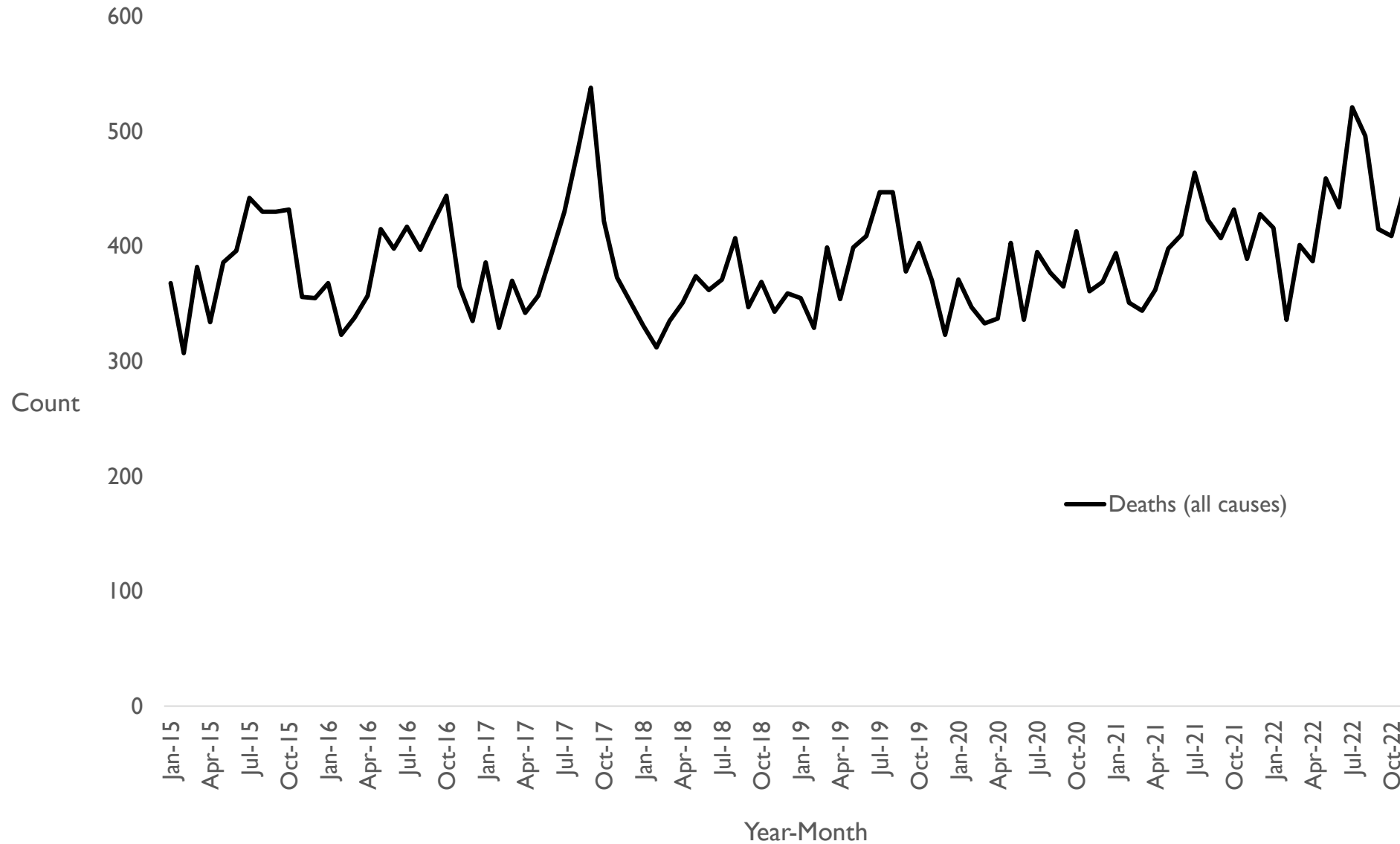
Learning objectives

1. Describe the **epidemiology of influenza, COVID-19 and RSV** in the Tasmanian and Australian context
 2. Identify the **priority groups for influenza vaccination** as well as eligibility for funded influenza vaccine
 3. Understand the **2023 Influenza vaccine and some considerations for ordering**
 4. Find the answers to **frequently asked questions** and know where to find resources
 5. Describe what an **adverse event following immunisation** is and how to report it.
 6. Understand the recommendations and **considerations for the COVID-19 winter booster**
 7. Know which vaccines patients can **access at their local pharmacy**
 8. Describe how to **access specialist immunisation services** in Tasmania
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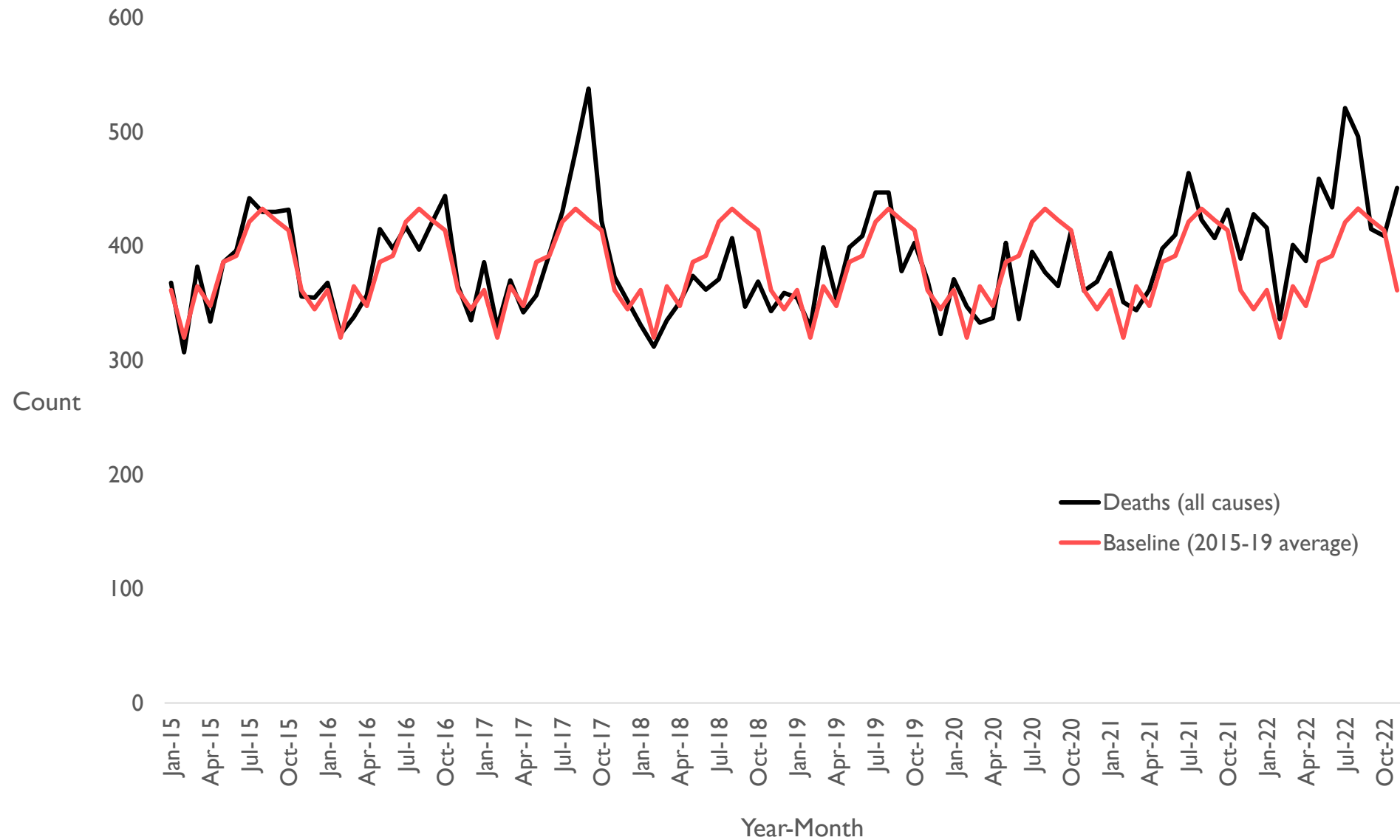
Epidemiology of Influenza, COVID-19 and RSV



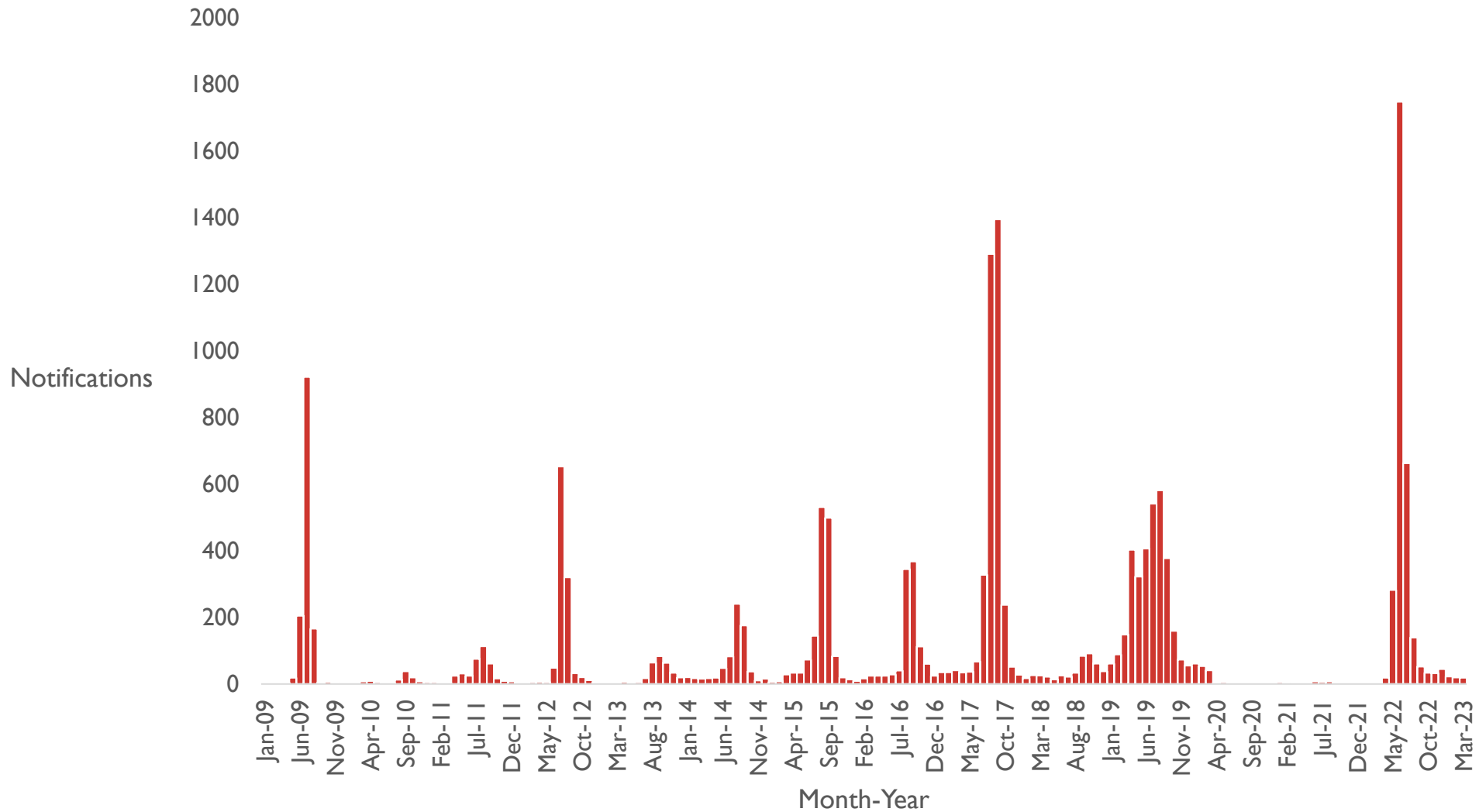
Provisional mortality data, Tasmania, 2015 to Nov-2022, Australian Bureau of Statistics



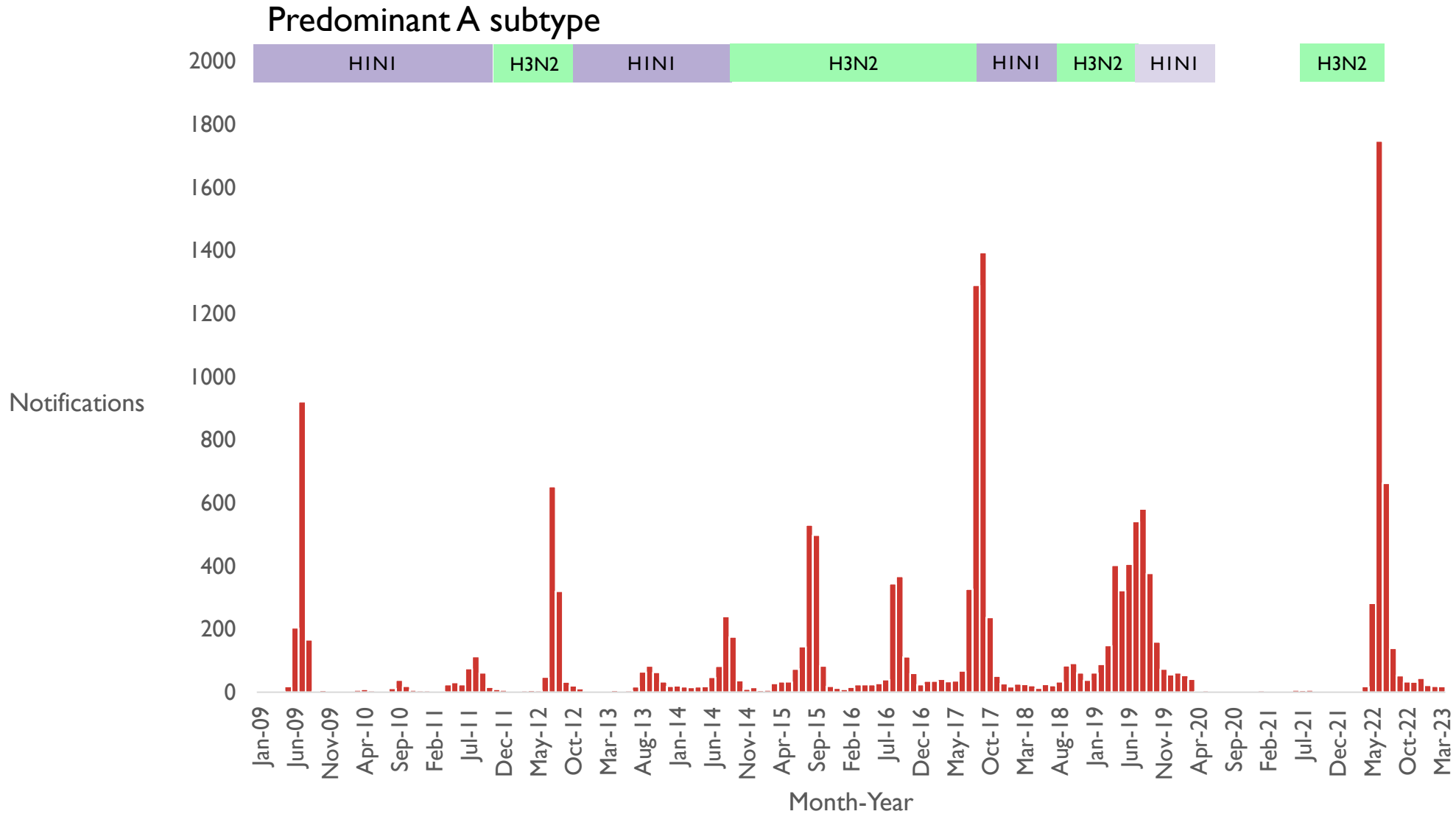
Provisional mortality data, Tasmania, 2015 to Nov-2022, Australian Bureau of Statistics



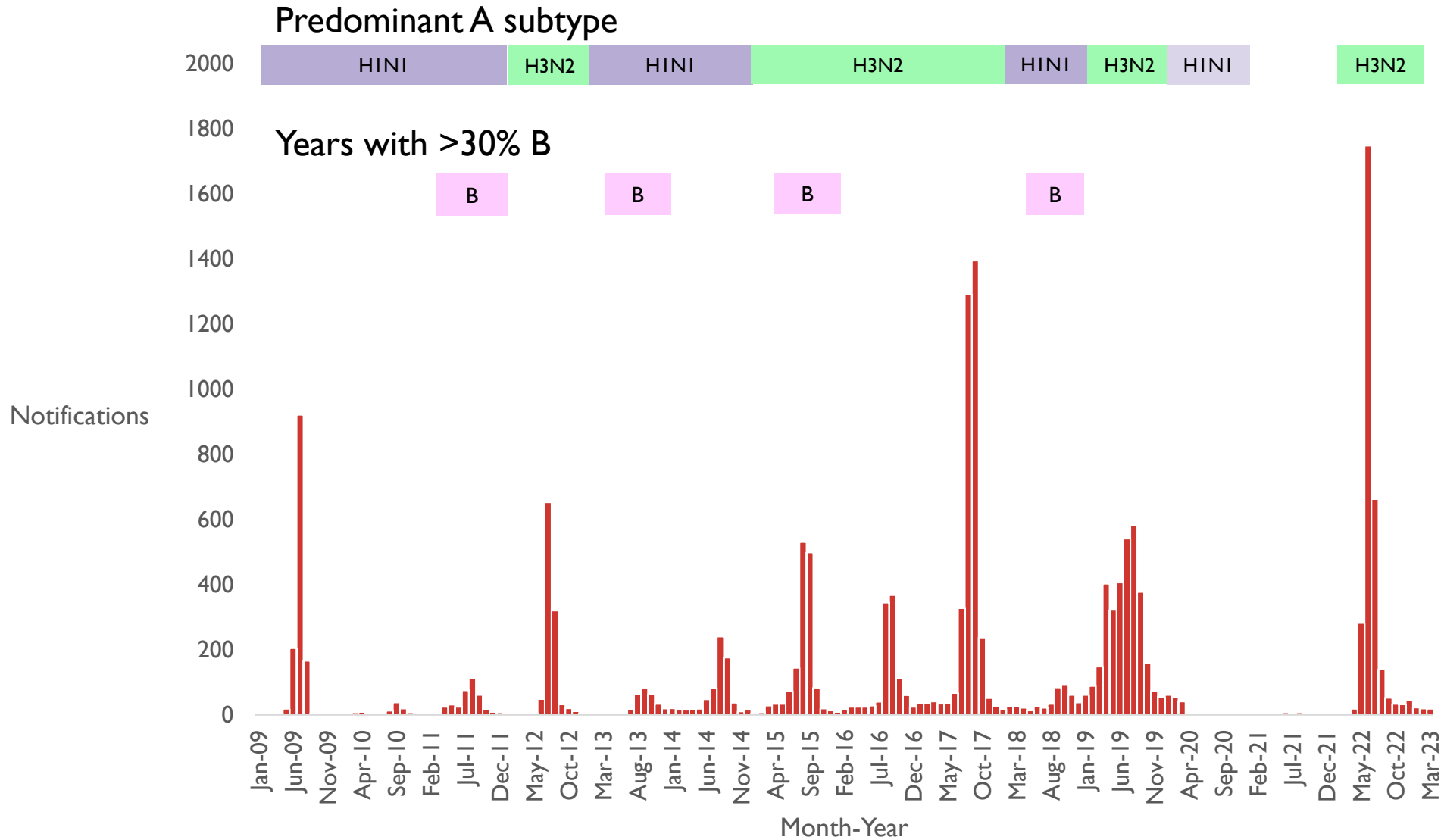
Influenza notifications, Tasmania, 2009 to March 2023



Influenza notifications, Tasmania, 2009 to March 2023



Influenza notifications, Tasmania, 2009 to March 2023



Influenza – features of annual epidemics



- Onset

- Rarely March-April
- Typically (60%) May-June
- Occasionally July-August

- Peak

- Typically late August
- Varies mid-July to early-Oct
- 2022 was early mid-June

- Ascertainment

- Annual attack-rate est. 10%
- Higher among young children
- Proportion of infections diagnosed & notified is low ($\ll 10\%$)

Influenza – Northern hemisphere winter 2022-23

- Country-to-country variation
- A/H3N2 slightly more common than A/H1N1
- Late-season – more A/H1N1 (China) and B (South-East Asia)
- Reasonable match with vaccine strain of A/H3N2
- Timing of season varied – some early, some typical
- Probably typical severity but some increased burden among children in some countries



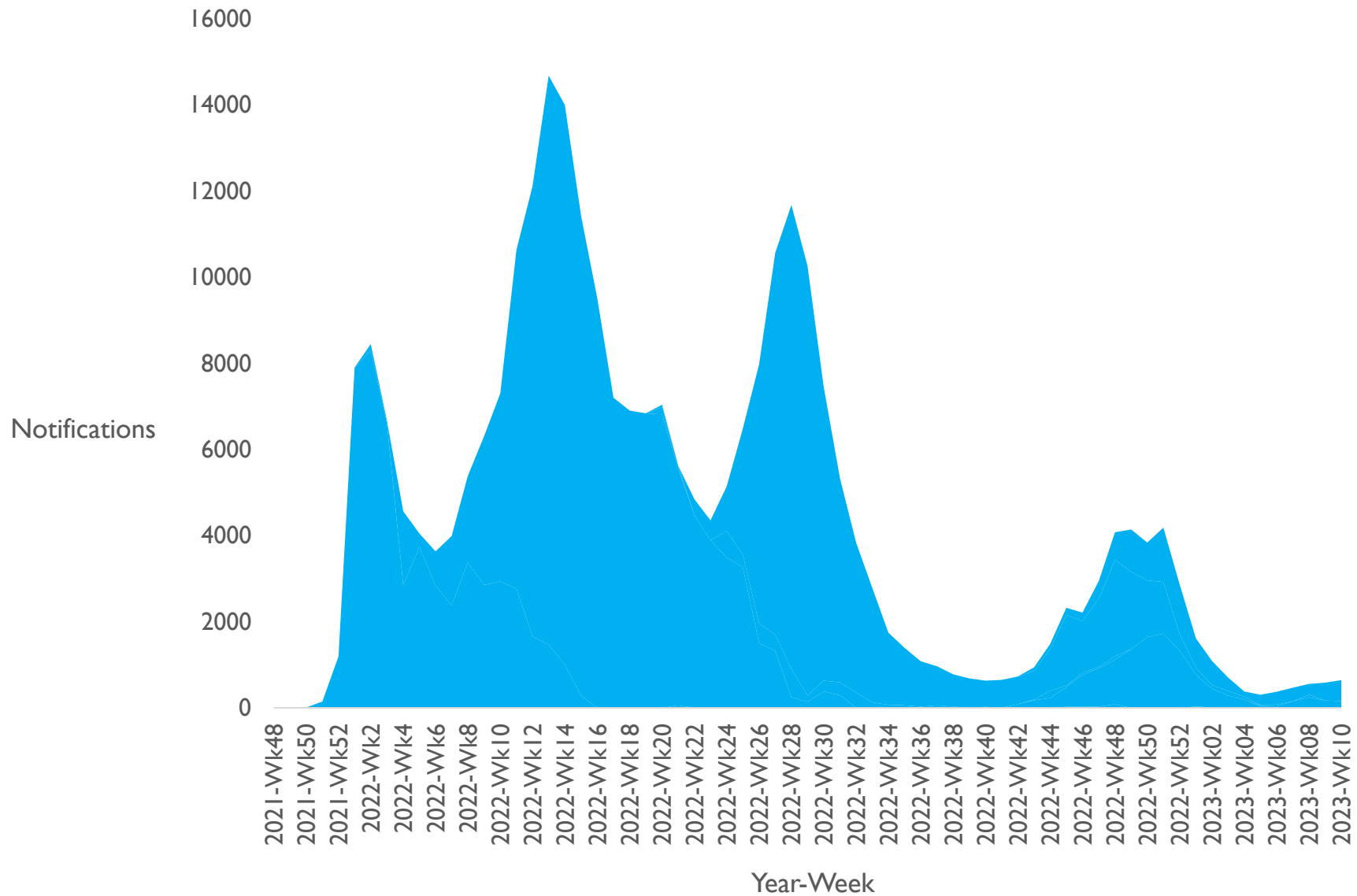
Influenza – early-April 2023

- Inter-seasonal / early-season cases: 152 cases YTD
- No evidence of annual epidemic wave yet

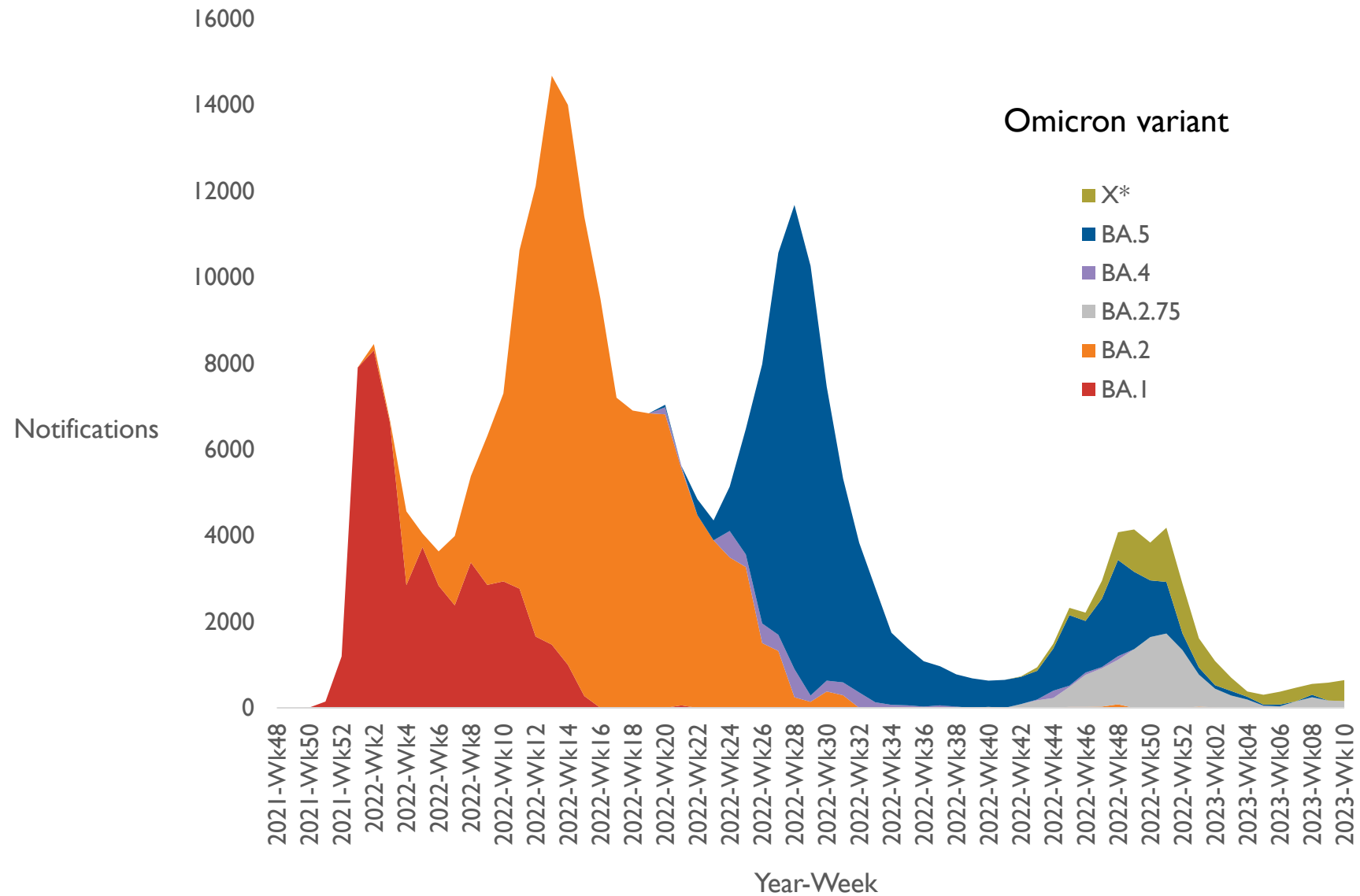
- 28 000 Tasmanians aged less than 5 years
 - Few will have experienced A/H3N2
 - Hardly any will have experienced A/H1N1 or B



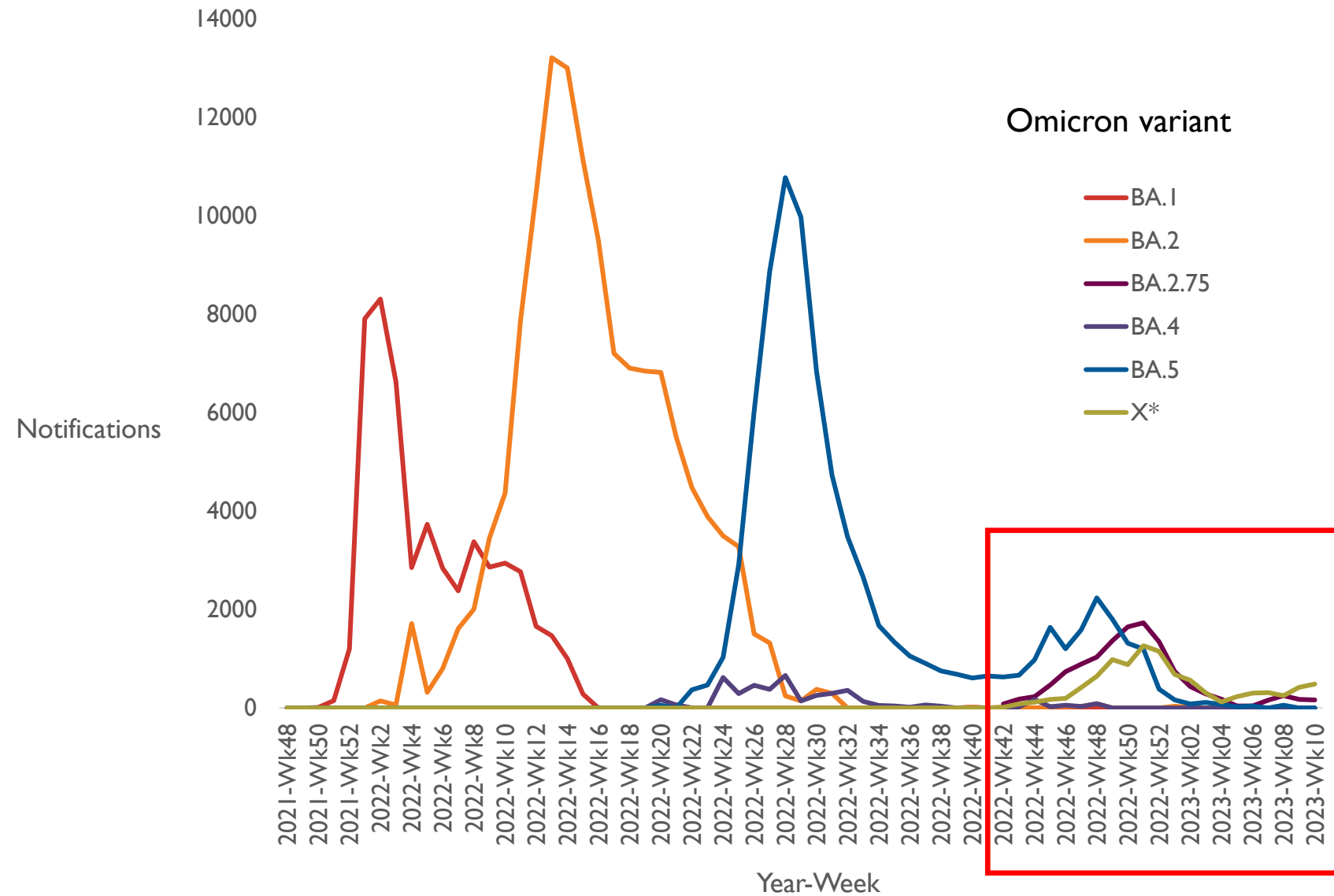
COVID-19 notifications, Tasmania, December 2021 to March 2023



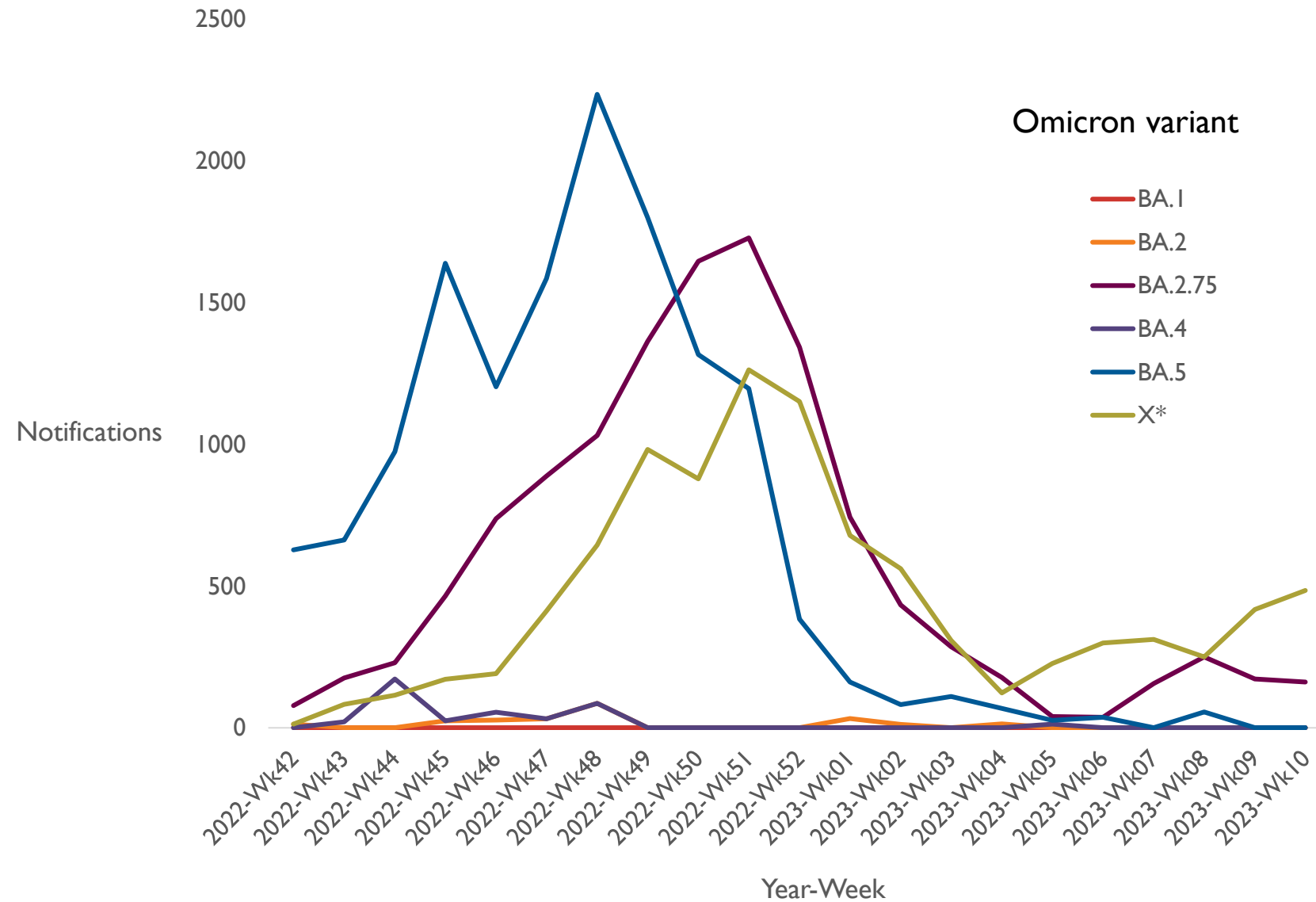
COVID-19 notifications, Tasmania, December 2021 to March 2023



COVID-19 notifications, Tasmania, December 2021 to March 2023



COVID-19 notifications, Tasmania, October 2022 to March 2023



COVID-19 – early April 2023

- Relatively low case numbers
 - ~125 per day
 - Slowly increasing from ~50 per day in early February
- PCR positivity (~5%)
- Hospitalisations stable
- Deaths
 - ~2 per week
- Increasing RACF outbreaks
- Predominant variants circulating
 - Omicron XBB and Omicron BA.2.75 sub-sub lineage BR

Case fatality rate:	
<50 years	0.003%
50 to 69 years	0.07%
70 to 84 years	0.5%
85 years and older	2.3%

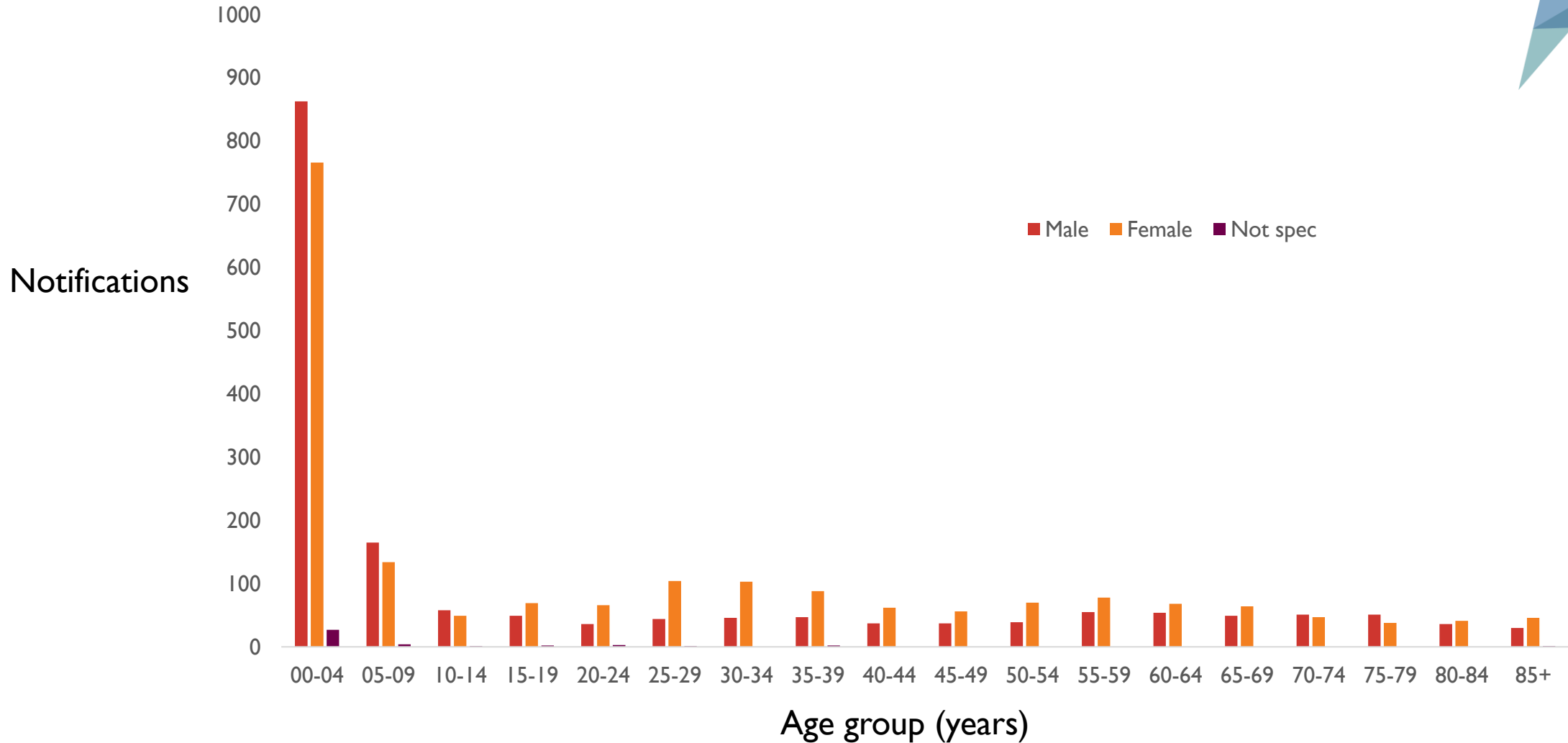


Respiratory Syncytial Virus (RSV)

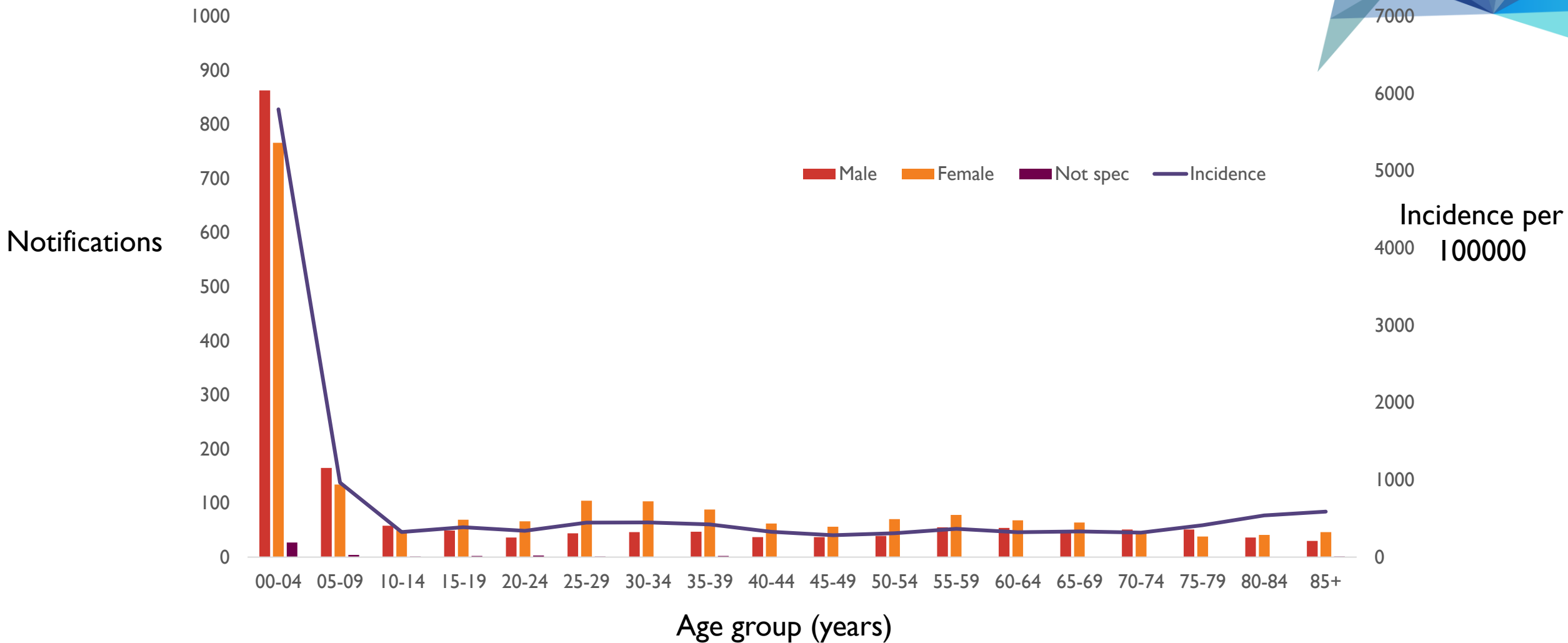
- Notifiable by labs from July 2023
- Onset of annual epidemic
 - Typically May-June
 - Occasionally earlier
- Peak
 - Typically June-August
- Annual attack-rate
 - High among infants
 - Affects all ages



RSV notifications, Tasmania, July to December 2022



RSV notifications, Tasmania, July to December 2022



RSV – early April 2023

- 102 cases YTD
- No evidence of annual epidemic wave yet
- RSV circulated in Tasmania in 2021 and 2022, but less so in 2020
 - There may be a greater than usual proportion of susceptible toddler-aged children



So, what's going to happen?

- Viral evolution
 - Transmissibility
 - Virulence
- Human
 - Immunity
 - Infection
 - Immunisation
 - Behaviour



Priority groups for Influenza vaccination

The background of the slide features a complex, abstract geometric design. It consists of numerous overlapping triangles in various shades of blue, teal, and light green. The triangles are arranged in a way that creates a sense of depth and movement, with some shapes appearing to recede into the background while others come forward. The overall effect is a modern, clean, and professional aesthetic.

- **Annual vaccination is the most important measure** to prevent influenza and its complications. It is recommended for all people ≥ 6 months of age.
- Influenza vaccine is **funded by the National Immunisation Program (NIP)** for those at greatest risk of severe outcomes from influenza:
 - People aged ≥ 6 months and < 5 years old
 - Pregnant women
 - Aboriginal and Torres Strait Islanders
 - People aged ≥ 65 years
 - Anyone aged ≥ 6 months with selected medical conditions



Children 6 months to less than 5 years



- Children under five are at **higher risk of developing flu-related complications**, yet across Australia, in **2022 only 32.4% of children aged under 5 years** of age were recorded as receiving at least one dose of influenza vaccine.
- All children six months to under nine years of age should have **two doses** at least four weeks apart **in the first year** of receiving the influenza vaccine.
- In subsequent years, **one dose** of vaccine per year is required.
- Influenza vaccine is **funded from six months to less than five years of age**.

Pregnant women



- Immunisation during pregnancy **directly protects pregnant women** from influenza and its complications in pregnancy and **indirectly protects newborns** against influenza during the early months of life.
- Influenza immunisation during pregnancy has been shown to be **safe and effective**.
- Influenza vaccine can be **given at any stage of pregnancy**. It can be given at the same time as the pertussis vaccine.
- The 2023 influenza vaccine can be given to pregnant women if the **2022 vaccine was given earlier in the pregnancy**.
- If a woman received a **2023 influenza vaccine before falling pregnant**, they should be offered another 2023 vaccine during their pregnancy.
- There should be a **4-week minimum interval** between the doses.

Aboriginal & Torres Strait Islanders



- **All Aboriginal and Torres Strait Islander people from six months of age** and over are eligible and recommended to receive a funded influenza vaccine under the NIP.
- **Offer other appropriate vaccines** at the same time, for example, Bexsero (children under 2 years of age) and Prevenar 13 /Pneumovax 23 (50 years and over).

People aged over 65 years

- In 2023 **Fluad Quad®**, an adjuvanted quadrivalent vaccine, will be the only vaccine provided under the NIP for people ≥ 65 years of age.
- **Fluzone High Dose Quadrivalent** is also available for people aged over 60 years but is not NIP funded.
- Fluad Quad® has been specifically designed to **stimulate a greater immune response** amongst the elderly, who are known to have a weaker response to immunisation.
- The risk of mild to moderate **injection site reactions may be greater** for those aged 65 years and over receiving Fluad Quad®.
- Fluad Quad® is **not registered for use in people younger than 65 years** – its effectiveness and safety have not been assessed in younger populations.



Medically at-risk patients

- Influenza vaccine is funded under the NIP for children and adults with **medical risk factors** such as severe asthma, lung or heart disease, low immunity, or diabetes.
- Refer to the **Australian Immunisation Handbook** for full details on the eligible medical conditions.

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

Note: See the [Australian Immunisation Handbook](http://immunisationhandbook.health.gov.au) (available at immunisationhandbook.health.gov.au) for advice on people who are strongly recommended to receive annual influenza vaccination but not eligible for NIP-funded influenza vaccines.

The 2023 Influenza vaccine and ordering considerations



2023 Vaccine Strains




All funded influenza vaccines in the 2023 program are:

- **quadrivalent** vaccines (QIV)
- contain viruses for **two influenza A and two influenza B** strains
- an A/Sydney/5/2021 (H1N1)pdm09-like virus – **new strain** for 2023
- an A/Darwin/9/2021 (H3N2)-like virus;
- a B/Austria/1359417/2021 (B/Victoria lineage)-like virus; and
- a B/Phuket/3073/2013 (B/Yamagata lineage)-like virus

2023 NIP Funded Influenza Vaccines

2023 INFLUENZA VACCINES					
AGE GROUP	Fluarix Tetra 0.5mL (GSK)	Vaxigrip Tetra 0.5mL (Sanofi)	Afluria Quad 0.5mL (Seqirus)	Flud Quad 0.5mL (Seqirus)	Comments
6 MONTHS TO LESS THAN 5 YEARS	✓	✓			<ul style="list-style-type: none"> Influenza vaccines are not recommended for infants less than 6 months of age. Children aged 6 months to less than 9 years receiving the influenza vaccine for the first time require two doses at least 4 weeks apart. Influenza vaccines can be co-administered with all vaccines (including COVID-19 vaccines).
5 YEARS TO LESS THAN 65 YEARS	✓	✓	✓		
65 YEARS AND OLDER				✓	

- 
- Influenza vaccines can be **ordered weekly** over the influenza season.
 - The number of Influenza **vaccines available for ordering has increased** since mid-April. Please contact us if the amount you are able to order does not meet your needs.
 - To assist us in **reducing wastage**, due to cold chain breaches and vaccine expiry, please do not over-order.
 - Keep in mind **fridge capacity** and the need to keep influenza **vaccines in their original packaging**.
 - **Check all orders immediately** upon receipt to ensure cold chain requirements have been maintained and that your order has been packed correctly and is complete.
 - If a **cold chain breach** has occurred, or there are any other irregularities with your order, please contact the immunisation team immediately on **1800 671 738** or **immunisation@health.tas.gov.au**

Frequently asked questions



Can the Influenza vaccine be given to someone who has had Guillain-Barre Syndrome (GBS)?



- A **small increased risk of GBS** was found in people given a specific influenza vaccine in the United States in 1976.
- Since then, close monitoring has shown that **GBS has occurred at <1 per million doses of influenza vaccine.**
- Vaccination is generally not recommended for people with a history of GBS whose **first episode occurred within 6 weeks of influenza vaccination.**
- **Risk – benefit discussion** is needed with a vaccination specialist.

Can Influenza vaccines be co-administration with other vaccines?

- Influenza vaccines can be **co-administered with other vaccines**, including COVID-19 vaccines. An interval is no longer required.
- The safety of **co-administration of the adjuvanted vaccines Flud Quad and Shingrix** has not been studied.
 - *ATAGI states “It is acceptable to co-administer these vaccines on the same day if necessary. However, given the lack of data on co-administration of these adjuvanted vaccines, it is preferable to separate their administration by a few days”.*
- **Infants and children** can have influenza vaccines along with their routine scheduled vaccines. Possible increased risk of fever when given with Prevenar 13.
- Offer other appropriate **vaccines for the elderly** at the same time eg Prevenar 13 (70 years and over) and Zostavax (70-79 years of age).



Can Influenza vaccines be given to someone with an egg allergy?

- People with egg allergy can **safely receive the influenza vaccine**, as long as the vaccine contains <1 ug of egg protein per dose.
- **Older vaccination guidelines** and the vaccine product information (PI) recommended avoidance of influenza vaccination in egg-allergic individuals based on case reports of anaphylaxis 30 years ago, when the amounts of egg protein were much higher than currently.
- A number of studies over the last ten years **have shown no greater risk** of influenza vaccine allergy in those with or without egg allergy.
- **The amount of egg ovalbumin present in Australian and New Zealand vaccines** is currently ~ 1 ug or less/dose, substantially less than the estimated 130 ug egg protein taken orally considered likely to trigger reactions in egg-allergic patients.



Can Influenza vaccines be given to someone with a latex allergy?

- All **2023 influenza vaccines are latex free** and can be given to people with latex allergies.



Adverse Events Following Immunisation (AEFI)

The background of the slide features a complex, abstract geometric pattern. It consists of numerous overlapping triangles in various shades of blue, teal, and light blue. The triangles are arranged in a way that creates a sense of depth and movement, with some triangles appearing to be in the foreground and others receding into the background. The overall effect is a modern, clean, and professional aesthetic.

An adverse event following immunisation (AEFI) is **any untoward medical occurrence** that follows immunisation.

The event may be related to the **vaccine itself** or to **its handling or administration** and does not necessarily have a causal relationship with the vaccine.

This may be due to:

- An **individuals reaction** to a vaccine product
- **Errors in handling and/or administration** of the vaccine
- **Quality issues with the vaccine** itself or the label or accompanying Product Information and Consumer Medicines Information documents
- **Arise from anxiety** about the immunisation

Vaccines rarely cause serious adverse reactions; most are minor and resolve with no treatment or sequelae.

Process of reporting an AEFI

1. Adverse Events Following Immunisation (AEFI) reports are to be **made directly to CDPU**.
2. **AEFI forms** are available on the DoH website.
3. **Email** to tas.aefi@health.tas.gov.au
4. AEFI reports received by CDPU are also **forwarded to the TGA**.

Benefits of reporting AEFIs to CDPU:

- **Monitoring rates within Tasmania** in real-time at a local level, allowing **early investigation** of potential safety issues.
- Detecting and assisting in **responding to errors** related to vaccine administration.
- Maintaining **vaccine provider and public confidence** in vaccines in Tasmania.



Adverse Event Following Immunisation (AEFI) Reporting Form



Vaccinated Person Details			
First Name:	Surname:	DOB: / /	
Address:		Suburb:	Postcode:
Email:	Mobile:	Gender: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other	
Indigenous status: <input type="checkbox"/> Aboriginal <input type="checkbox"/> Torres Strait Islander <input type="checkbox"/> Both Aboriginal and Torres Strait Islander <input type="checkbox"/> Neither			
Parent/Guardian Details (if applicable)			
First Name:		Surname:	
Email:		Mobile:	
Person Reporting Details			
Report Date: / /			
Relationship to Vaccinated Person:	<input type="checkbox"/> Self (as above) <input type="checkbox"/> Parent/Guardian (as above) <input type="checkbox"/> Doctor <input type="checkbox"/> Nurse/Midwife		
	<input type="checkbox"/> Other (please specify):		
First Name:	Surname:	Email:	
Organisation Name:	Phone:		
Consent			
I give consent for the Communicable Diseases Prevention Unit Immunisation Section to:			
<ul style="list-style-type: none"> Contact the person reporting the event <input type="checkbox"/> Yes <input type="checkbox"/> No Contact the immunisation provider listed <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A 			
Immunisation Provider Details			
Who provided the vaccine:	<input type="checkbox"/> Doctor <input type="checkbox"/> Nurse/Midwife <input type="checkbox"/> Pharmacist <input type="checkbox"/> Unknown		
	<input type="checkbox"/> Other (please specify):		
Location:	<input type="checkbox"/> GP <input type="checkbox"/> Council <input type="checkbox"/> Aboriginal Health <input type="checkbox"/> Hospital <input type="checkbox"/> School <input type="checkbox"/> State Run Clinic		
	<input type="checkbox"/> RACF <input type="checkbox"/> Unknown <input type="checkbox"/> Other (please specify):		
First Name:	Surname:	Phone:	
Address:	Suburb:	Postcode:	
Medical History			
Illness at the time of vaccination?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Received any other vaccine in the last 4 weeks?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Taken any medicines in the last 3 months?		<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	
Any important pre-existing medical conditions, including severe allergies? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown			
Pregnant at the time of vaccination? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Unknown		Gestation (if known): weeks	
Only if aged under 2 years: Gestation at birth: weeks Birth weight: grams			
Details: (please complete if 'yes' to any of the above)			

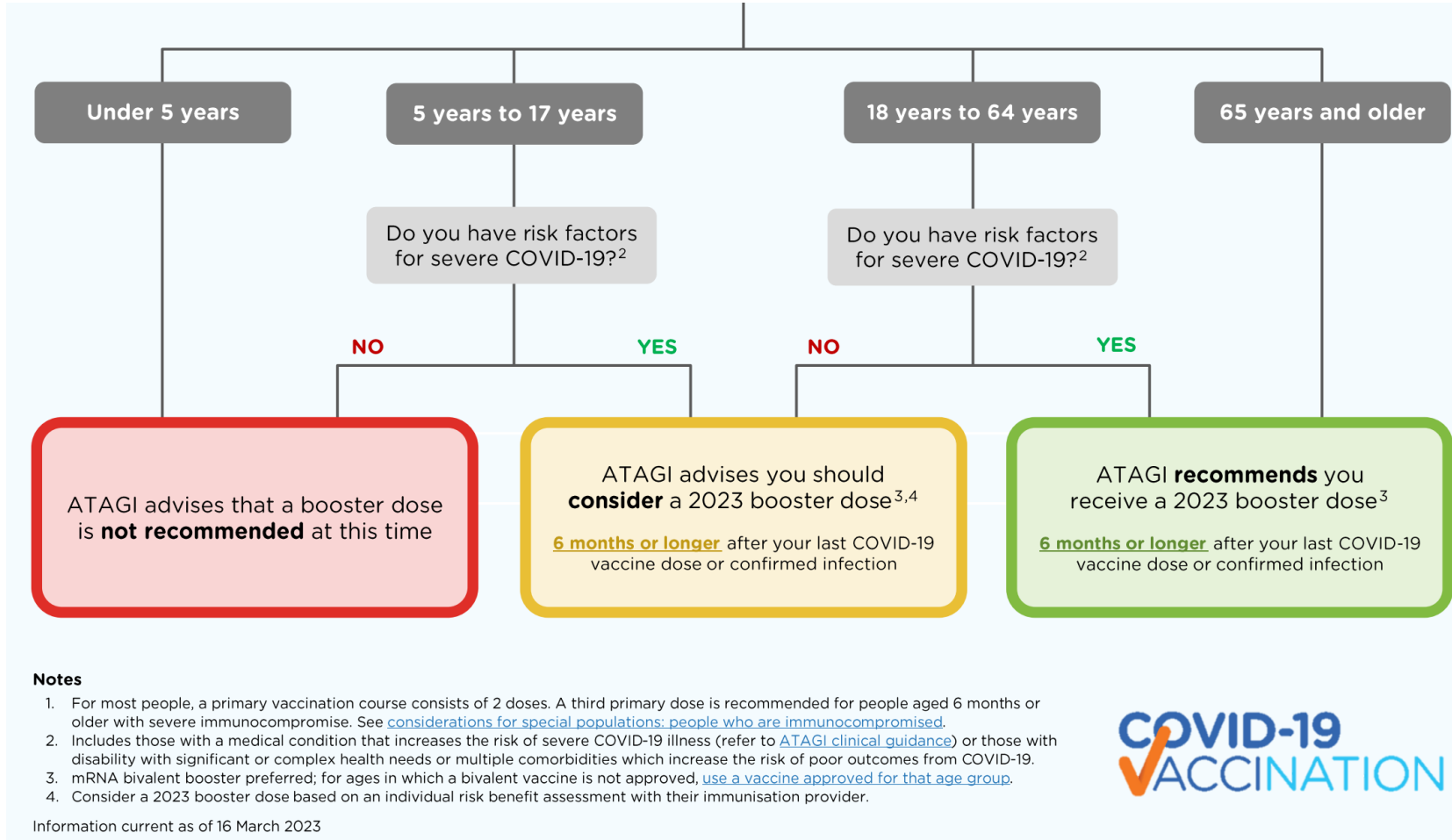
Vaccines Administered				
<input type="checkbox"/> Tick if you do not know which vaccine was administered, and skip to "Adverse Event Description"				
Date of Vaccination: / /		Time of Vaccination: (24hr clock)		
Vaccine Name	Dose No.	Batch Number	Route of Administration*	Site*
			<input type="checkbox"/> IM <input type="checkbox"/> Oral <input type="checkbox"/> SC <input type="checkbox"/> ID <input type="checkbox"/> Unknown	<input type="checkbox"/> LA <input type="checkbox"/> RA <input type="checkbox"/> LL <input type="checkbox"/> RL <input type="checkbox"/> O <input type="checkbox"/> Unknown
			<input type="checkbox"/> IM <input type="checkbox"/> Oral <input type="checkbox"/> SC <input type="checkbox"/> ID <input type="checkbox"/> Unknown	<input type="checkbox"/> LA <input type="checkbox"/> RA <input type="checkbox"/> LL <input type="checkbox"/> RL <input type="checkbox"/> O <input type="checkbox"/> Unknown
			<input type="checkbox"/> IM <input type="checkbox"/> Oral <input type="checkbox"/> SC <input type="checkbox"/> ID <input type="checkbox"/> Unknown	<input type="checkbox"/> LA <input type="checkbox"/> RA <input type="checkbox"/> LL <input type="checkbox"/> RL <input type="checkbox"/> O <input type="checkbox"/> Unknown
			<input type="checkbox"/> IM <input type="checkbox"/> Oral <input type="checkbox"/> SC <input type="checkbox"/> ID <input type="checkbox"/> Unknown	<input type="checkbox"/> LA <input type="checkbox"/> RA <input type="checkbox"/> LL <input type="checkbox"/> RL <input type="checkbox"/> O <input type="checkbox"/> Unknown
*IM = Intramuscular, SC = Subcutaneous, ID = Intradermal, LA = Left Arm, RA = Right Arm, LL = Left Leg, RL = Right Leg, O = Other Site (please specify):				
If Bexsero vaccine was administered and the child is less than 2 years old, did they receive paracetamol before or at the time of vaccination?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If Bexsero vaccine was administered, did the child have the two further recommended doses of paracetamol after vaccination?				<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Are you completing this form to report a vaccine administration error? If yes, please provide the specific details in the 'details of event' box below.				<input type="checkbox"/> Yes <input type="checkbox"/> No
Adverse Event Description				
Onset Date: / /		Onset Time (if known): (24hr clock)		
Time from vaccination to onset of symptoms: days hours minutes				
Outcome of event: <input type="checkbox"/> Recovered <input type="checkbox"/> Ongoing <input type="checkbox"/> Recovered with complications <input type="checkbox"/> Fatal <input type="checkbox"/> Unknown				
Recovery Date (if relevant): / /				
Details of event: (be as descriptive as you can)				
Treatment Details				
Treatment Type	<input type="checkbox"/> Self (did not seek medical assistance) <input type="checkbox"/> Helpline <input type="checkbox"/> Nurse <input type="checkbox"/> GP			
	<input type="checkbox"/> Hospital Emergency <input type="checkbox"/> Specialist Outpatient Clinic <input type="checkbox"/> Unknown			
	<input type="checkbox"/> Hospital Admission: Number of days Admitted: Date of discharge: / /			
Treatment Received:				
Organisation Name:		Phone:		
COVID-19 Check				
Has the vaccinated person ever had a COVID-19 infection? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown				
If yes, the last known date of infection is / / OR <input type="checkbox"/> Unknown				
*Once completed please email this form to: tas.aefi@health.tas.gov.au				
The information collected in this report will be reviewed by staff in Public Health Services (Tasmanian Department of Health) to provide advice for immunisation providers and consumers reporting AEFI. To assist in post-market safety monitoring of vaccines, all reports of AEFI are shared with the Therapeutic Goods Administration (TGA) for assessment. Please notify Public Health Services by email (tas.aefi@health.tas.gov.au) if you do not wish for your report to be shared with the TGA.				
IMMUNISATION SECTION OFFICE USE ONLY <input type="checkbox"/> Initial report <input type="checkbox"/> Amendment <input type="checkbox"/> Nullification				
Date 1 st Received:	Event ID:	Date Update Received:	Sender Case Reference:	

COVID-19 booster doses



ATAGI recommendations for 2023 COVID-19 booster doses

for people who have completed a primary course¹



ATAGI recommendations for COVID-19 booster doses in 2023

- Booster dose **not recommended** for children and adolescents under 18 years who do not have any risk factors for severe COVID-19.
- Bivalent mRNA **booster** vaccines preferred over other vaccines:
 - Pfizer Original/Omicron BA.4/5
 - Pfizer Original/Omicron BA.1
 - *Moderna Original/Omicron BA.4/5 (pre-filled syringe)*
 - Moderna Original/Omicron BA.1
- Can be co-administered with influenza and other vaccines.





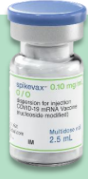

COVID-19 VACCINES: Ancestral virus (original formulations)



	Pfizer (COMIRNATY) 3 mcg/0.2mL concentrated suspension for injection multi-dose vial	Moderna (SPIKEVAX) 0.10 mg/mL suspension for injection multi-dose vial	Pfizer (COMIRNATY) 10 mcg/0.2 mL concentrated suspension for injection multi-dose vial	Pfizer (COMIRNATY) 30 mcg/0.3 mL concentrated suspension for injection multi-dose vial	Novavax (NUVAXOVID) 5 mcg/0.5 mL adjuvanted suspension for injection multi-dose vial
CVAS naming convention	Pfizer 6 months-4 years (Maroon)	Moderna 6 months-5 years (Blue/Purple)	Pfizer 5-11 years (Orange)	Pfizer 12 years+ (Purple)	Novavax
Vaccine type	mRNA (nucleic acid)	mRNA (nucleic acid)	mRNA (nucleic acid)	mRNA (nucleic acid)	Protein-based
Approved age	6 months to 4 years ¹	6 months to 5 years ¹	5 to 11 years	12 years and older	12 years and older
Dose volume	0.20 mL primary dose	0.25 mL primary dose	0.20 mL primary & booster dose	0.30 mL primary & booster dose ²	0.50 mL primary & booster dose ²
Doses per vial	10	10	10	6	10
Dilution required	Yes (2.2 mL)	No	Yes (1.3 mL)	Yes (1.8 mL)	No
Recommended primary course interval ³	8 weeks (second dose) and 8 weeks (third dose)	8 weeks	8 weeks	8 weeks	8 weeks
Minimum interval for the primary course ⁴	3 weeks (second dose) and 8 weeks (third dose)	4 weeks	3 weeks	3 weeks	3 weeks
Third primary dose ⁵	Yes ⁶	Yes	Yes	Yes	Yes ⁷
Booster dose ²	No	No	Yes	Yes	Yes
Ultra-Low Temperature (ULT) freezer storage time ⁸	18 months (shelf life) at -90°C to -60°C	DO NOT STORE below -50°C	18 months (shelf life) at -90°C to -60°C	18 months (shelf life) at -90°C to -60°C	DO NOT STORE
Freezer storage time (unopened vials) ⁸	DO NOT STORE at -25°C to -15°C	9 months (shelf life) at -50°C to -15°C	DO NOT STORE at -25°C to -15°C	2 weeks at -25°C to -15°C within the 18-month shelf life	DO NOT STORE
Refrigeration storage time (unopened vials) ⁸	70 days (2°C to 8°C) within the 18-month shelf life	30 days (2°C to 8°C) within the 9-month shelf life	70 days (2°C to 8°C) within the 18-month shelf life	31 days (2°C to 8°C) within the 18-month shelf life	9 months (2°C to 8°C)
Room temperature storage time (unopened vials) ⁸	24 hours, pre- and post-dilution (up to 30°C)	24 hours (up to 25°C)	24 hours, pre- and post-dilution (up to 30°C)	2 hours pre-dilution, 6 hours post-dilution (up to 30°C)	12 hours (up to 25°C)
ATAGI recommendations for storing opened vials	6 hours (up to 30°C)	6 hours (up to 25°C)	6 hours (up to 30°C)	6 hours (up to 30°C)	6 hours (up to 25°C)
ATAGI recommendations for pre-drawn doses	1 hour (up to 30°C) 6 hours (2°C to 8°C)	1 hour (up to 25°C) 6 hours (2°C to 8°C)	1 hour (up to 30°C) 6 hours (2°C to 8°C)	1 hour (up to 30°C) 6 hours (2°C to 8°C)	Storing pre-drawn doses in syringes is not preferred ⁹
Transport limitations	80 hours thawed	12 hours thawed	80 hours thawed	48 hours thawed	Nil

COVID-19 VACCINES: Bivalent mRNA booster vaccines



 Moderna (SPIKEVAX) Bivalent BA.4-5 0.10 mg/mL suspension for injection pre-filled syringe	 Pfizer (COMIRNATY) Bivalent BA.4-5 15/15 mcg/0.3 mL suspension for injection multi-dose vial	 Moderna (SPIKEVAX) Bivalent BA.1 0.10 mg/mL suspension for injection multi-dose vial	 Pfizer (COMIRNATY) Bivalent BA.1 15/15 mcg/0.3 mL suspension for injection multi-dose vial
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CVAS naming convention	Moderna Bivalent (BA.4-5) 12 years+ (PFS) ¹	Pfizer Bivalent (BA.4-5) 12 years+ (Grey) ¹	Moderna Bivalent (BA.1) 18 years+ (Blue/Green) ¹	Pfizer Bivalent (BA.1) 18 years+ (Grey) ¹
Vaccine type	mRNA (nucleic acid)	mRNA (nucleic acid)	mRNA (nucleic acid)	mRNA (nucleic acid)
Approved age ^{2,3}	12 years and older	12 years and older	18 years and older	18 years and older
Dose	0.50 mL booster dose	0.30 mL booster dose	0.50 mL booster dose	0.30 mL booster dose
Doses per vial/syringe	1	6	5	6
Dilution required	No	No	No	No
Primary course dose ⁴	No	No	No	No
Booster dose interval ^{2,3}	6 months or more following last COVID-19 vaccine dose or confirmed infection, whichever is the most recent	6 months or more following last COVID-19 vaccine dose or confirmed infection, whichever is the most recent	6 months or more following last COVID-19 vaccine dose or confirmed infection, whichever is the most recent	6 months or more following last COVID-19 vaccine dose or confirmed infection, whichever is the most recent
Ultra-Low Temperature (ULT) freezer storage time ⁵	DO NOT STORE below -50°C	18 months (shelf life) at -90°C to -60°C	DO NOT STORE below -50°C	18 months (shelf life) at -90°C to -60°C
Freezer storage time (unopened) ⁵	9 months (shelf life) at -50°C to -15°C	DO NOT STORE at -25°C to -15°C	9 months (shelf life) at -50°C to -15°C	DO NOT STORE at -25°C to -15°C
Refrigeration storage time (unopened) ⁵	30 days (2°C to 8°C) within the 9-month shelf life	70 days (2°C to 8°C) within the 18-month shelf life	30 days (2°C to 8°C) within the 9-month shelf life	70 days (2°C to 8°C) within the 18-month shelf life
Room temperature storage time (unopened) ⁵	24 hours (up to 25°C)	24 hours pre- and post-initial puncture (up to 30°C)	24 hours (up to 25°C)	24 hours pre- and post-initial puncture (up to 30°C)
ATAGI recommendations for storing opened vials	NA	6 hours (up to 30°C)	6 hours (up to 25°C)	6 hours (up to 30°C)
ATAGI recommendations for pre-drawn doses	NA	1 hour (up to 30°C) 6 hours (2°C to 8°C)	1 hour (up to 25°C) 6 hours (2°C to 8°C)	1 hour (up to 30°C) 6 hours (2°C to 8°C)
Transport limitations	Nil	80 hours thawed	12 hours thawed	80 hours thawed

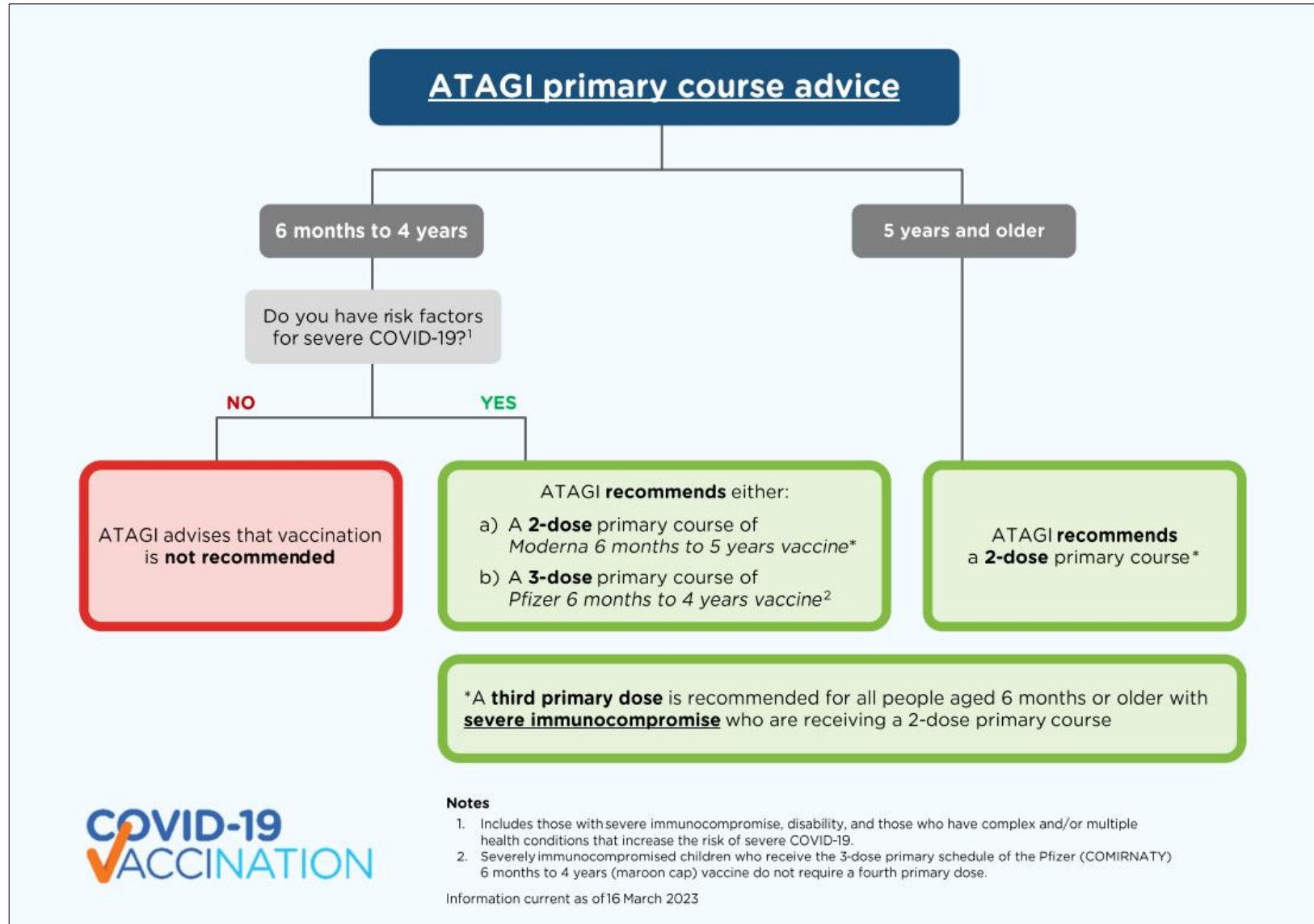
Notes:

- All currently available COVID-19 vaccines are anticipated to provide benefit as a booster dose, however bivalent mRNA booster vaccines are preferred over other vaccines. For ages in which a bivalent mRNA booster vaccine is not approved (children aged 5 to 11 years), Pfizer (COMIRNATY) 5-11 years (orange cap) can be used.
- ATAGI recommends a 2023 COVID-19 vaccine booster dose for all adults aged 65 years and over and adults aged 18-64 years who have medical comorbidities that increase their risk of severe COVID-19, or disability with significant or complex health needs, regardless of the number of prior doses received, see [ATAGI 2023 booster advice](#).
- ATAGI advises that all adults aged 18-64 years without risk factors for severe COVID-19 and children and adolescents aged 5-17 years who have medical comorbidities that increase their risk of severe COVID-19, or disability with significant or complex health needs, should consider a 2023 booster dose regardless of the number of prior doses received, based on an individual risk-benefit assessment with their immunisation provider, [ATAGI 2023 booster advice](#).
- Bivalent mRNA booster vaccines are not currently registered for use as a primary course dose and may only be used for booster doses.
- If vaccines are stored or handled outside the conditions listed, complete the [Cold Chain Breach \(CCB\) reporting form](#) and email it to the Vaccine Operations Centre (VOC) COVID19VaccineOperationsCentre@health.gov.au.

Images © 2023 Moderna Inc, Novavax Inc & Pfizer Inc. All rights reserved. Information current as of 21 March 2023.

COVID-19 Primary Course Vaccines in Australia (health.gov.au)

ATAGI COVID-19 Primary course advice



Vaccines available in pharmacy



Vaccines available in pharmacy

<i>Approved Vaccines</i>	<i>Minimum Age of Administration</i>	<i>Funding</i>
MMR	16 years of age and over	Private or state-funded [^]
dTpa		Private
Seasonal Influenza	10 years of age and over	Private or National Immunisation Program
COVID-19	5 years of age and over*	Commonwealth

*The Authorised Pharmacist Immuniser(s) must have received specific paediatric authorisation from the Director of Public Health

[^] for people born during or after 1966 without 2 documented doses of measles vaccine or serological evidence of immunity

Immunisation Specialist Services



Referral to Specialist Services



[Home](#) > [Clinic directory](#) > Tasmanian Specialist Immunisation and Allergy Clinic (SIAC) (Statewide)

Tasmanian Specialist Immunisation and Allergy Clinic (SIAC) (Statewide)

From April – August 2022, the Department will contact patients waiting for an outpatient clinic appointment via SMS, with a link to an electronic form. This forms part of a routine audit to ensure patient details are up to date. If you receive this SMS, please update your details.

Conditions

> [Antibiotic Allergies](#)



Assessment and management of people with history of adverse events or identified risks of serious adverse events to immunisations including COVID-19 immunisations; assessment and management of people with a history of adverse events to antibiotics, particularly those with severe reactions or individuals at high risk for serious infections.

Availability

North South North West Statewide

[Home](#) > [Clinic directory](#) > [Paediatrics](#) > Paediatric Specialist Immunisation Service

Paediatric Specialist Immunisation Service

From April – August 2022, the Department will contact patients waiting for an outpatient clinic appointment via SMS, with a link to an electronic form. This forms part of a routine audit to ensure patient details are up to date. If you receive this SMS, please update your details.

Availability

North South North West Statewide

This condition is treated in the [Paediatrics clinic](#)

Pre-referral work-up

History

This clinic assesses and manages children/families with issues regarding childhood immunisation. This clinic:

- ▶ provides assessment and makes recommendations regarding suitability for immunisation and the best location for this to occur
- ▶ facilitates the administration of immunisations under sedation, and/or under supervision in the hospital environment due to medical risk
- ▶ provides COVID-19 vaccination to children from six months of age to under five years, who meet [ATAGI Recommendations](#).

Immunisation resources



Resources – Patients

Sharing Knowledge About Immunisation (SKAI)

Mumbubvax

Is an influenza vaccine recommended for my child?

SKAI - Sharing Knowledge About Immunisation

If your child is six months or older, it is recommended they get an influenza vaccine every year. Influenza vaccines are free for all children from six months up to five years, and are the best way to protect your child against influenza, sometimes called 'the flu'.

An influenza vaccine protects your child against several types of influenza virus. It is given as a needle, usually in the leg or arm. The best time to get the vaccine is before the influenza season, which is usually June to September.

Is influenza serious?

If your child has influenza, they will probably have a fever and a dry cough, a blocked nose, sneezing, headache and a sore throat. They may look and feel tired. They might have an upset tummy, and their muscles might feel sore.¹ Even though some of the symptoms are similar, influenza is usually much worse and lasts longer than a cold. Even if your child is usually healthy, influenza can make them very unwell. Influenza can lead to serious conditions like severe lung infection or swelling in the brain. Babies and children under five years of age are more likely than older children and adults to get severe influenza and need treatment in hospital.²

Is influenza common in Australia?

Influenza is common: up to four in 10 children in Australia get influenza each year.¹ Influenza can spread more easily in places where children spend lots of time together, like childcare centres, playgroups or schools. When someone with influenza sneezes or coughs, they send tiny droplets carrying the influenza virus into the air. If your child breathes in these droplets, or touches a surface where they have landed and then touches their nose, mouth or eyes, they can catch influenza too.

How often should my child get an influenza vaccine?

Children need to get an influenza vaccine every year. This is because the types of influenza viruses circulating often change from year to year. Also, protection from influenza vaccines generally lasts less than a year.

How will my child feel after vaccination?

Immediately after they get an injection, most children will cry for a minute or two. You can help them feel better by cuddling them, breastfeeding them or keeping them distracted with a toy or an activity that they enjoy. For a day or two afterwards, some children will feel a little unwell. The most common reactions are redness, soreness or swelling at the spot where the needle went in, mild fever (temperature), slight headache, feeling achy, and tiredness.¹ Usually these symptoms last between 12 and 24 hours and then get better. If you are worried about your child, you can get help from your doctor or your nearest emergency department. You can also call Health Direct on 1800 022 222.

SKAI
Sharing Knowledge About Immunisation

Influenza vaccine | SKAI info sheet | July 2020

NCIRS
National Centre for Immunisation Research and Surveillance

Does my child need a flu shot?

Flu shots, called influenza vaccines, are recommended for babies and children every year from the time they are six months old to protect them from influenza. Influenza vaccines are free for all children aged six months to under five years.

Isn't the flu just a bad cold?

Influenza (also called 'the flu') can be much worse than a bad cold. Some children who have influenza get so sick they can't go to childcare or preschool for two weeks or more. Every year in Australia, hundreds of children get so unwell from influenza they need to be treated in hospital. Most of them are babies and children under five years.

Do influenza vaccines actually work?

An influenza vaccine is the best way to protect your child from serious influenza. Influenza vaccines give better protection in some years than others. This is because the types of influenza viruses making people sick from year to year can change, and the vaccines may have to be updated. Before the influenza season, experts gather information from around the world to work out which influenza viruses are most likely to circulate. They often get it right, but sometimes it can be hard to predict. Influenza vaccines give your child good protection, even if they aren't always perfect.

Could my child get influenza from the vaccine?

Your child can't get influenza from an influenza vaccine. Influenza vaccines contain pieces of influenza viruses, but these can't make your child sick like the whole virus. Some vaccines in other countries have whole, weakened influenza viruses in them, but these vaccines are not used in Australia.

It's normal for babies and children to be a bit unsettled or even feverish for a day or two after influenza vaccination. These side-effects are a sign that your child's immune system is responding to the vaccine. Also, the vaccine starts to protect your child after about two weeks, so if your child caught the virus before they were vaccinated (but wasn't feeling sick yet), or in the two weeks after they were vaccinated, it might seem like the vaccine made them sick.

I've heard influenza vaccines can have serious side effects. Is this true?

Serious side effects are very rare. Less than two in every 100,000 children under two years have febrile convulsions (fever fits or seizures) in the days after vaccination.¹ Febrile convulsions are caused by a sudden increase in body temperature. They can

Talking about flu vaccination with Aboriginal and Torres Strait Islander families

This resource is a conversation guide for immunisation providers to use when discussing vaccination with Aboriginal and Torres Strait Islander people and families of all ages. It's designed to support providers to feel comfortable to have these conversations and strongly recommend vaccination.

Building rapport

Building rapport leads to building trust and creating a comfortable environment. Greet with a smile and take the time to chat about something more personal for the person, before discussing their health. **Building rapport will take time.**

A person walks in wearing a sporting jersey or hat.
"How'd your team go in their last game?"

Asking the question

It is really important to know whether a person identifies as Aboriginal or Torres Strait Islander. **Don't assume how a person does or does not identify and always ask the question.**

"Do you or your child identify as Aboriginal or Torres Strait Islander?"

Family considerations

Family is an important aspect of Aboriginal and Torres Strait Islander communities. Some people may wish to have their family as support at appointments and may refrain from accessing services if they are unable to do so. **Provide the flexibility** to have more people present at appointments. *This is particularly relevant for families who have multiple children – it can be very challenging for parents to find childcare for children when appointments are restricted to one parent and one child.*

"Would you like to bring an Aboriginal health worker or family member with you?"

"You can bring your other children/family members along."

SKAI
Sharing Knowledge About Immunisation

NCIRS
National Centre for Immunisation Research and Surveillance

Flu shot | SKAI info sheet | July 2020

NCIRS
National Centre for Immunisation Research and Surveillance

Information Sheet

Healthcare providers to use with Aboriginal and Torres Strait Islander people and families of all ages. It's designed to support providers to feel comfortable to have these conversations and strongly recommend vaccination.

Why should I get the flu vaccine?

The flu vaccine helps you stay healthy and strong and can protect you and your mob from the flu. If you are pregnant, the flu vaccine will also protect your baby against the flu when it is born. Getting the flu vaccine lowers the chance that you'll need to go to the hospital if you get the flu.

Vaccines for COVID-19 are also available. The COVID-19 vaccines used in Australia are safe and protect you from getting very sick from the COVID-19 disease.

It's important you get your flu vaccine and COVID-19 vaccines to keep you and others in the community healthy.

Can the flu vaccine be given at the same visit as the COVID-19 vaccine?

The flu vaccine and the COVID-19 vaccine can be safely given at the same visit. The best way to protect yourself against getting both infections is to make sure you've had your flu vaccine and are fully vaccinated against COVID-19.

Where can I get vaccinated?

At your local doctor, Aboriginal Medical Service (AMS) or local pharmacy. If you go to your doctor or AMS, also ask them about other vaccines that you may need to stay healthy. The flu vaccine is free for all Aboriginal and Torres Strait Islander people. If you get asked to pay for the flu vaccine, please remind the doctor, nurse or reception staff that you are Aboriginal or Torres Strait Islander.

Resources - Clinicians

The Australian Immunisation Handbook (health.gov.au)
National Centre for Immunisation Research and
Surveillance | NCIRS







Home Contents Diseases Vaccines Catch-up vaccination Resources

🔗 **The Australian Immunisation Handbook provides clinical advice for health professionals on the safest and most effective use of vaccines in their practice.**

These recommendations are developed by the [Australian Technical Advisory Group on Immunisation](#) (ATAGI) and approved by the [National Health and Medical Research Council](#) (NHMRC).

[About the Handbook >](#)

🔗 **Handbook quicklinks**

- 
[Vaccine preventable diseases](#)
- 
[Vaccination for special risk groups](#)
- 
[Catch-up vaccination](#)
- 
[National Immunisation Catch-up Calculator](#)

Australia's trusted immunisation experts

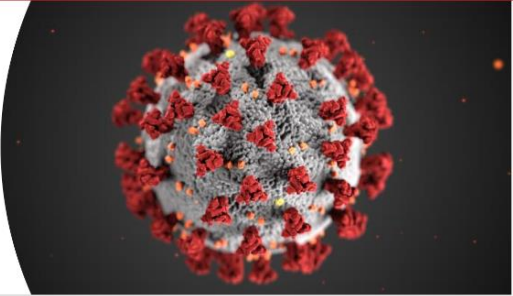
Browse our initiatives 🔍





NCIRS Commemorating 25Years

For health professionals ▾ For the public ▾ Our work ▾ Publications ▾ News & events About us ▾

COVID-19 vaccines: Frequently asked questions

[Access here](#)



- 
Fact sheets and FAQs
- 
Latest vaccine safety data
- 
Latest reports
- 
COVID-19 vaccination program in Australia

News & events [All news & events >](#)

Influenza Toolkit

National Immunisation Program Influenza Immunisation Provider Toolkit

March 2023 Version 2

Appendix 4: Influenza Vaccine Pictorial Guide

Influenza Immunisation Program Tasmania — 2023

6 months to less than 5 years

Vaxigrip Tetra® / Fluarix Tetra®

- Children aged 6 months — less than 5 years
Give 2 doses, one month apart, in their first year of receiving an influenza vaccine



5 years to less than 65 years

Vaxigrip Tetra® / Fluarix Tetra® / Afluria Quad®

- Aboriginal and Torres Strait Islander people aged 5 years to less than 65 years
- Individuals with eligible medical conditions predisposing them to severe influenza
- Pregnant women at any stage of pregnancy
Give 2 doses, one month apart, for children aged under 9 years in their first year of receiving an influenza vaccine



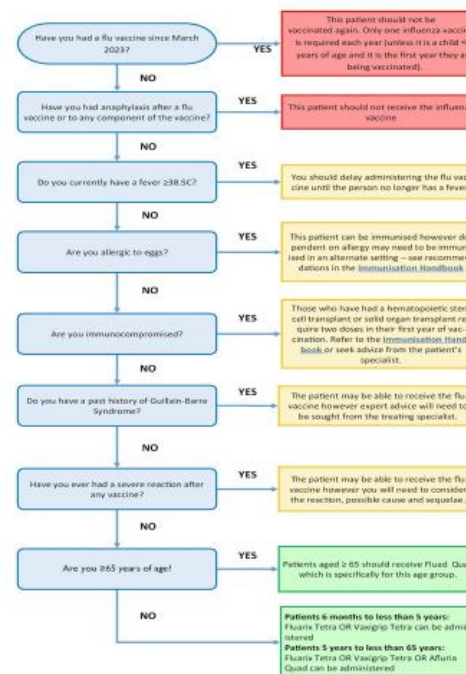
65 years and over

Fluad Quad®

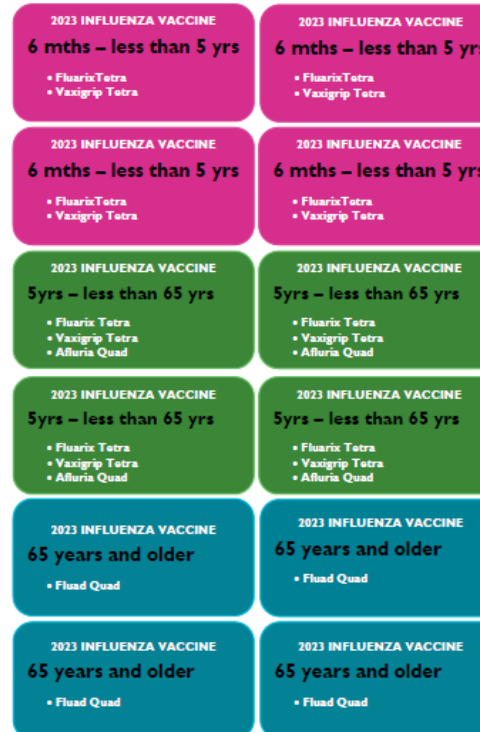
- Individuals aged 65 years and over
DO NOT use this vaccine for any other age group



Appendix 1: Flu Immunisation Decision Aid



Appendix 3: Influenza Vaccine Basket Labels



References



- **ATAGI advice on seasonal influenza vaccines in 2023:**

<https://www.health.gov.au/resources/publications/atagi-advice-on-seasonal-influenza-vaccines-in-2023?language=en>

- **ATAGI 2023 booster advice:** <https://www.health.gov.au/news/atagi-2023-booster-advice?language=en>

- **Australian Immunisation Handbook:** <https://immunisationhandbook.health.gov.au/>

- **fluTAS reports:** <https://www.health.tas.gov.au/health-topics/flu-influenza/flutas-reports#flutas-reports>

References (cont.)

- **Influenza vaccination coverage | NCIRS:** <https://ncirs.org.au/influenza-vaccination-coverage-data/influenza-vaccination-coverage-jurisdiction>
- **MumBubVax:** <https://mumbubvax.org.au/>
- **National Centre for Immunisation Research and Surveillance (NCIRS):** <https://www.ncirs.org.au/>
- **Sharing Knowledge about Immunisation (SKAI):** <https://talkingaboutimmunisation.org.au/>

Questions?



Public Health Services

Immunisation Team

Phone: 61 66 0632

Email: immunisation@health.tas.gov.au