# Childhood immunisation

## Australian Vaccinology Course Day 3

Prof. Nick Wood and Prof. Kristine Macartney

Emma Goeman

Lauren Dalton

NCIRS National Centre for Immunisation Research and Surveillance Australia

# National Immunisation Program Schedule

Australian Government
Department of Health, Disability and Ageing

National Immunisation Program
A joint Australian, State and Territory Government initiative

## Childhood vaccination

(also see vaccination for people with medical risk conditions)

| Age | Diseases | Vaccine Brand | Notes |
|---|---|---|---|
| **Birth** | Hepatitis B (usually offered in hospital) | H-B-Vax® II Paediatric or<br>Engerix B® Paediatric | Should be given to all infants as soon as practicable after birth. The greatest benefit is if given within 24 hours and must be given within 7 days. |
| **2 months**<br>(can be given from 6 weeks of age) | Diphtheria, tetanus, pertussis (whooping cough), hepatitis B, polio, *Haemophilus influenzae* type b (Hib)<br>Rotavirus<br>Pneumococcal<br>Meningococcal B (Aboriginal and Torres Strait Islander children) | Infanrix® hexa or Vaxelis®<br>Rotarix®<br>Prevenar 20®<br>Bexsero® | Rotavirus vaccine: First dose must be given by 14 weeks of age.<br>Meningococcal B vaccine: Prophylactic paracetamol recommended. |
| **4 months** | Diphtheria, tetanus, pertussis (whooping cough), hepatitis B, polio, *Haemophilus influenzae* type b (Hib)<br>Rotavirus<br>Pneumococcal<br>Meningococcal B (Aboriginal and Torres Strait Islander children) | Infanrix® hexa or Vaxelis®<br>Rotarix®<br>Prevenar 20®<br>Bexsero® | Rotavirus vaccine: The second dose must be given by 24 weeks of age.<br>Meningococcal B vaccine: Prophylactic paracetamol recommended. |
| **6 months** | Diphtheria, tetanus, pertussis (whooping cough), hepatitis B, polio, *Haemophilus influenzae* type b (Hib)<br>Pneumococcal (Children with specified medical risk conditions)<br>Pneumococcal (All Aboriginal and Torres Strait Islander children)<br>Meningococcal B (Aboriginal and Torres Strait Islander children with specified medical risk conditions) | Infanrix® hexa or Vaxelis®<br>Prevenar 20®<br>Prevenar 20®<br>Bexsero® | Pneumococcal vaccine: An additional (3rd) dose of 20vPCV is required for all Aboriginal and Torres Strait Islander children and all children with specified medical risk conditions for pneumococcal disease. Refer to the Immunisation Handbook.<br>Meningococcal B vaccine: Prophylactic paracetamol recommended. |
| **6 months to <5 years**<br>(annually) | Influenza | Age appropriate | Administer annually. In children aged 6 months to less than 9 years of age in the first year of administration, give 2 doses a minimum of 1 month apart. One dose annually in subsequent years. Information on age appropriate vaccines is available in the Immunisation Handbook or the annual ATAGI advice on seasonal influenza vaccines. |
| **12 months** | Meningococcal ACWY<br>Measles, mumps, rubella<br>Pneumococcal<br>Meningococcal B (Aboriginal and Torres Strait Islander children) | Nimenrix®<br>M-M-R® II or Priorix®<br>Prevenar 20®<br>Bexsero® | Meningococcal B vaccine: Prophylactic paracetamol recommended. |
| **18 months** | *Haemophilus influenzae* type b (Hib)<br>Measles, mumps, rubella, varicella (chickenpox)<br>Diphtheria, tetanus, pertussis (whooping cough)<br>Hepatitis A (Aboriginal and Torres Strait Islander children in WA, NT, SA, Qld) | ActHIB®<br>Priorix-Tetra®<br>Infanrix® or Tripacel®<br>Vaqta® Paediatric | Hepatitis A vaccine: First dose of the 2-dose hepatitis A vaccination schedule if not previously received a dose. |
| **4 years** | Diphtheria, tetanus, pertussis (whooping cough), polio Hepatitis A (Aboriginal and Torres Strait Islander children in WA, NT, SA, Qld) | Infanrix® IPV or Quadracel®<br><br>Vaqta® Paediatric | |
| **≥ 5 years**<br>(annually) | Influenza (Children with specified medical risk conditions)<br>Influenza (Aboriginal and Torres Strait Islander children) | Age appropriate<br>Age appropriate | Administer annually. In children aged 6 months to less than 9 years of age in the first year of administration, give 2 doses a minimum of 1 month apart. One dose annually in subsequent years. Information on age appropriate vaccines is available in the Immunisation Handbook or the annual ATAGI advice on seasonal influenza vaccines. |

# Talk outline – Common provider and patient questions

- Are children are given too many vaccines which overwhelms their immune system?
- Is the new RSV vaccine and immunoglobulin safe and effective?
- Should I give a flu vaccine to healthy children?
- I’ve heard there is a new pneumococcal vaccine for infants, why?
- Should I give an early measles vaccine to a baby if they are travelling overseas?
- Your questions

“Children are given too many vaccines and this overwhelms their immune system?”

“I don’t want a combination vaccine”

# Why is the schedule the way it is?

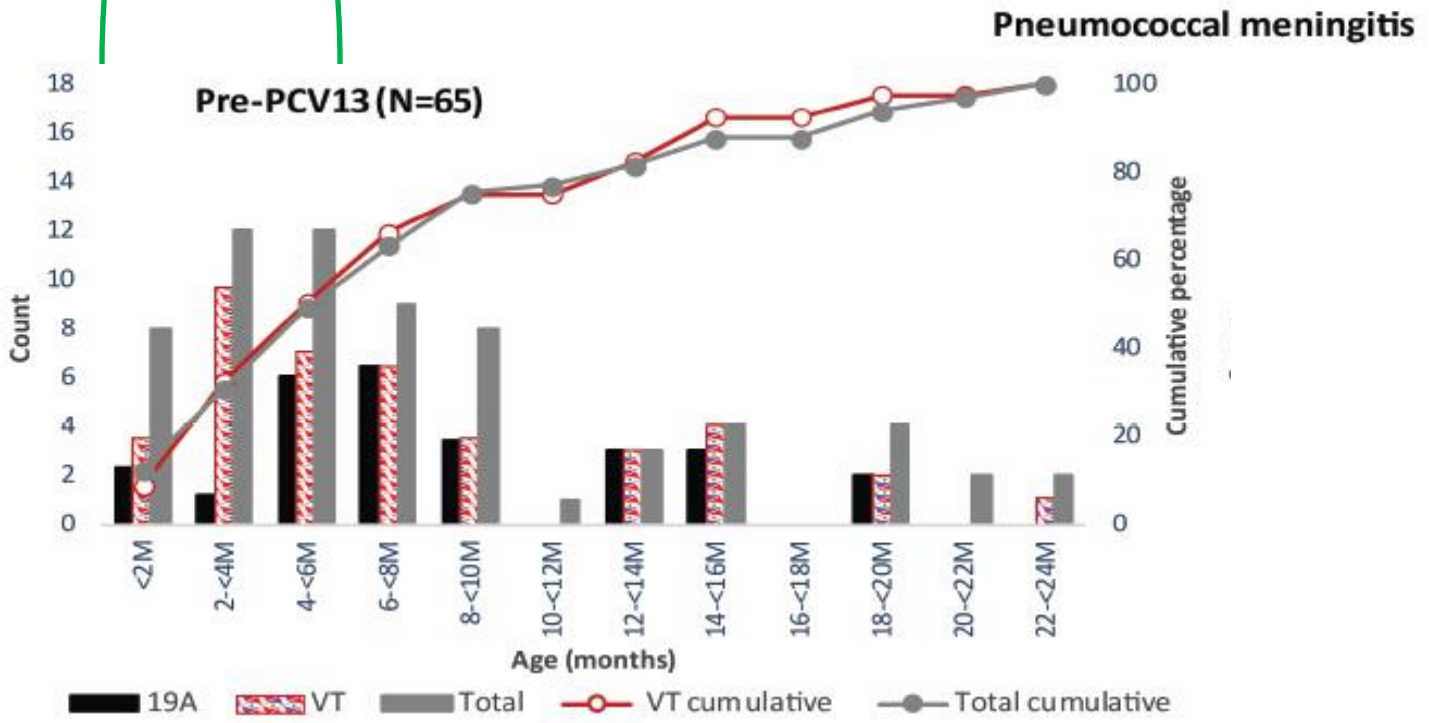
## Key facts

- The vaccination schedule is carefully planned so that babies and children get the best possible protection against serious infectious diseases as soon as they can.
- It is important that children get all their vaccinations on time to ensure they have the best possible protection against infectious diseases.
- If vaccination is delayed or spaced out, children are left without protection for longer than they need to be.

# Highest incidence of many VPDs is in first few months of life

## Spacing out vaccines delays critical protection needed for youngest infants

Most cases < 6 months of age



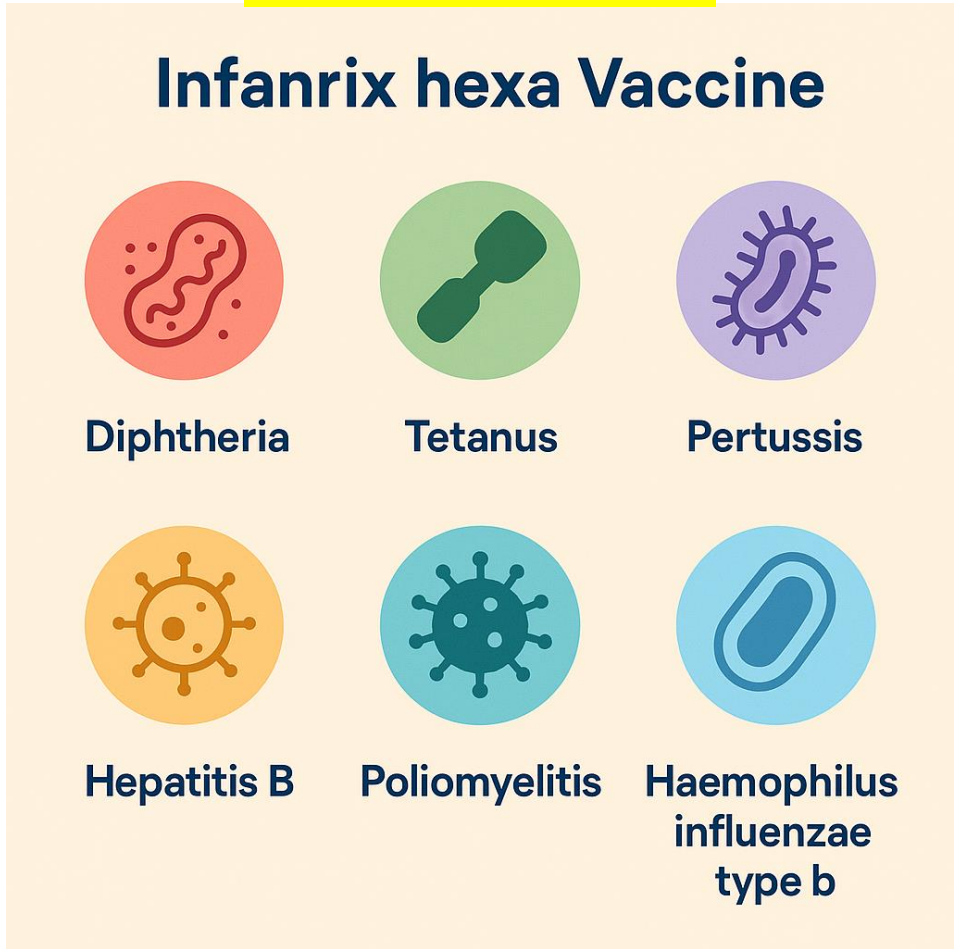

Australia introduced universal PCV7 from 2005

PCV13 replaced PCV7 in 2011

3 doses at 2, 4, and 6 months (3 + 0 schedule)

2020: changed to 2+1 schedule (2,4 and 12 months)

"6 in one"




**DTPa-HBV-IPV-Hib**

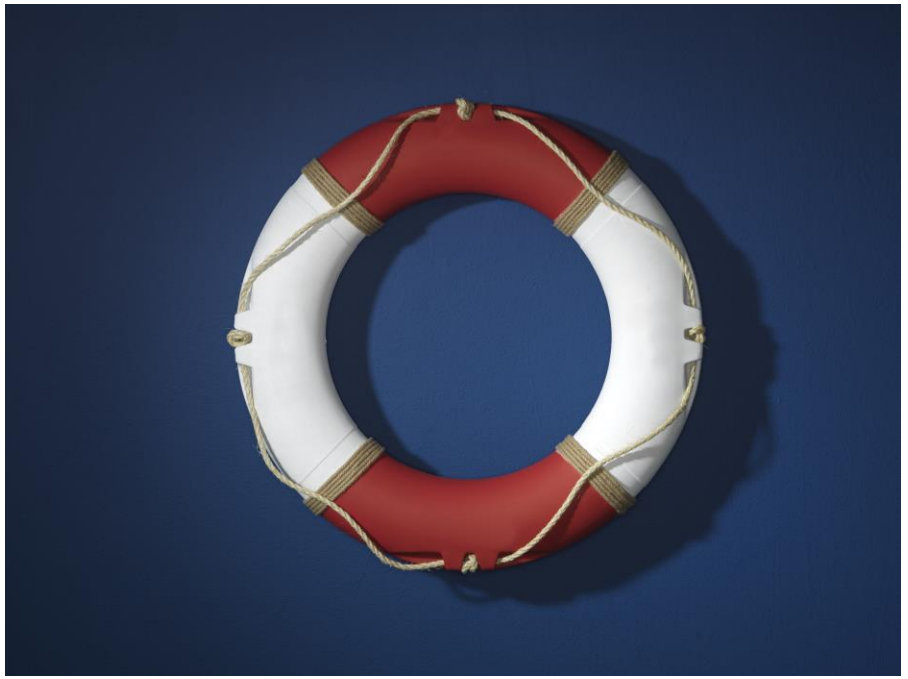
- acelluar pertussis component
- eg Infanrix hexa, Vaxelis

**DTPw-HBV-IPV-Hib**

- ‘whole cell’ pertussis component
- eg Hexasil

# Combination vaccine and concomitant vaccine schedules

Vaccine efficacy and immunogenicity assessment



Vaccine safety assessment

# Example of concomitant vaccine trial with a combination vaccine

A Randomized Trial Assessing the Immunogenicity and Reactogenicity of Two Hexavalent Infant Vaccines Concomitantly Administered With Group B Meningococcal Vaccine

*Matthew Rajan, MBBS,* Natalie Marchevsky, MSc,* Gemma Sinclair, MBBS,* Katie O'Brien,* Kimberley Jefferies, MB BCh,* Nelly Owino, MSc,* Bassam Hallis, PhD,† David Goldblatt, PhD,‡ Mary Matheson, PhD,§ Hannah Cuthbertson, MSc,§ Parvinder Aley, PhD,* Xinxue Liu, PhD,* and Matthew D. Snape, MD*¶*

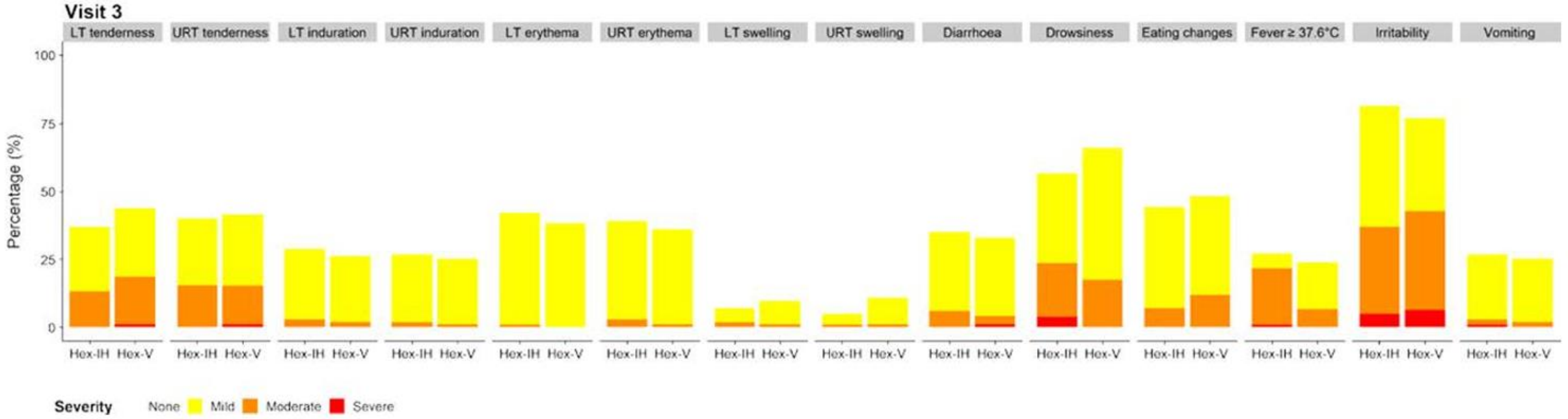



**FIGURE 3.** Maximum severity of solicited local and systemic adverse events over days 0–5 following vaccinations with Hex-V or Hex-IH. 6-in-1 vaccine was given in the upper right thigh (URT) at all visits. MenB vaccine was given in the left anterolateral thigh (LT) at visits 1 and 3, and the PCV13 vaccine was given in the LT at visit 2. full color online

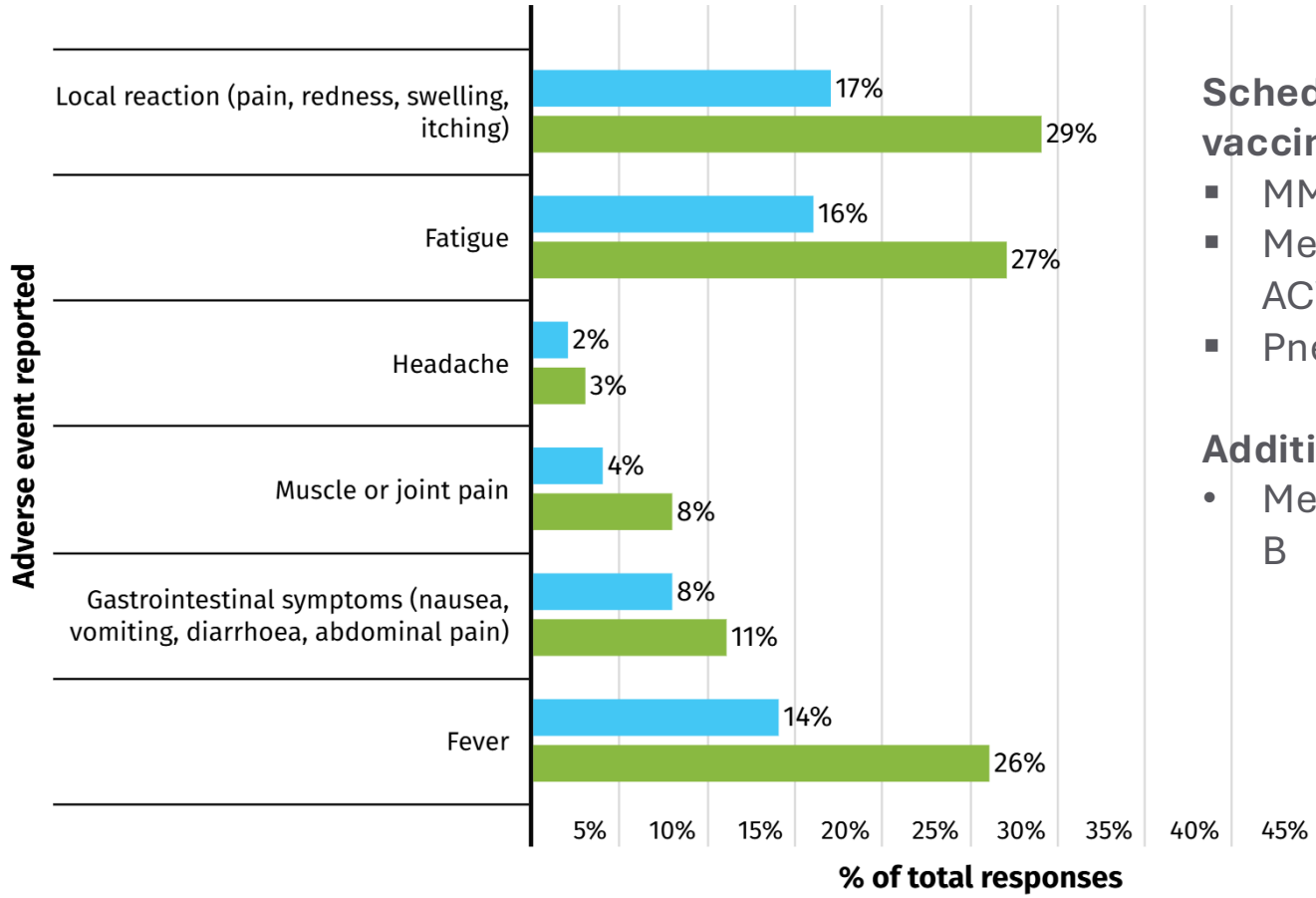
The Pediatric Infectious Disease Journal 42(1):p 66-73, January 2023. | DOI: 10.1097/INF.0000000000003753

# Monitoring the safety of multiple vaccines

## Data from Post marketing surveillance


Australia's vaccine safety surveillance
Home | AusVaxSafety

### Commonly reported adverse events after vaccination



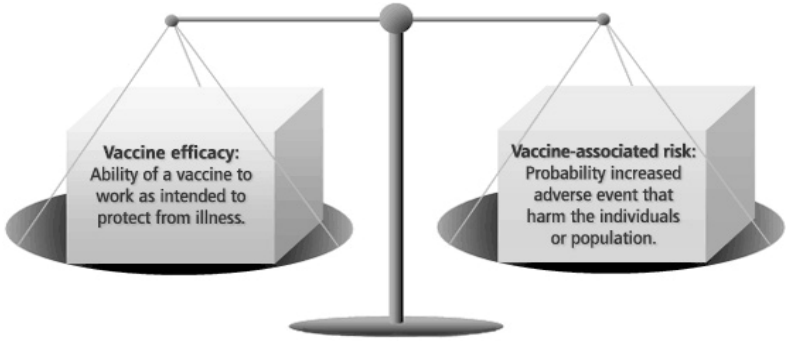

**Scheduled vaccines includes**

- MMR
- Meningococcal ACWY
- Pneumococcal

**Additional vaccine**

- Meningococcal B

# Should we recommend co-administration of vaccines?




**HCW and public need clear guidance on whether/receive to give multiple vaccines in at one visit**

**Some HCW and parents may express desire for separate visits/injections**

## Benefits

Timely disease prevention

‘Spacing out’ vaccines means delayed or possibly missed doses = reduced protection

Fewer visits for families

More efficiency and less cost for unnecessary visits

## Risks

No theoretical concerns with most vaccine combinations

EPI vaccines in children: shown in clinical trials and post-market data to be safe

Same or modestly higher proportion with short-lived mild adverse events

# Aren't multiple injections painful for the child?

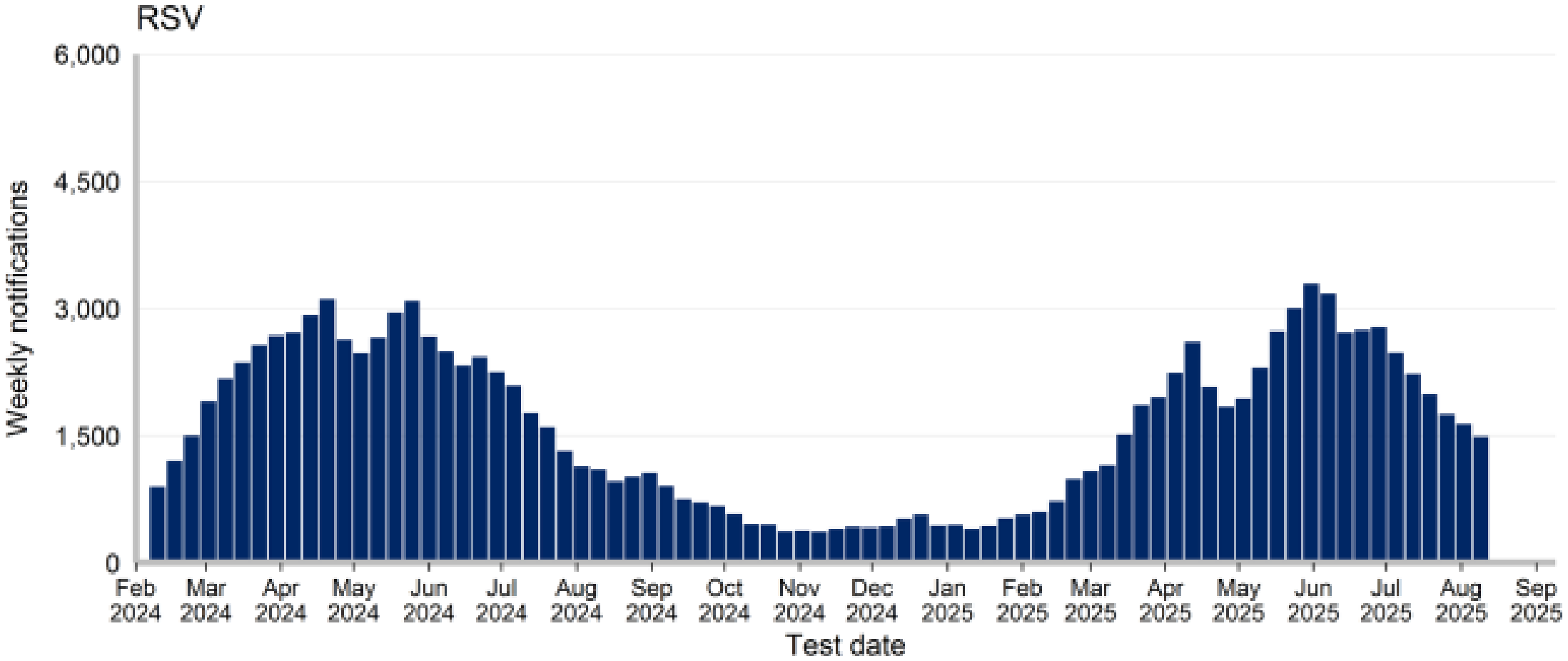
Ramsay DS, Lewis M. Developmental changes in infant cortisol and behavioral response to inoculation. Child Dev. 1994;65(5):1491-150

- While receiving multiple injections at once is painful, having to return for additional vaccines forces the child to experience pain on two visits.
- It is better for the child to experience one moment of pain than pain on two separate days
- Researchers have found that children experience similar amounts of stress, as measured by secretion of a hormone called cortisol, whether they are getting one or two shots at the same visit.

# Is the new RSV vaccine and immunoglobulin effective and safe?

# NSW – Weekly notifications of RSV by date: 1 February 2024 – 9 August 2025

## RSV is at a moderate level of activity and is decreasing



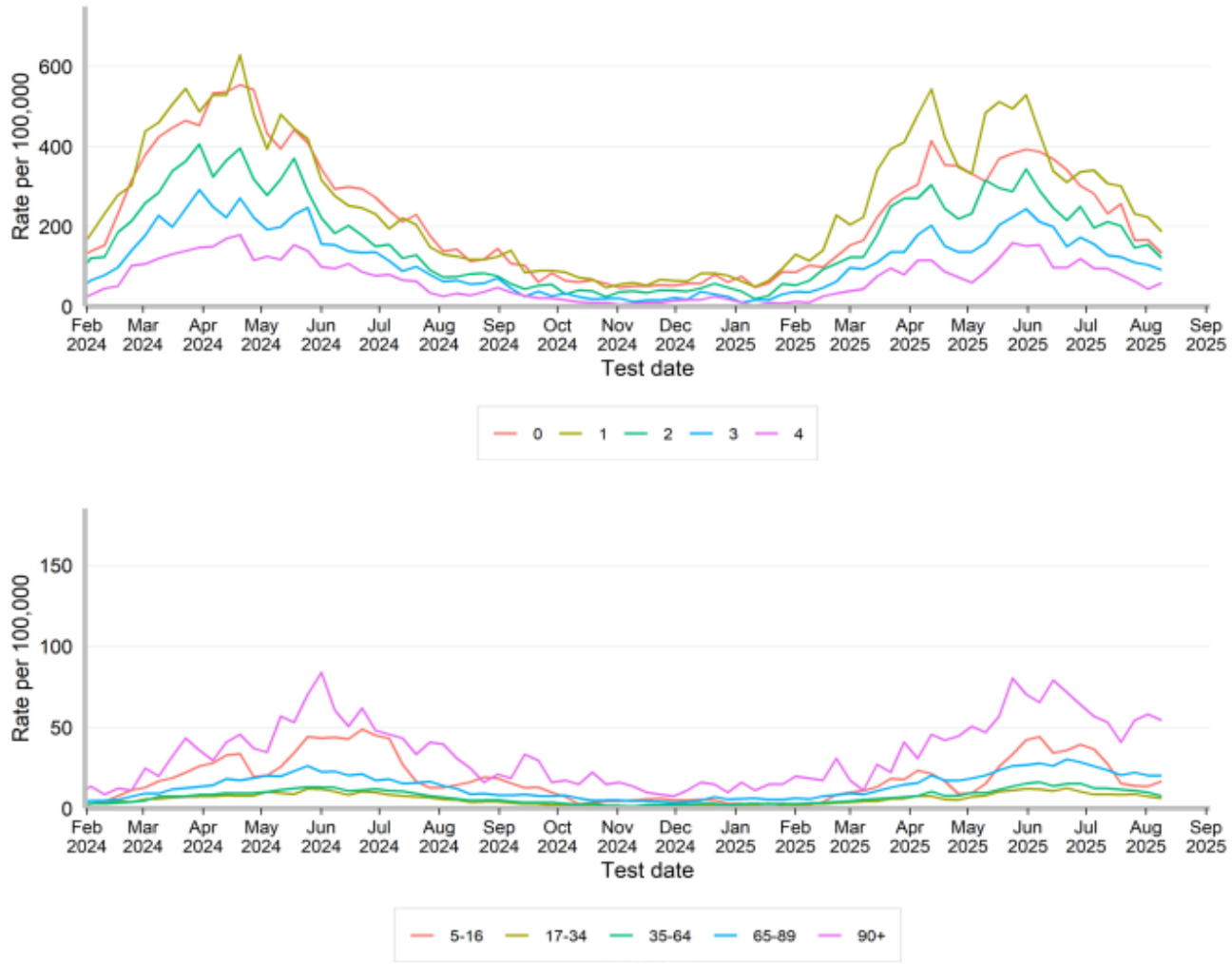

RSV immunisation update – NSW Health Immunisation Policy and Practice Workshop 19th August 2025

respiratory-surveillance-20250809.pdf

# Rates of RSV notifications per 100,000 population

**Rates of RSV notifications have been decreasing in children <5 years and stable in other age groups**

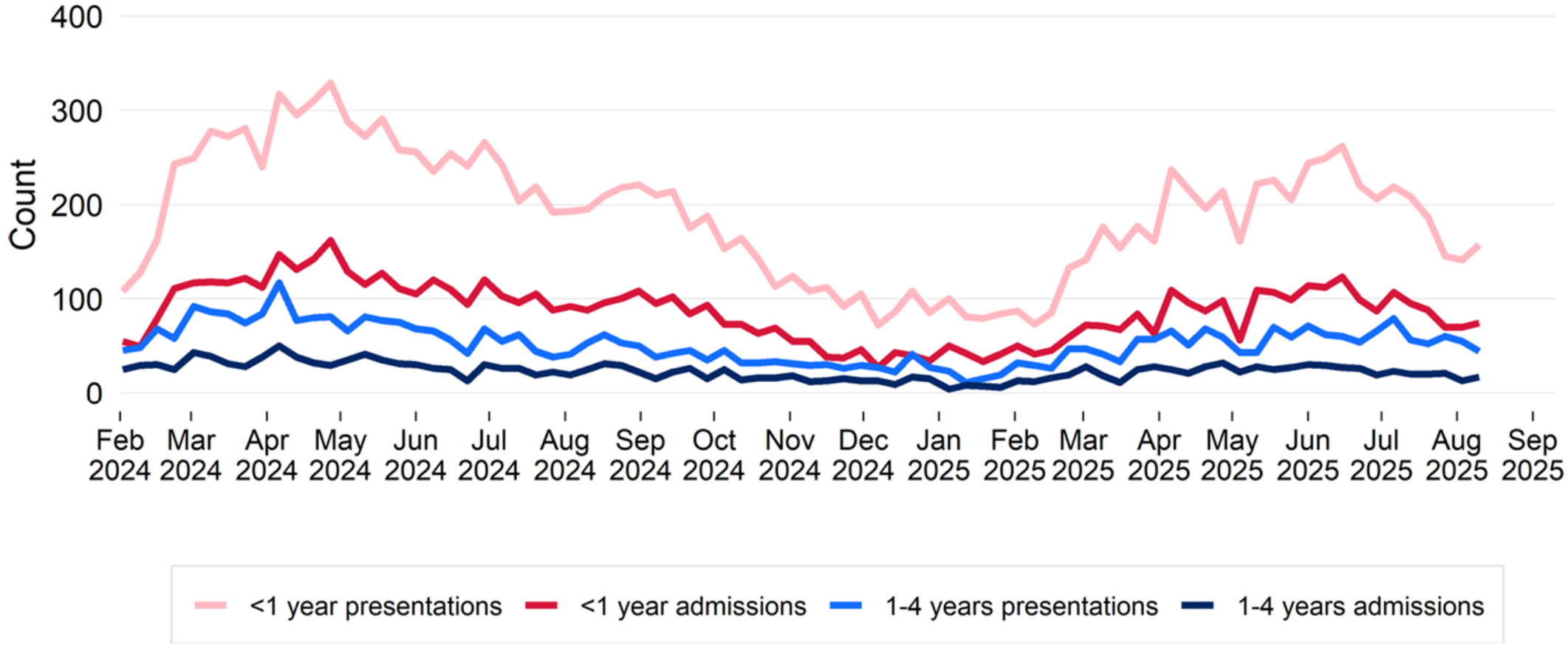
Figure 8. Weekly rate of respiratory syncytial virus notifications per 100,000 population, by age group and test date, NSW, 1 February 2024 to 9 August 2025




respiratory-surveillance-20250809.pdf

# Bronchiolitis ED presentations and admissions over time

Figure 3. Bronchiolitis weekly counts of unplanned emergency department (ED) presentations and admission following presentation, 1 February 2024 - 10 August 2025, children aged 0-4 years



# RSV prevention strategies

## Immunisation

**Older adults**

GSK- **AREXVY** (contains adjuvant $AS01_E$)

Pfizer- **ABRYSVO™**

**Vaccines**

**Pregnant women**

Pfizer – **ABRYSVO**

**Vaccine**

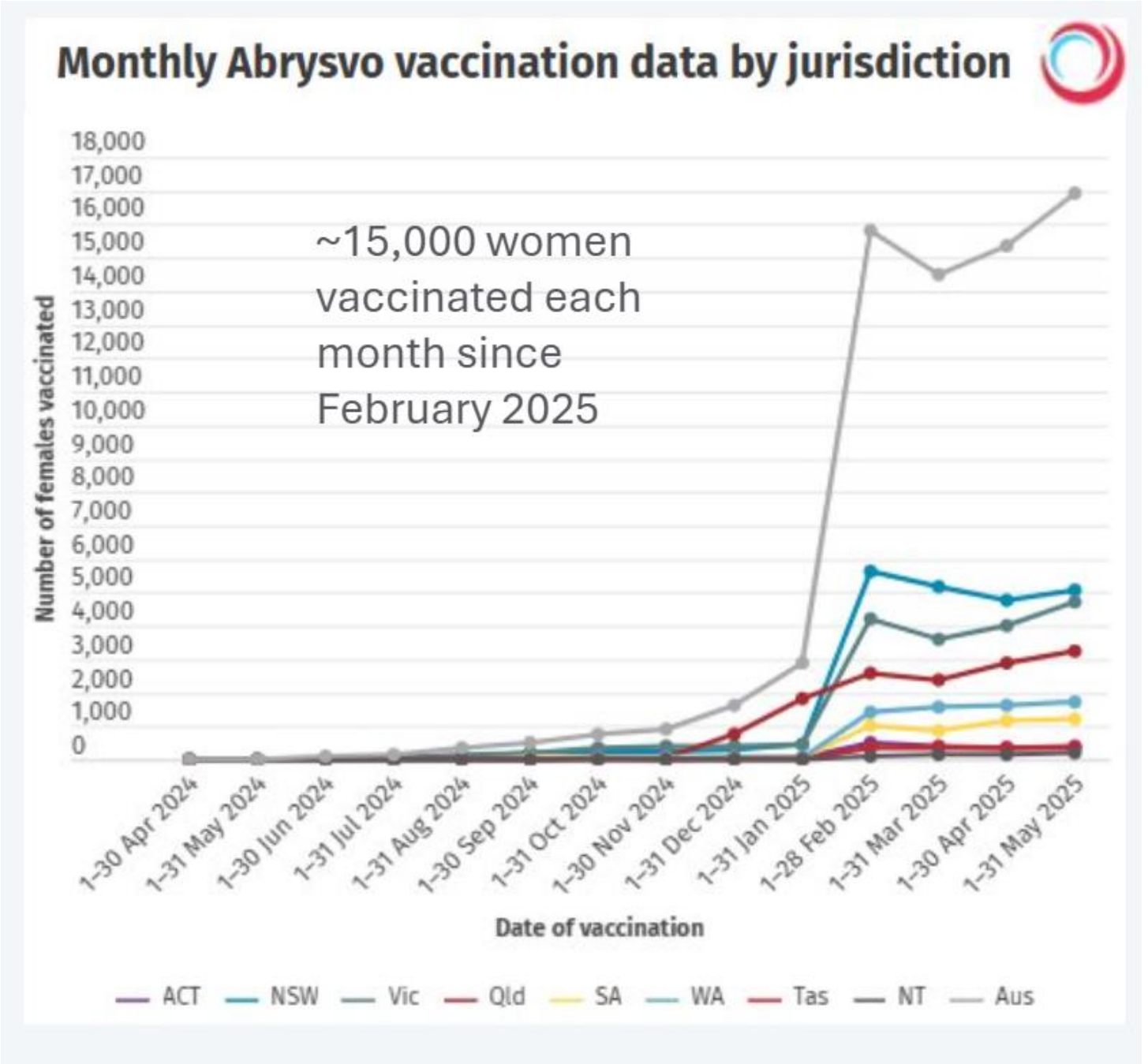
**Infants**

Sanofi – **NIRSEVIMAB**

**Long-acting Immunoglobulin**

# The infant RSV prevention experience so far

## Uptake, effectiveness and safety


Monthly Abrysvo vaccination data by jurisdiction
~15,000 women vaccinated each month since February 2025
Number of females vaccinated
18,000
17,000
16,000
15,000
14,000
13,000
12,000
11,000
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1–30 Apr 2024
1–31 May 2024
1–30 Jun 2024
1–31 Jul 2024
1–31 Aug 2024
1–30 Sep 2024
1–31 Oct 2024
1–30 Nov 2024
1–31 Dec 2024
1–31 Jan 2025
1–28 Feb 2025
1–31 Mar 2025
1–30 Apr 2025
1–31 May 2025
Date of vaccination
ACT
NSW
Vic
Qld
SA
WA
Tas
NT
Aus

# Nirsevimab: Real world effectiveness: Galacia, Spain

Sept 2023: Spain introduced universal RSV prophylaxis to its national immunisation program for **all infants** born from 1 April 2023

Galicia (pop'n 2.7m) was the first region of the world to roll this out with immunisation targeting 3 groups

>12,000 immunised by mid-2024

Tabla 1 : eligible patients for 2023-2024 RSV prophylaxis campaign with nirsevimab in Galicia (Spain).

25/09/23 - 31/03/25

### Seasonal

All infants born during RSV season, i.e. from 25th September 2023 to 31 March 2025, will receive 1 dose of nirsevimab in the hospital, in the first 24 hours of life, unless medically contraindicated.

<6

### Catch-up

Immunization of all infants under 6 months at the start of the RSV season will receive 1 dose of nirsevimab in their reference hospitals following a flexible electronic personal citation, within 3 weeks of the start of the RSV prophylaxis campaign.

<24

### High risk

Any infant with any of the conditions listed below and under 24 months of age at the start of the RSV campaign, will be cited in the first week of the campaign to receive nirsevimab in their reference hospital.

- Severe pulmonary diseases
- Genetic syndromes with significant respiratory issues
- Trisomy 21
- Cystic fibrosis
- Bronchopulmonary dysplasia
- Premature infants under 35 weeks (including those with a gestational age under 29 weeks), a single dose before reaching 12 months of age

Table 1 includes number of immunized children per group.

| Group | Nº immunized |
|---|---|
| Risk group | 348 |
| Catch-up | 6,235 |
| At birth | 6,133 |
| **Total** | **12,716** |

Table 1. Number of immunized children per group up to 10-03-2024.

# Nirsevimab: Real world effectiveness: Hospitalisations, Galacia, Spain

## 4.1. Cohort of infants born between April and September

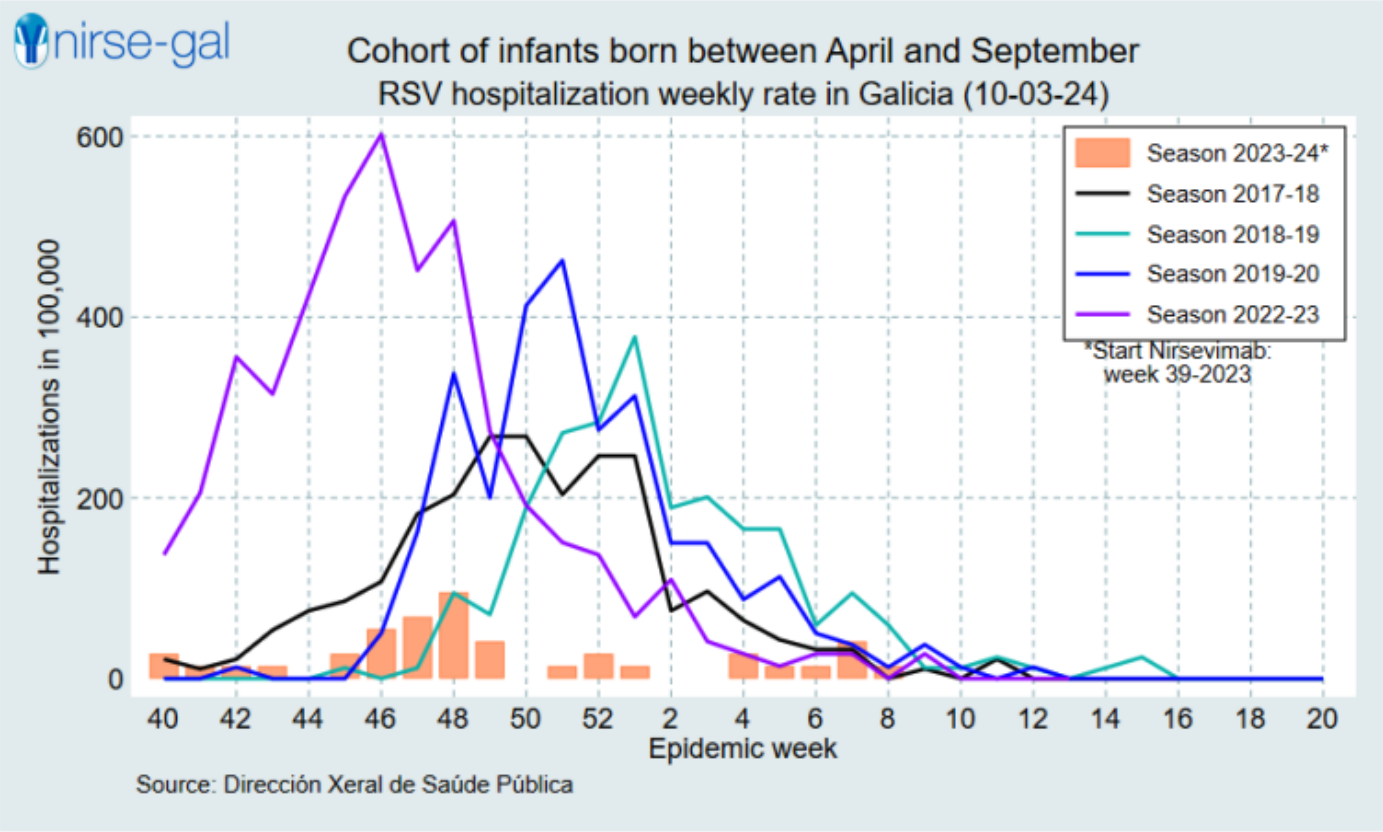



Figure 5. Weekly RSV hospitalization rate in Galicia, by season, up to 10-03-2024. Cohort of infants born between April and September.

XUNTA DE GALICIA | DIRECCIÓN XERAL DE SAÚDE PÚBLICA

nirse-gal

**FOLLOW-UP REPORT ON IMMUNIZATION WITH NIRSEVIMAB IN GALICIA**

**Dirección Xeral de Saúde Pública**

Data up to week 10, 2024 (10-03-2024)

## 5.2. Infants less than 2 years

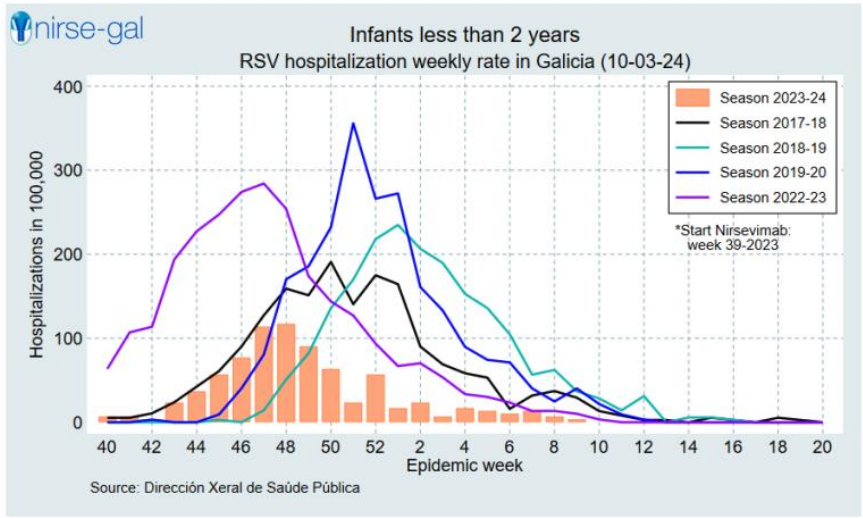
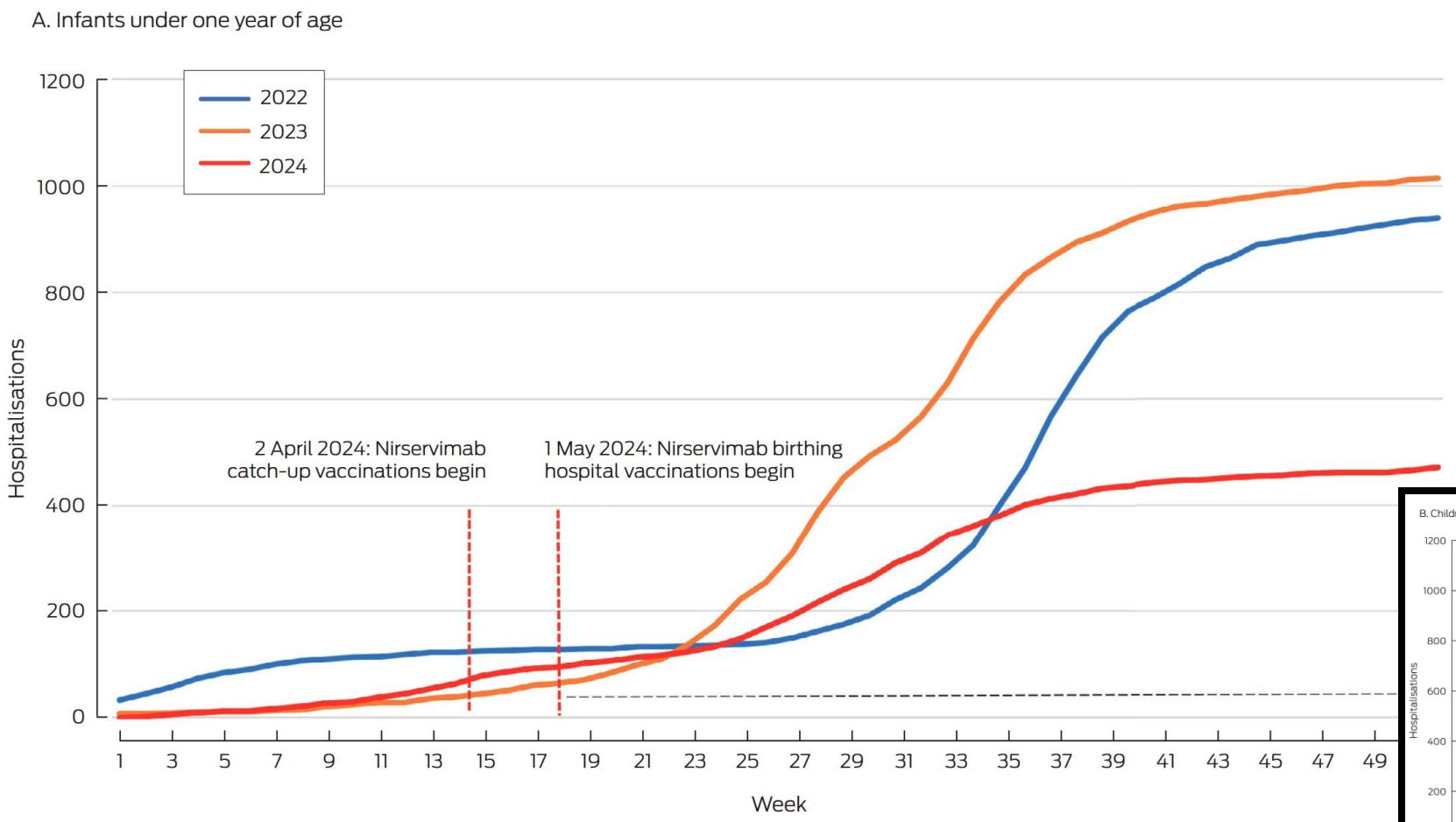


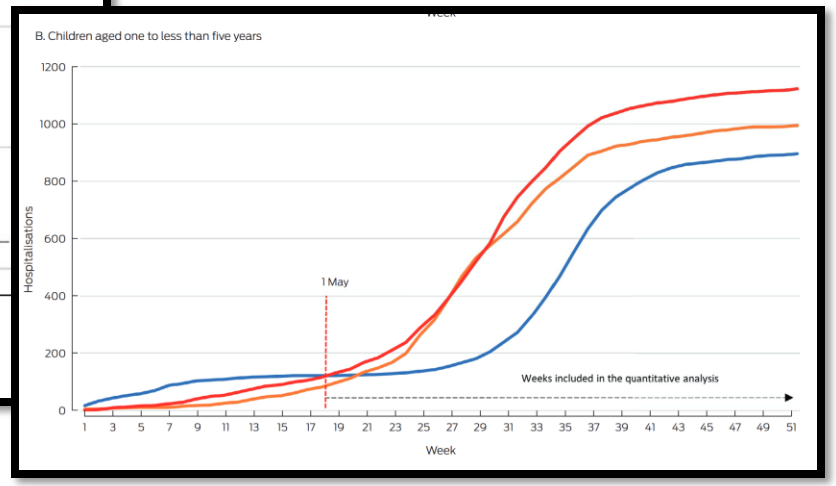

Figure 13. Weekly RSV hospitalization rate in Galicia, by season, up to 10-03-2024. Infants less than 2 years.

# Infant RSV prevention in Western Australia

**1 Cumulative number of respiratory syncytial virus (RSV)-associated hospitalisations of infants and children under five years of age, Western Australia, 2022–2024**




- 71% coverage with nirsevimab Apr – Sept 2024
- 57% reduction in RSV-associated hospitalisations (NNT 43)
- Estimated $6.2-6.9m savings




Bloomfield, L.E., Pingault, N.V., Foong, R.E., French, S., Morgan, J.-A., Wadia, U., Moore, H.C., Blyth, C.C., Richmond, P.C., Armstrong, P.K. and Effler, P.V. (2025), Nirsevimab immunisation of infants and respiratory syncytial virus (RSV)-associated hospitalisations, Western Australia, 2024: a population-based analysis. Med J Aust, 222: 568-570. https://doi.org/10.5694/mja2.52655

# Infant RSV prevention in Qld

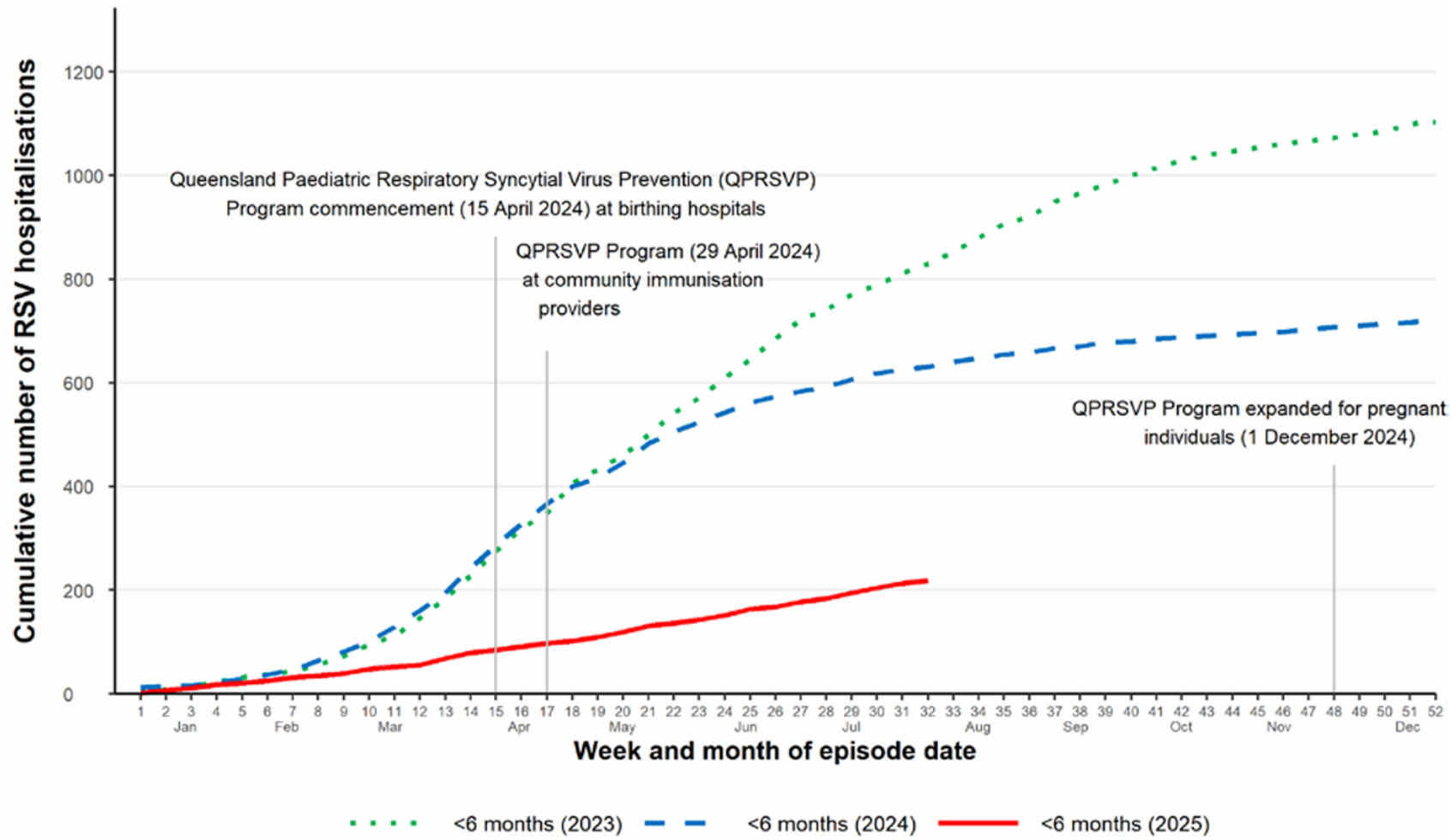
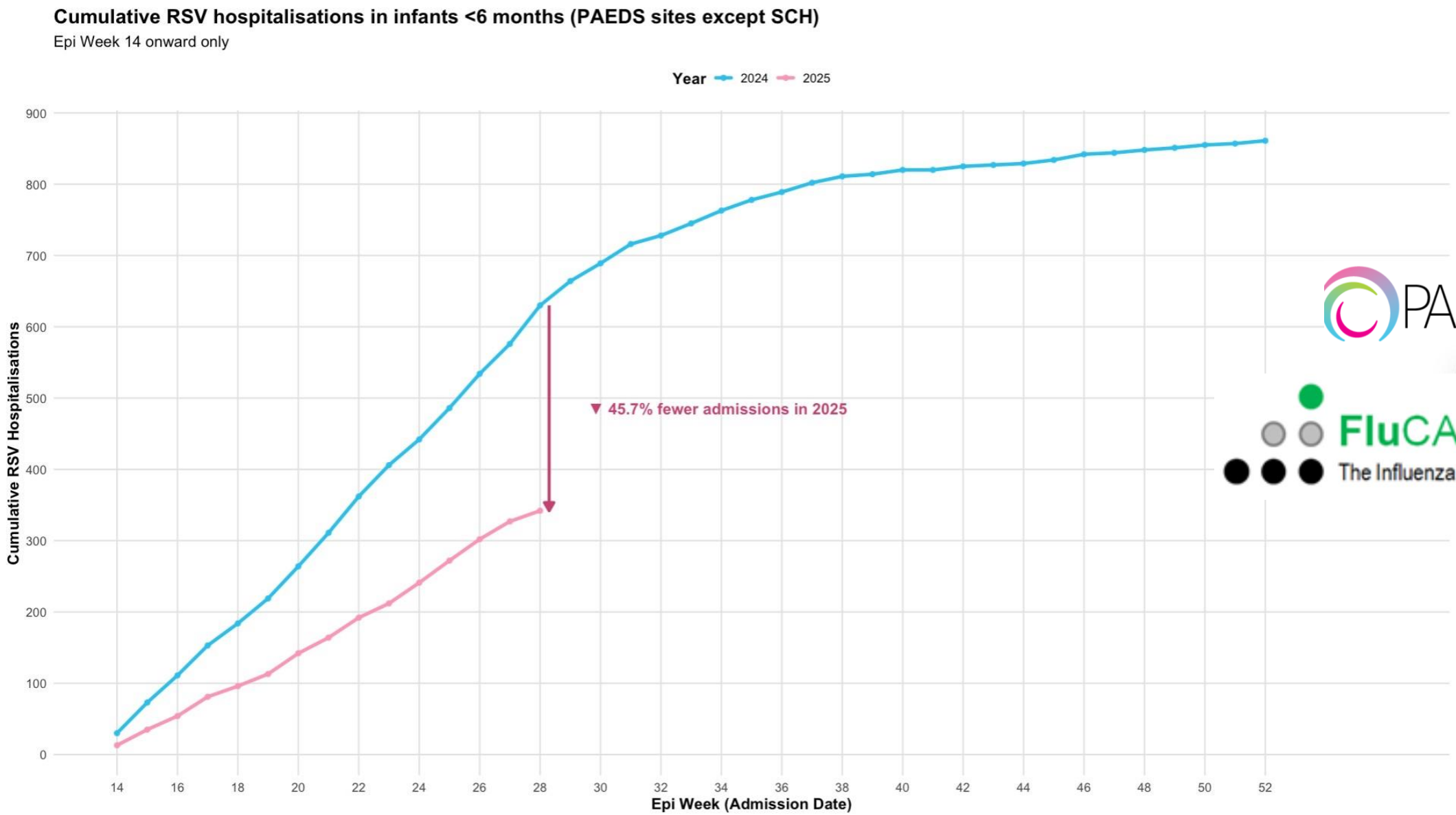



*Figure 18: Cumulative RSV hospitalisations among infants aged <6 months, Queensland, 1 Jan 2023 to 10 August 2025.*

https://www.health.qld.gov.au/__data/assets/pdf_file/0026/1334654/ari-surveillance-report.pdf

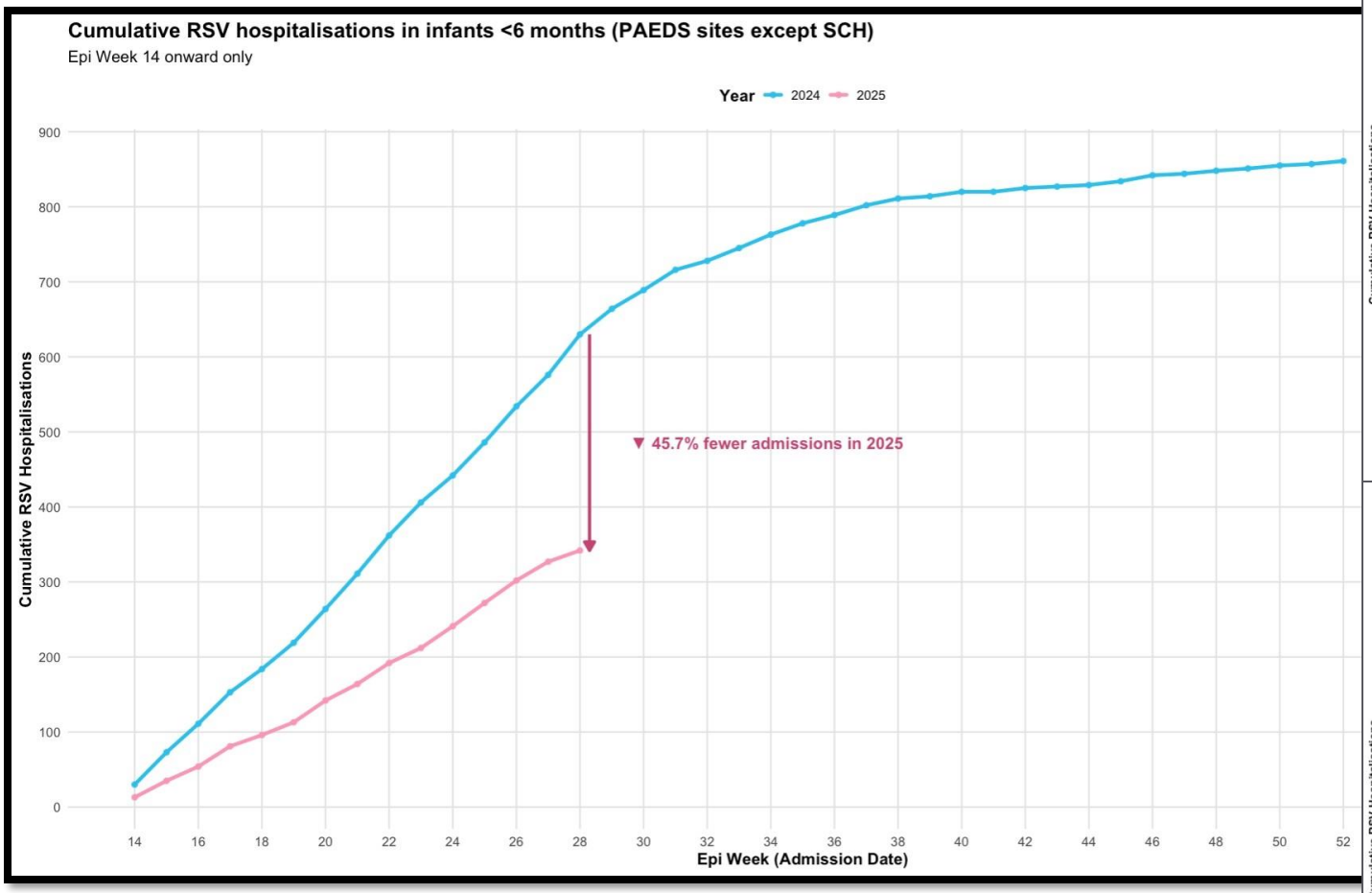
# RSV surveillance via PAEDS (8 tertiary hospitals) – National data 2024 vs 2025

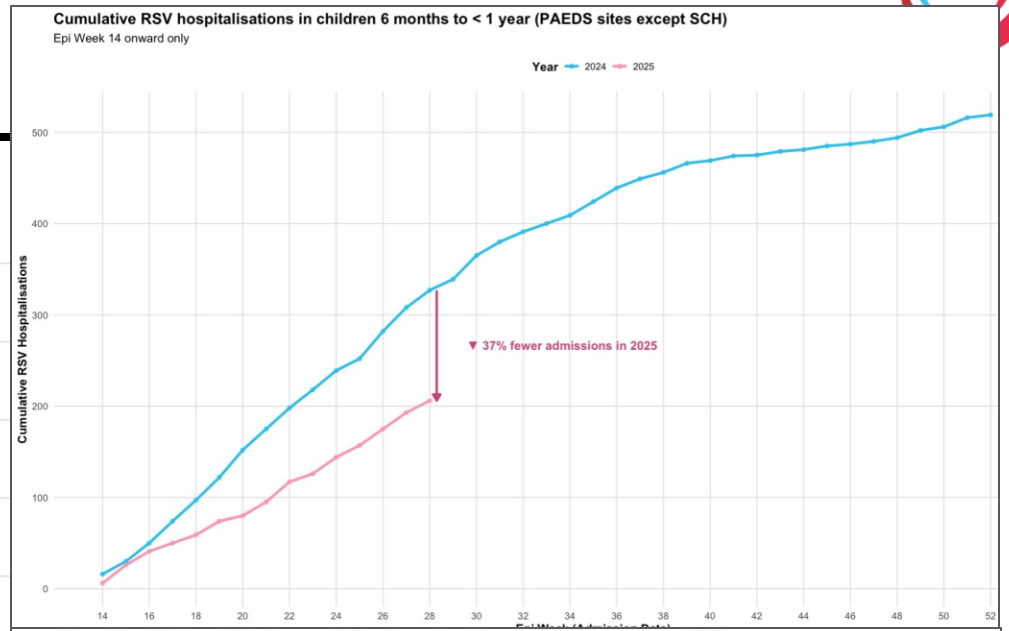


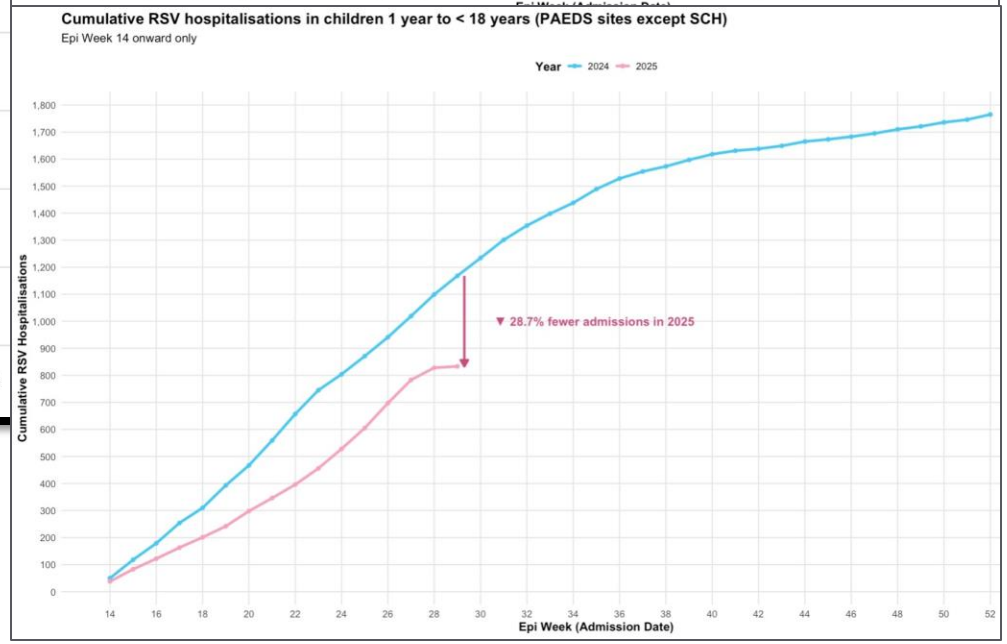

PAEDS Paediatric Active Enhanced Disease Surveillance
An NCIRS led collaboration

FluCAN
The Influenza Complications Alert Network

# RSV surveillance via PAEDS – National data in 2025




Is this the impact of nirsevimab in high risk children up to 24 mo of age?

# Real world effectiveness of maternal RSV vaccine

## Bivalent prefusion F vaccination in pregnancy and respiratory syncytial virus hospitalisation in infants in the UK: results of a multicentre, test-negative, case-control study

*Thomas C Williams*, Robin Marlow*, Steve Cunningham, Simon B Drysdale, Helen E Groves, Samantha Hunt, Dalia Iskander, Xinxue Liu, Mark D Lyttle, Chengetai D Mpamhanga, Shaun O'Hagan, Thomas Waterfield, Damian Roland, on behalf of the PERUKI & BronchStart Collaboration†*

The adjusted VE of maternal RSVpreF for preventing infant hospitalisation was:

- 58% (95% CI 28–75) for infants whose mothers were vaccinated any time pre-delivery
- 72% (95% CI 48–85) for infants whose mothers were vaccinated more than 14 days before delivery (39 [11%] 357 RSV-positive cases vs 43 [33%] 129 RSV-negative controls).

Lancet Child Adolesc Health 2025; 9: 655–62

# Safety of nirsevimab:

## Pre-licensure information (median age at randomisation 2 – 4 months):

- low rate of fever, rash; rare hypersensitivity

## Observed cohort of 103 preterm (28-35 week) infants in Chile:

- BW range 1092 to 2133 g; median age at immunization was 3 days [2–8]
- No anaphylaxis, seizures or local AE were reported
- 16.5% systemic side effects: 8 x fever (7.8 %), 9 x apnea (8.7 %), one infant experiencing both; mild self limiting.

Mankad, V.S.; Leach, A.; Chang, Y.; Wählby Hamrén, U.; Kiazand, A.; Kubiak, R.J.; Takas, T.; Villafana, T.; Shroff, M. Comprehensive Summary of Safety Data on Nirsevimab in Infants and Children from All Pivotal Randomized Clinical Trials. Pathogens 2024, 13, 503. https://doi.org/ 10.3390/pathogens13060503

Izquierdo G, Villena R, Cabrera C, Albornoz J, Hueichao N, Guerra C, Torres JP. Safety of timely immunization with nirsevimab in hospitalized preterm infants. Vaccine. 2025 Aug 15;63:127591. doi: 10.1016/j.vaccine.2025.127591. Epub ahead of print. PMID: 40818313.

# AusVaxSafety RSV vaccine safety data – 29 February 2024 – 31 July 2025

[RSV vaccines | AusVaxSafety]

## RSV vaccine safety data – at a glance

**Data from 29 February 2024–31 July 2025**

**5,884**

RSV vaccine safety surveys completed

**32.4%**

reported at least one adverse event*

**0.3%**

reported visiting a GP or emergency department

AusVaxSafety
An NCIRS led collaboration

* Adverse events are self-reported, have not been clinically verified, and do not necessarily have a causal relationship with the vaccine

# Abrysvo RSV vaccine safety data – pregnant participants

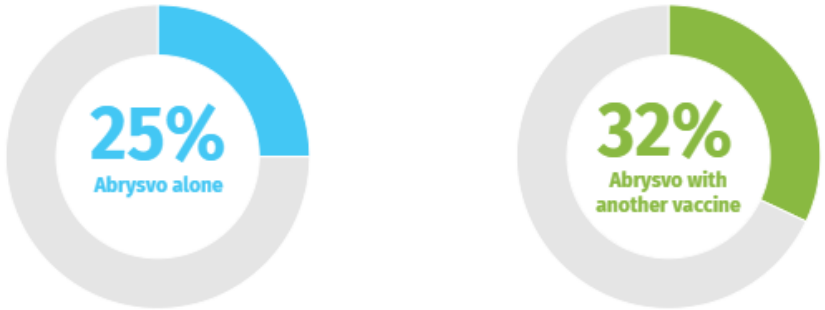
Data collected from 27 June 2024 2025–31 July 2025†

## Abrysvo RSV vaccine safety surveys completed

**530**
Abrysvo alone

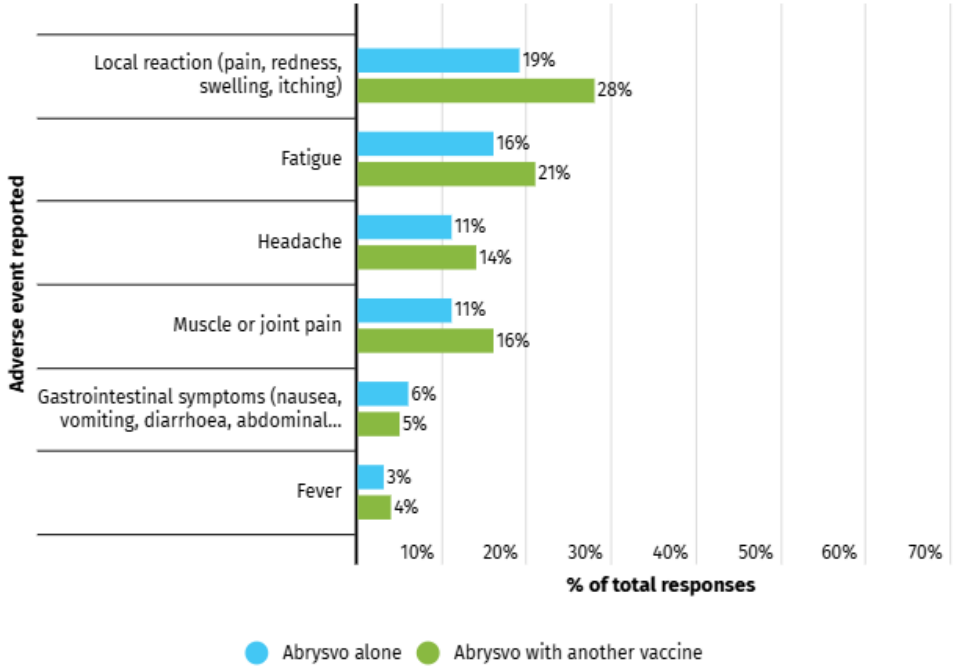
**427**
Abrysvo with another vaccine

## Reported at least one adverse event after Abrysvo RSV vaccination

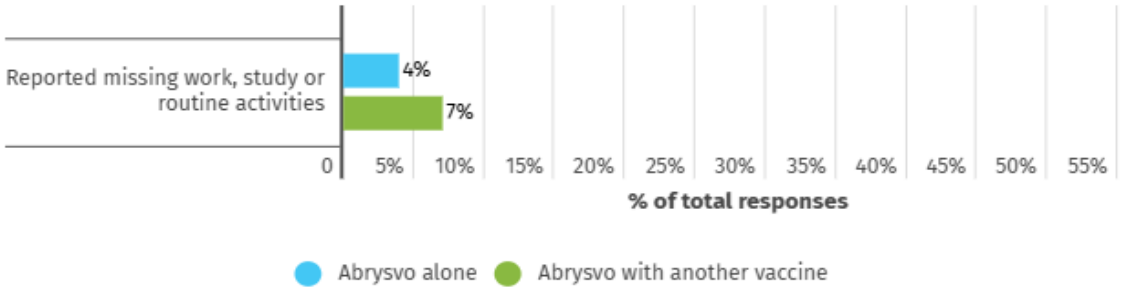



**Medical attendance:** Fewer than 1% if people who received a vaccine along or with another vaccine reported seeing a doctor or presenting to ED

## Reported at least one adverse event after Abrysvo RSV vaccination




## Impact on routine activities after Abrysvo RSV vaccination



# What happens in the second RSV season for children who received mAB in their first year?

Dagan R, Hammitt LL, Seoane Nuñez B, Baca Cots M, Bosheva M, Madhi SA, Muller WJ, Zar HJ, Chang Y, Currie A, Grenham A, Shroff M, Takas T, Mankad VS, Leach A, Villafana T. Infants Receiving a Single Dose of Nirsevimab to Prevent RSV Do Not Have Evidence of Enhanced Disease in Their Second RSV Season. J Pediatric Infect Dis Soc. 2024 Feb 26;13(2):144-147. doi: 10.1093/jpids/piad113. PMID: 38219024; PMCID: PMC10896255.

**Table 1. Incidence of RSV-Associated Respiratory Disease in the First and Second RSV Seasons (ITT Population[a])**

| Disease Event (*n* [%]) | First RSV Season (Through 151 Days Post-dose) | | Second RSV Season[b] (362–511 Days Post-dose) | |
|---|---|---|---|---|
| | Nirsevimab (*N* = 2009) | Placebo (*N* = 1003) | Nirsevimab (*N* = 1944) | Placebo (*N* = 967) |
| Events due to RSV | | | | |
| Medically attended RSV LRTI[c] | 24 (1.2) | 54 (5.4) | 19 (1.0) | 10 (1.0) |
| Medically attended RSV LRTI with hospitalization[c] | 9 (0.4) | 20 (2.0) | 3 (0.2) | 3 (0.3) |
| Medically attended RSV LRTI (very severe)[d] | 7 (0.3) | 17 (1.7) | 3 (0.2) | 3 (0.3) |
| Medically attended RSV-associated LRTI on any test result[e,f] | 34 (1.7) | 75 (7.5) | 35 (1.8) | 20 (2.1) |
| Hospitalization for any respiratory illness due to RSV on any test result[f,g] | 15 (0.7) | 26 (2.6) | 10 (0.5) | 6 (0.6) |
| Events of any cause (inclusive of RSV) | | | | |
| Medically attended LRTI of any cause[e] | 172 (8.6) | 139 (13.9) | 134 (6.9) | 71 (7.3) |
| Hospitalization for any respiratory illness of any cause[g] | 45 (2.2) | 37 (3.7) | 21 (1.1) | 11 (1.1) |

s: ITT, intent-to-treat; IV, intravenous; LRTI, lower respiratory tract infection; RSV, respiratory syncytial virus.

n included all participants who underwent randomization.

d season, the number of ITT participants who were followed up for ≥362 days post-dose was used as the denominator for calculation of incidence.

definition of medically attended RSV LRTI.

those children requiring oxygen supplementation or IV fluids for management of medically attended RSV LRTI (per protocol definition).

tended LRTI in investigators judgment, regardless of whether they met all the criteria for the per-protocol case definition of a medically attended LRTI.

lt refers to either the central reference test for the trial or a local test performed in the context of clinical care.

ory illness includes both upper respiratory tract infection and LRTI.

# “How safe and effective are flu vaccines for children?”

JAMA Network Open

Original Investigation | Pediatrics

Estimated Vaccine Effectiveness for Pediatric Patients With Severe Influenza, 2015-2020

Real-world effectiveness of influenza vaccination in preventing influenza and influenza-like illness in children

Vera Rigamonti [a], Vittorio Torri [b], Shaun K. Morris [c,d,e,f], Francesca Ieva [b,g], Carlo Giaquinto [h], Daniele Donà [h], Costanza Di Chiara [c,d,h,1,*], Anna Cantarutti [a,1], CARICE study group

**Influenza vaccine (IIV or LAIV) reduces the risk of medically attended influenza, ED visits or hospitalisations**

**for influenza by ~50% in children**

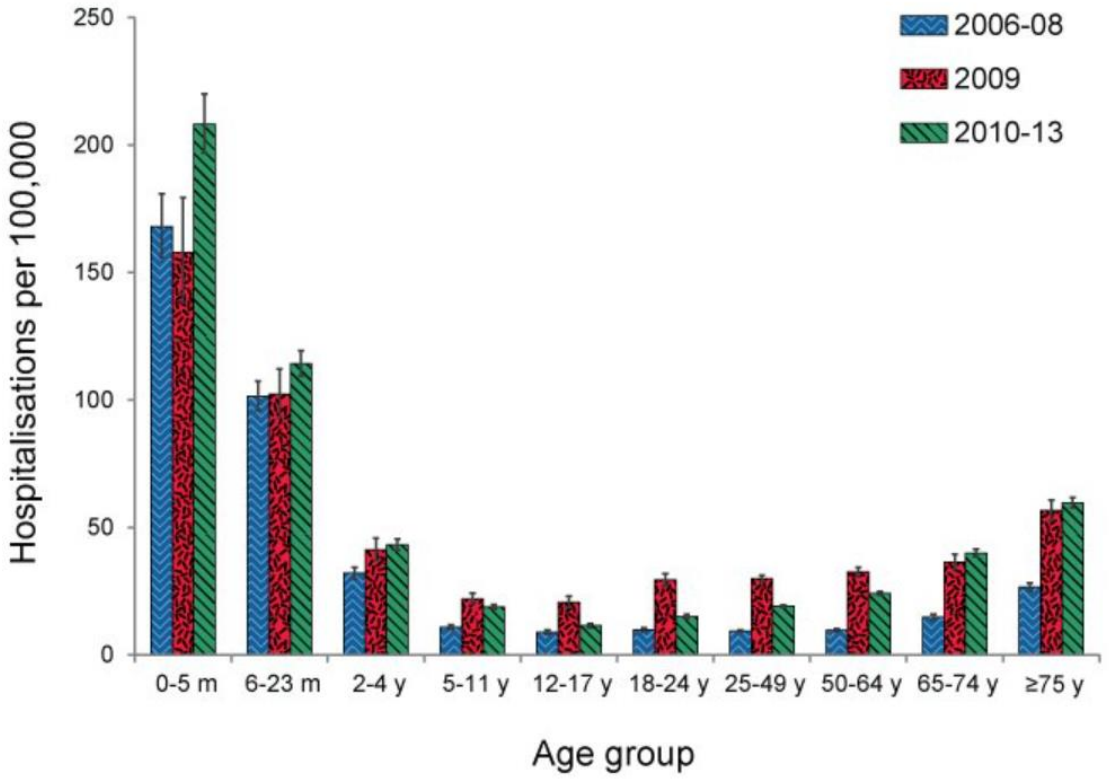
**(including children with underlying risk factors)**

| | | | | | |
|---|---|---|---|---|---|
| Any comorbidity | 349 | 1407 | 401 | 796 | 55% (45%; 63%) |
| Cardiac comorbidity | 48 | 148 | 84 | 93 | 75% (50%; 87%) |
| Diabetes | 11 | 47 | 7 | 9 | - |
| Genetic comorbidity | 51 | 157 | 69 | 93 | 62% (29%; 80%) |
| Hepatic comorbidity | 28 | 60 | 19 | 22 | 2% (-207%; 61%) |
| Immunosuppressed and/or malignancy | 126 | 320 | 85 | 142 | 23% (-22%; 51%) |
| Neurological comorbidity | 93 | 340 | 111 | 173 | 64% (44%; 77%) |
| Obesity | 4 | 21 | 5 | 9 | - |
| Other comorbidities | 3 | 13 | 2 | 4 | - |
| Renal comorbidity | 27 | 94 | 27 | 43 | 61% (-3%; 85%) |

# Influenza hospitalisation rate in pre-schoolers as high as 75+

## Australian hospitalisations

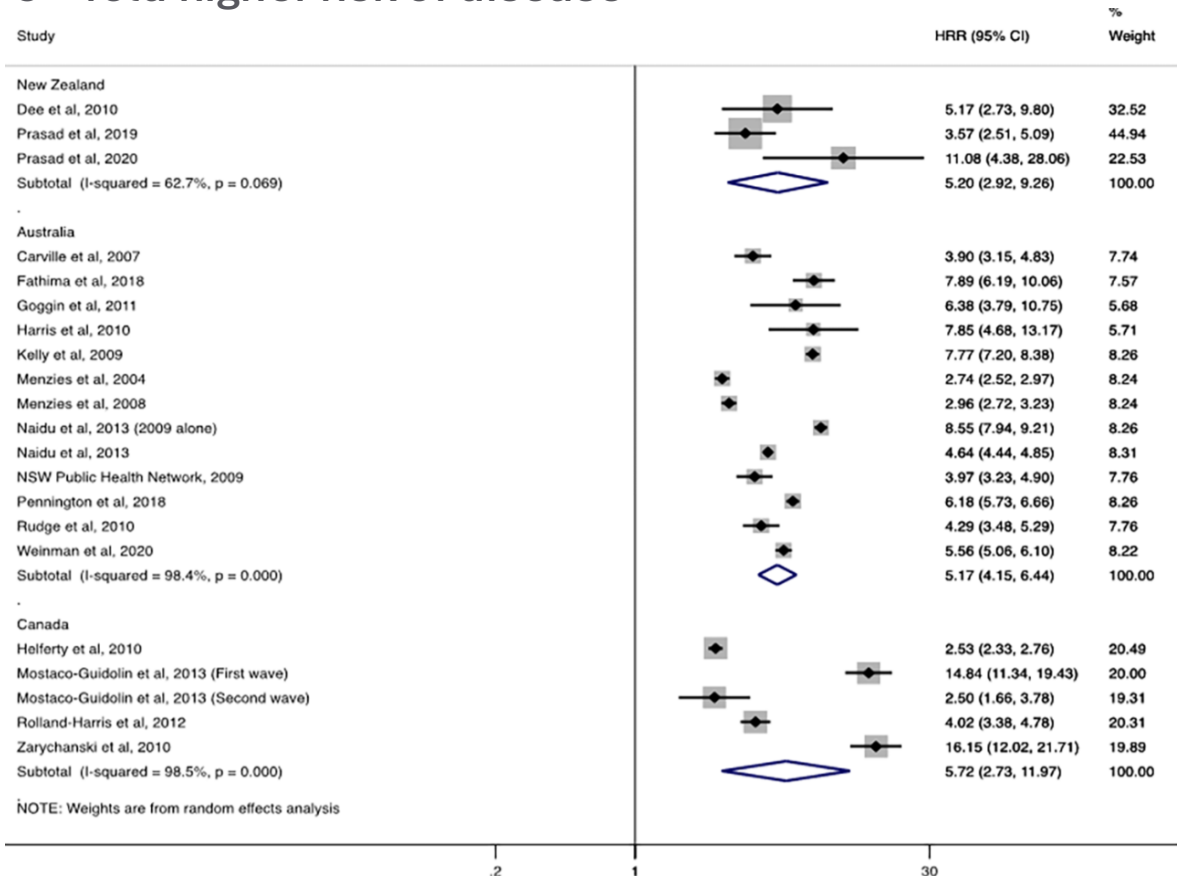
**Figure 6: Rate of ICD-coded hospitalisation for influenza (any diagnosis) with 95% confidence intervals, Australia, 2006 to 2013, by age group and time period**




Department of Health and Aged Care | Australian vaccine preventable disease epidemiological review series: Influenza 2006 to 2015 Jean Li-Kim-Moy, Jiehui Kevin Yin, Cyra Patel, Frank H Beard, Clayton Chiu, Kristine K Macartney, Peter B McIntyre

## First Nations children – NZ, Australia, Canada

5 + fold higher risk of disease

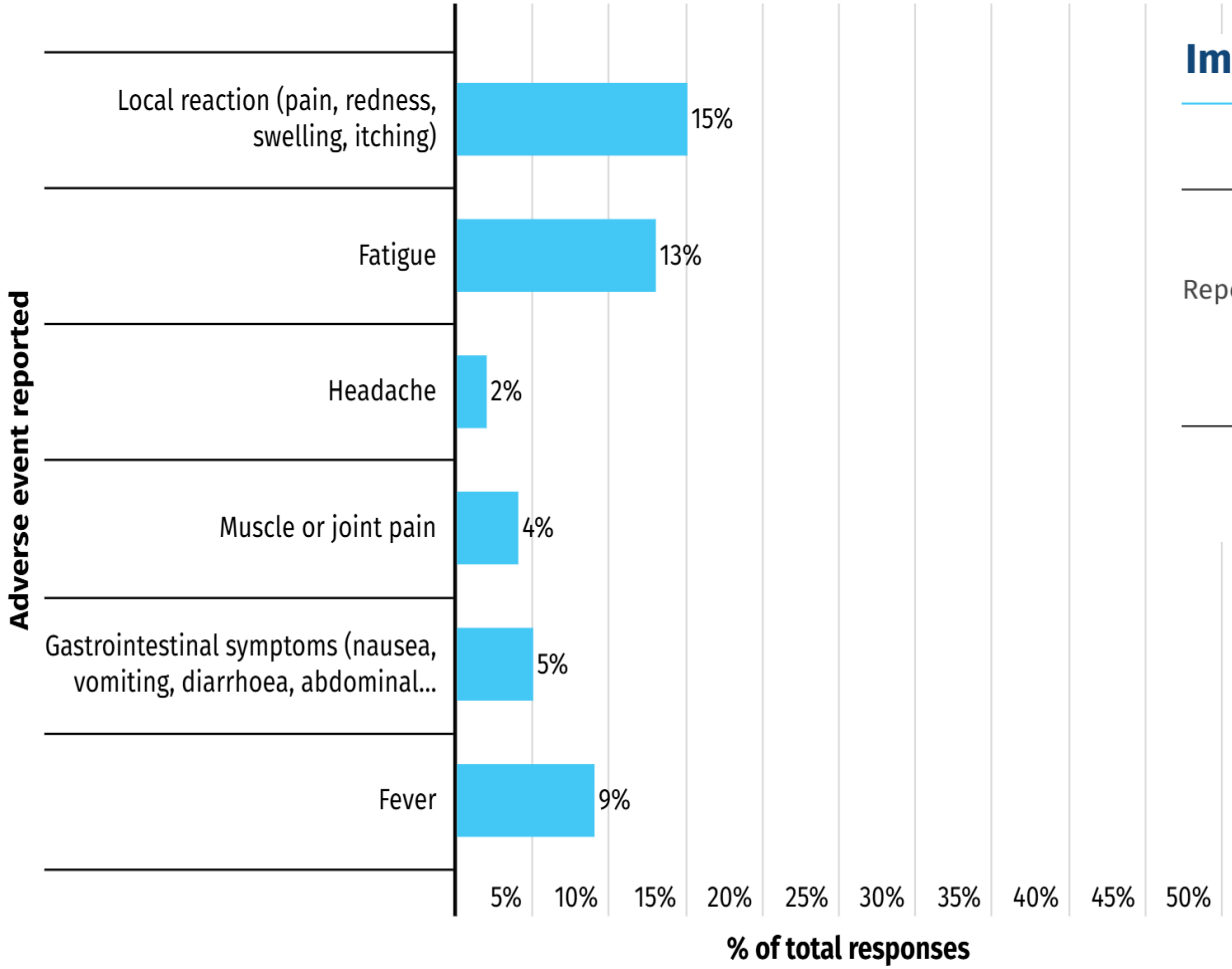



Overall influenza-associated hospitalisation rate ratios (HRR) for Indigenous populations compared with a benchmark population by country. https://doi.org/10.1371/journal.pgph.0001294.g002

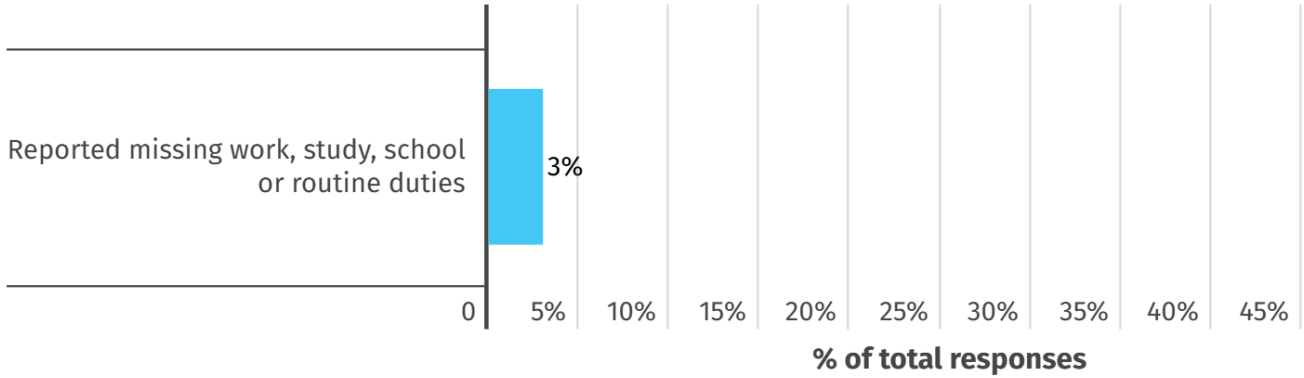
# Safety of 2025 influenza vaccines in children aged 6 months to 5 years

## Commonly reported adverse events after influenza vaccination

N=2731 surveys



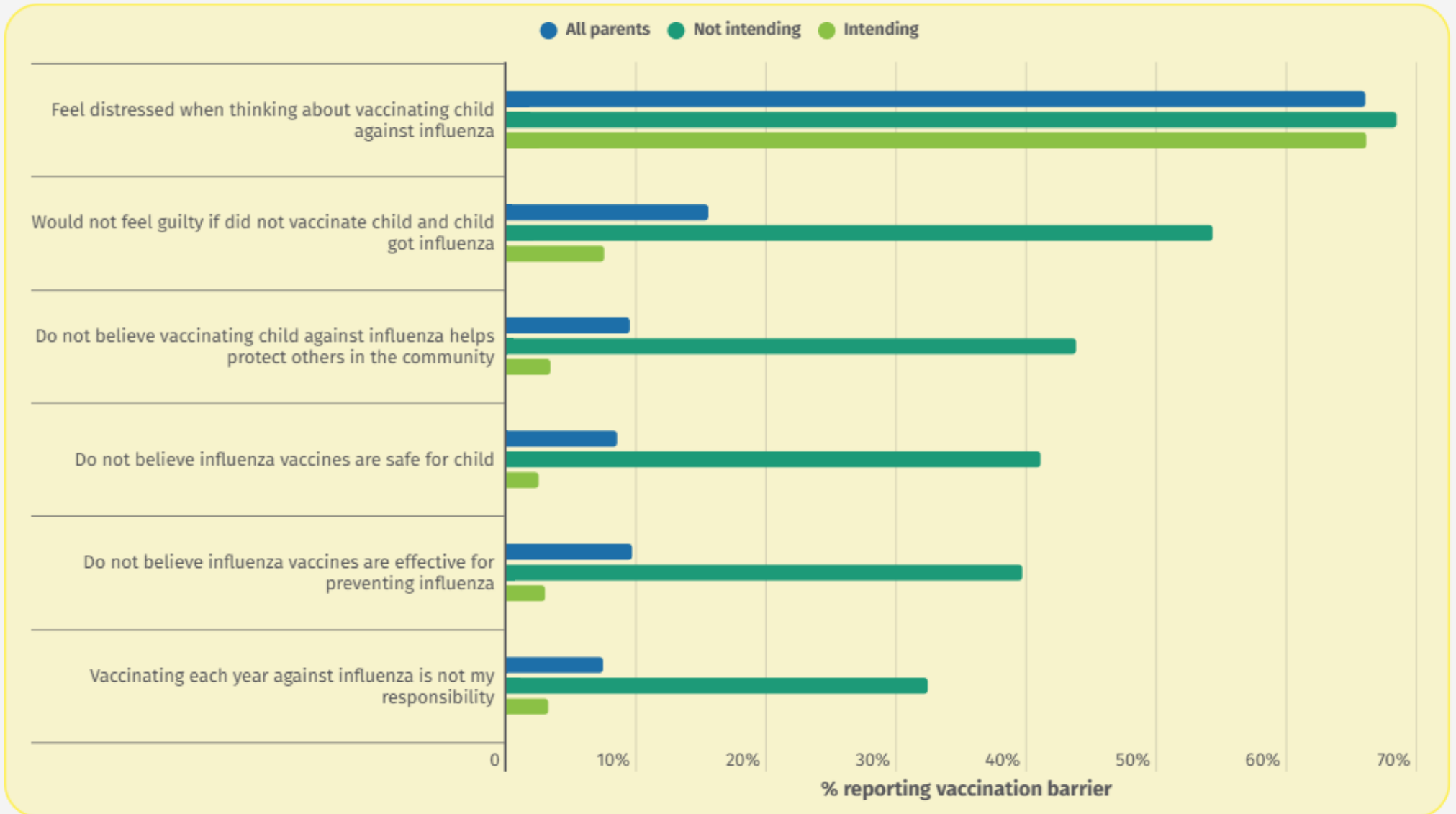

## Impact on routine activities after influenza vaccination




www.ausvaxsafety.org

## Percentage of parents reporting influenza vaccination barriers – overall and by intention to vaccinate

### Acceptance barriers: thinking-feeling




Would an intranasal vaccine increase uptake?

[Childhood influenza vaccination barriers in Australia – key findings summary | NCIRS]

# “I heard there is a new pneumococcal vaccine for infants, why?”

# Pneumococcal disease in Australia

2,380 notifications of invasive pneumococcal disease in 2024, highest number reported in 20 years

Number of notifications was 5% higher than 2023 and 22% higher than in 2022

Most cases were in adults aged 65 years and older and children aged 0 to 4 years.

## Serotypes (2023)

| | |
|---|---|
| **Most frequently reported serotypes** | <5 years: serotype 3 (24%) and serotype 33F (9.1%)<br>>5 years: serotype 3 (17%) and serotype 22F (9.4%) |
| **Vaccines** | Serotype 3, 22F and 33F are contained in the higher-valency vaccines, 15vPCV and 20vPCV,<br><br>Only ST3 is contained in NIP funded 13vPCV. |

ATAGI 2024 annual statement on immunisation – August 2024

Clinical Infectious Diseases
MAJOR ARTICLE

# Assessing the Impact of Pneumococcal Conjugate Vaccine Immunization Schedule Change From 3+0 to 2+1 in Australian Children: A Retrospective Observational Study

Sanjay Jayasinghe,[1,2] Phoebe C. M. Williams,[1,3,4] Kristine K. Macartney,[1,2] Nigel W. Crawford,[5,6] and Christopher C. Blyth[7,8,9]

**Table 2. Comparison of Incidence Rates of Breakthrough Cases in Matched Cohorts of 3+0[a] and 2+1[b] Recipient Children**

| | Incidence Rate (per 100 000) | | |
|---|---|---|---|
| Serotype | 2+1 Eligible | 3+0 Eligible | IRR (95% CI) |
| All excluding serotype 3 | 1.52 | 3.06 | 0.50 (.28–.84) |
| Serotype 3 only | 3.04 | 2.72 | 1.12 (.71–1.76) |
| Total | 4.56 | 5.78 | 0.79 (.56–1.09) |

Abbreviations: CI, confidence interval; IRR, incident rate ratio.

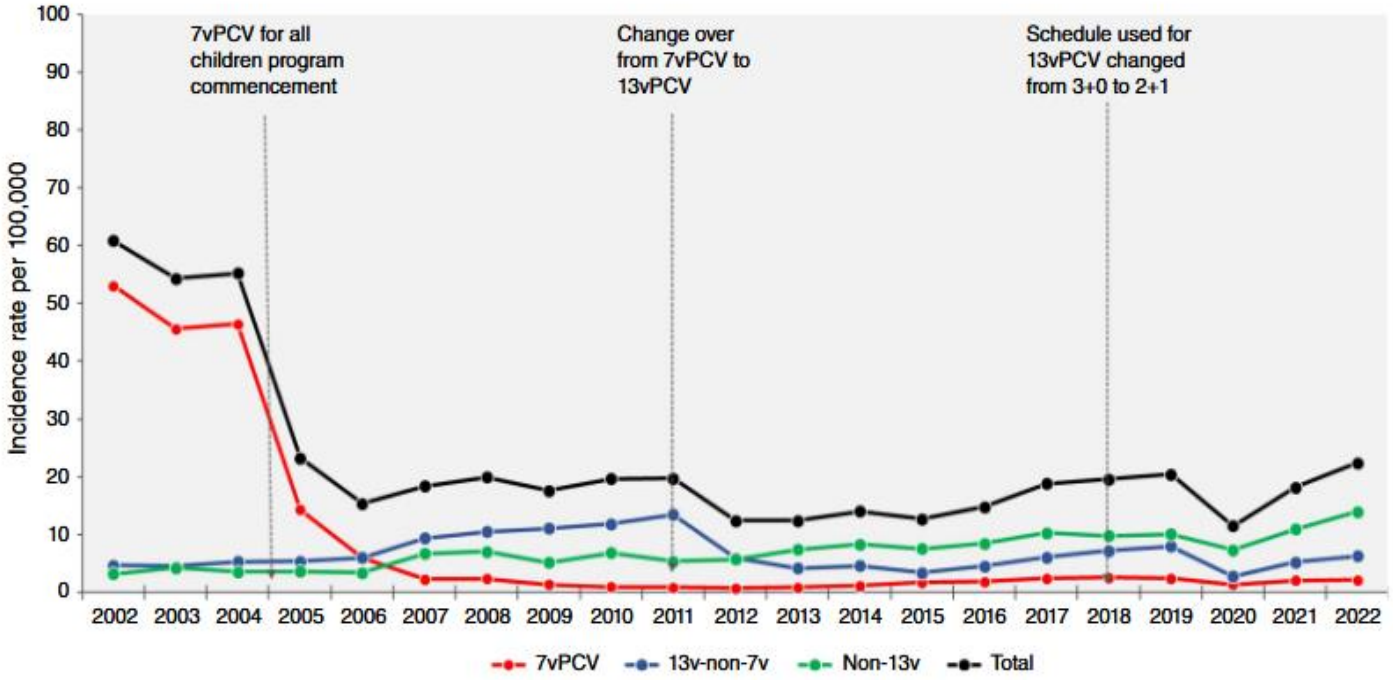
[a]Age 12–48 mo and disease in 2017 and 2018.

[b]Age 12–48 mo and disease in 2019 and 2022 (ie, excluding 2020–2021).

- In mid-2018, the Australian 13vPCV schedule changed from 3+0 to 2+1, moving the third dose to 12 months of age to address increasing breakthrough cases of invasive pneumococcal disease (IPD), mainly in children aged >12 months.

**Observed compared to expected IPD rate (excl ST3) was 51.7% lower**

## Impact of successive PCV programs: large declines in VT disease + some increase in NVTs




**IPD Incidence rates (per 100,000) in children aged <5 years in Australia by vaccine serotype categories, 2002–2022**

Jayasinghe S (2024) *Microbiology Australia* 45(4), 179–183.

# Pneumococcal vaccine changes in children: September 2025

## Updated pneumococcal schedule advice

Switch from PCV13 to PCV20

(and removal of PPV 23)

Maintain '2+ 1' schedule (2, 4 and 12mo )

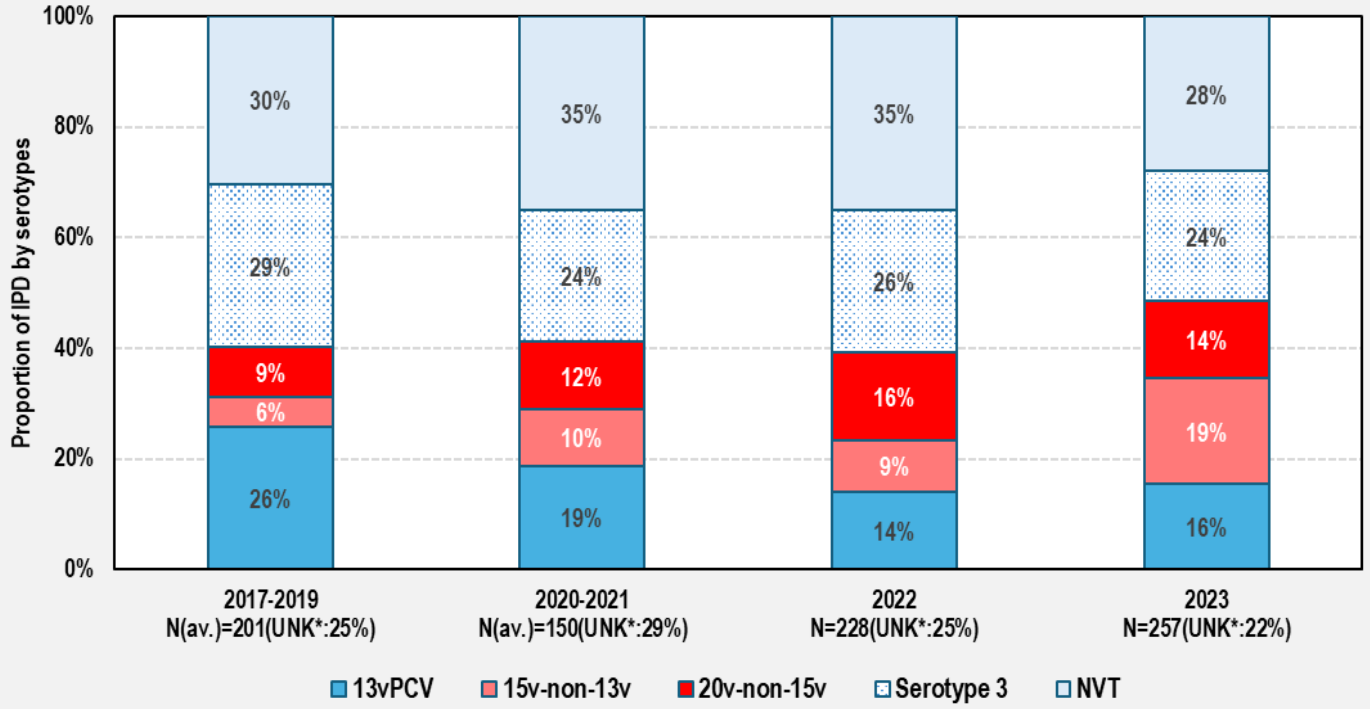
in most children

All Aboriginal and Torres Strait Islander children should receive 4 doses (2,4,6, and12 mo)

Across all states and territories

All medically at risk children – 4 doses

**IPD vaccine serotype percentages in non-First Nations children without risk conditions aged <5 years, 2017-2023**




*Proportion where serotype is not available

Data Source: National enhanced IPD surveillance data, NNDSS, EIPDSWG. Data request ID# 547 (Nov)/2022,

In 2022-2023

- Residual 13vPCV types (excl. ST3) responsible for ~15% of IPD
- **Additional STs in 20vPCV (i.e. 20v-non13v) account for ~ 30% of cases**

| Serotype composition | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PCV13 | 4 | 6B | 9V | 14 | 18C | 19F | 23F | 1 | 3 | 5 | 6A | 7F | 19A | | | | | | | | | | | | | | | | | | | | | |
| PCV15 | 4 | 6B | 9V | 14 | 18C | 19F | 23F | 1 | 3 | 5 | 6A | 7F | 19A | 22F | 33F | | | | | | | | | | | | | | | | | | | |
| PCV20 | 4 | 6B | 9V | 14 | 18C | 19F | 23F | 1 | 3 | 5 | 6A | 7F | 19A | 22F | 33F | | 8 | | 10A | 11A | 12F | 15B | | | | | | | | | | | | |
| PPV23 | 4 | 6B | 9V | 14 | 18C | 19F | 23F | 1 | 3 | 5 | | 7F | 19A | 22F | 33F | 2 | 8 | 9N | 10A | 11A | 12F | 15B | 17F | 20 | | | | | | | | | |
| V116* | | | | | | | | | 3 | | 6A | 7F | 19A | 22F | 33F | | 8 | 9N | 10A | 11A | 12F | | 17F | 20† | 15A | 15C‡ | 16F | 23A | 23B | 24F | 31 | 35B | | |

National Immunisation Program

A joint Australian, State and Territory Government Initiative

# National Immunisation Program

## Childhood and adolescence pneumococcal vaccine – Program advice for health professionals

### Key points and updates

- The Australian Technical Advisory Group on Immunisation (ATAGI) has reviewed pneumococcal vaccines on the current childhood and adolescence immunisation schedules. Based on ATAGI's advice, the government has made changes to the National Immunisation Program (NIP).
- From 1 September 2025, Prevenar 20 will be introduced into the NIP to replace Prevenar 13 and Pneumovax 23 on the childhood and adolescence schedule.
- The introduction of Prevenar 20 simplifies the vaccine schedule, reduces the number of doses and covers more strains of the disease.
- All Aboriginal and Torres Strait Islander children should receive 4 doses, making the program consistent across all states and territories.
- From 1 September 2025, children under 5 years, who have:
  - not yet started their pneumococcal schedule should receive 3 doses of Prevenar 20.
  - previously received 1 or 2 doses of Prevenar 13 should receive Prevenar 20 for all subsequent doses to complete the recommended vaccination course (where required).
  - already completed a Prevenar 13 vaccination course who are due for a Pneumovax 23 booster should receive 1 dose of Prevenar 20 instead. Do not delay vaccination, if required, Pneumovax 23 can still be used (while stock is available).

### About pneumococcal disease

Pneumococcal disease is caused by the bacterium *Streptococcus pneumoniae*. It can cause severe invasive disease, including meningitis, pneumonia and bacteraemia, and non-invasive disease, including otitis media.

### Who is most at risk of pneumococcal disease

Anyone can develop pneumococcal disease. Those at greatest risk of disease and severe outcomes are:

- Infants and children
- Aboriginal and Torres Strait Islander people
- Children, adolescents and adults with risk conditions for pneumococcal disease.

### Removing Pneumovax 23 from the childhood vaccine and adolescence schedule

Eligible children should receive 1 dose of Prevenar 20 instead of the Pneumovax 23 vaccine when they are due next (i.e. a single dose of Prevenar 20 instead of dose 1 and 2 of Pneumovax 23 **OR** a single dose of Prevenar 20 instead of dose 2 of Pneumovax 23).

### Pneumococcal schedule

| Cohort and age | NIP-funded schedule |
|---|---|
| All children aged 2 – 12 months | Prevenar 20 at 2, 4 and 12 months of age |
| All Aboriginal and Torres Strait Islander children* | Prevenar 20 at 2, 4, 6 and 12 months of age |
| Children with specified medical risk conditions aged 2 – 12 months** | Prevenar 20 at 2, 4, 6 and 12 months of age |
| Children with specified medical risk conditions over 12 months** | Prevenar 20 at diagnosis |
| Adolescents with specified medical risk conditions aged under 18 years** | Prevenar 20 at diagnosis |

**Note:** *Aboriginal and Torres Strait Islander children who have received 4 PCV doses as part of their routine schedule do not require an additional dose of PCV. **For medical risk conditions please see the Australian Immunisation Handbook.

### Pneumococcal vaccine safety

Evidence from clinical trials found that Prevenar 20 is safe in children and has a similar safety profile to Prevenar 13.

doses plus 1 booster (called a 2+1 schedule). This stays the same when using Prevenar 20.

### Aboriginal and Torres Strait Islander children

All Aboriginal and Torres Strait Islander children should receive 4 doses of Prevenar 20:

- 3 primary doses plus 1 booster (called a 3+1 schedule).
- This continues the current approach in NT, QLD, SA, and WA where Aboriginal and Torress Strait Islander children already get 4 doses.
- In ACT, NSW, VIC, and TAS, an extra dose at 6 months will be added, making it 4 doses in total.

This change is based on higher rates of disease in

The most common side effect at the injection site was pain. The rates of these local side effects were similar between the two vaccines: Prevenar 20 (25%–60%) and Prevenar 13 (27%–57%).

### Contraindications

The only absolute contraindications to pneumococcal vaccines are:

- anaphylaxis after a previous dose of any pneumococcal vaccine
- anaphylaxis after any component of a pneumococcal vaccine

### Adverse events or administration errors

You must notify all adverse events and vaccine administration errors through the reporting mechanisms in your state or territory.

### Australian Immunisation Register

Vaccination providers can continue to report Prevenar 13 administrations to the Australian Immunisation Register (AIR) after 1 September 2025.

Prevenar 20 and Prevenar 13 will be considered equivalent vaccines within the AIR. This means that a child can receive either vaccine brand, in any sequence and they will be considered up-to-date for pneumococcal (in line with the AIR due and overdue rules).

Check the AIR before administering Prevenar 20. It is mandatory for you to report to the AIR all NIP vaccinations administered in Australia. This ensures that individuals have a complete and accurate record of their vaccinations.

For more information, go to servicesaustralia.gov.au/hpair.

### Keep up to date

Read the advice in this factsheet in conjunction with the Australian Immunisation Handbook at immunisationhandbook.health.gov.au

Subscribe to the NIP update email update service. Search 'NIP updates' on health.gov.au.

| State and territory health department contact numbers: | |
|---|---|
| **ACT** 02 5124 9800 | **SA** 1300 232 272 |
| **NSW** 1300 066 055 | **TAS** 1800 671 738 |
| **NT** 08 8922 8044 | **VIC** immunisation@health.vic.gov.au |
| **WA** 08 9321 1312 | **QLD** Contact your local Public Health Unit |

Australian Government Department of Health, Disability and Ageing

National Immunisation Program

A joint Australian, State and Territory Government Initiative

This information is current as of August 2025

25/09/2025

## NCIRS webinar

# What's new in pneumococcal vaccination for infants, children and adolescents

NCIRS WEBINAR SERIES

» Australian Immunisation Handbook

**Date:** Thursday 25 September 2025
**Time:** 12:00–1:30 p.m. AEST

Register

Australian Government Department of Health and Aged Care

Australian Immunisation Handbook

20vPCV is the pneumococcal vaccine funded for children (aged <18 years) under the National Immunisation Program (NIP).

The optimal pneumococcal vaccination program for adults (aged ≥18 years) in Australia is currently under review. Prevenar 13 (13vPCV) and Pneumovax 23 (23vPPV) are the pneumococcal vaccines funded under the National Immunisation Program (NIP) for eligible individuals. Updates to this chapter also include interim recommendations for use of extended valency vaccines (Vaxneuvance [15vPCV] and Prevenar 20 [20vPCV]) in adults; these vaccines are not currently NIP-funded.

NCIRS

Australia's trusted immunisation experts · AusVaxSafety · PAEDS · SKAI

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

# Pneumococcal vaccines – frequently asked questions (FAQs)

NCIRS FACT SHEETS, FAQS AND OTHER RESOURCES

- » Australian Immunisation Handbook
- » COVID-19 vaccines
- » Immunisation coverage data and reports
- » Education and training
- » History of immunisation
- » Immunisation schedules
- » National and international resources
- » NCIRS fact sheets, FAQs and other resources
  - COVID-19
  - DTPa-HB-IPV-Hib vaccine (Vaxelis® and Infanrix hexa®)
  - Haemophilus influenzae type b (Hib)
  - Hepatitis B
  - Human papillomavirus
  - Influenza
  - Japanese encephalitis – frequently asked questions (FAQs)
  - Measles
  - Measles vaccination catch-up guide
  - Meningococcal
  - Mpox vaccines – frequently asked questions (FAQs)
  - Mumps
  - Pertussis
  - Pneumococcal
  - Poliomyelitis
  - Respiratory syncytial virus (RSV)
  - Rotavirus
  - Rubella
  - Travel vaccination – frequently asked questions (FAQs)
  - Varicella-zoster (chickenpox)
  - Zoster (shingles)
  - COVID-19 booster vaccination resource
  - Co-administration of vaccines for adults
  - Injection site reactions
  - Recommended sites for childhood vaccination resource
  - Vaccines for Australian adults
  - Vaccination for people with immunocompromise – frequently asked questions (FAQs)
- » NCIRS webinar series
- » Patient communication resources
- » Specialist immunisation services
- » SKAI - supporting health professionals
- » NCIRS newsletters
- » Vaccine safety

## Key points

- Pneumococcal disease is a group of clinical conditions caused by the bacterium *Streptococcus pneumoniae* (also called pneumococcus). The most severe form is known as invasive pneumococcal disease (IPD).
- Different types of pneumococci are called serotypes. Over 100 serotypes have been identified, but only a limited number cause disease. Pneumococcal vaccines vary in the number of serotypes they cover.
- The number in the name of each pneumococcal vaccine represents the number of different serotypes it contains. For example, 13-valent pneumococcal conjugate.
- Pneumococcal vaccination is recommended for infants and children, all people with specified risk conditions, all adults aged 70 years and over and Aboriginal and Torres Strait Islander adults aged 50 years and over.
- Two types of pneumococcal vaccines are currently registered for use in Australia: (i) pneumococcal conjugate vaccines (PCVs); and (ii) a pneumococcal polysaccharide vaccine (PPV). These vaccine types are not interchangeable. They do not contain live bacteria, so they cannot cause pneumococcal disease.
- Pneumococcal vaccine recommendations – such as vaccine type, vaccine brand, number of doses and interval between doses – vary depending on several factors, including the person's age, immune status and Aboriginal and Torres Strait Islander status, their state or territory of residence; and whether they have previously received doses of a pneumococcal vaccine.
- For adults aged 18 years and over, two pneumococcal vaccines are funded under the National Immunisation Program (NIP): one PCV (13vPCV) and one PPV (23vPPV). The 23vPPV is only recommended in certain populations following PCV.
- Other PCVs – 15vPCV and 20vPCV – are registered for use in adults in Australia but not currently funded under the NIP for adults. These are available as privately funded vaccines.
- For children aged under 18 years, 20vPCV is the NIP-funded pneumococcal vaccine following changes to the NIP childhood schedule, which commenced on 1 September 2025. These changes include:
  - 20vPCV replacing 13vPCV as the NIP-funded vaccine for children aged under 18 years
  - expansion of the 4-dose (3+1) PCV schedule to include all Aboriginal and Torres Strait Islander children in all states and territories
  - doses of 23vPPV are no longer required for Aboriginal and Torres Strait Islander children nor children with a risk condition.
- Australia's pneumococcal vaccination program for adults remains under review.

***Last updated: 27 August 2025***

## FAQs



### What is pneumococcal disease?

Pneumococcal disease is caused by *Streptococcus pneumoniae* bacteria (also known as pneumococci).

These bacteria, which are often found in the nose and throat without causing disease – this is known as asymptomatic nasopharyngeal carriage – can spread to other people through saliva and mucus.

Pneumococci can spread to other parts of the body, such as the middle ear, blood, brain and lungs, and can cause disease.

The more severe forms of pneumococcal illnesses – where the bacteria enter body sites that are normally 'sterile' – are collectively known as invasive pneumococcal disease (IPD). IPD can be associated with severe long-term consequences and even death.

# “Can I give first dose of MMR vaccine early?”

Government of **Western Australia**
Department of **Health**

About us | Improving health in WA | Health for... | Our performance | Latest news | Reports & publications

Measles alert July and August

26 August 2025

# Measles alert July and August

**Status**: Active
**Date issued**: 14 July 2025 (last updated 26 August 2025)
**Issued by**: Director of Communicable Disease Control Directorate, Dr Paul Armstrong
**Issued to**: Health professionals and the WA community

There have been **13** cases of measles identified in WA in July and August 2025, of which **4** have been in returned overseas travellers and **9** have been locally acquired.

Measles typically develops around 10 days after being exposed to the virus, but this can vary from 7 to 18 days.

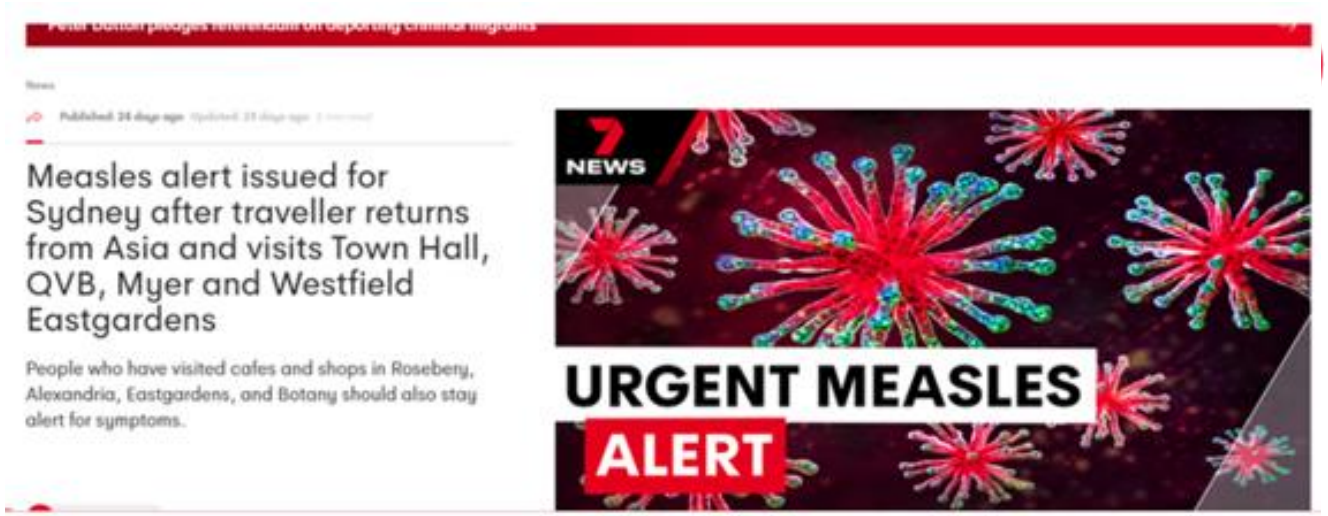
Measles is highly infectious and can spread via airborne droplets to people close by (e.g. in waiting rooms). Droplets in the air may still infect people entering a room up to 30 minutes after an infected person has left it.


If someone not already immune to measles visited an exposure location during the specified dates and times below, they are advised to monitor for symptoms between 7 to 18 days after the visit. Persons who have received two measles vaccinations and those born before 1966 are considered immune to measles, on rare occasions, vaccinated individuals may develop a mild illness.

## Key messages

VICTORIA State Government | Department of Health

- A new measles case has been reported in Victoria in an infant who acquired their infection overseas. There is an ongoing risk of measles importation in Victoria in travellers returning from overseas.
- New public exposure sites have been listed including Sunshine Hospital Emergency Department, and Joan Kirner Women's and Children's Hospital Level 6. People who have visited any of the listed exposure sites during the dates and times specified should monitor for symptoms of measles and follow the instructions below.




# Measles alert for the West Moreton region

## 27 August 2025

Queensland Government | Queensland Health

### West Moreton Hospital and Health Service

Queensland Health has been notified of a confirmed case of measles infection in a person who spent time in the following public places while unknowingly infectious.

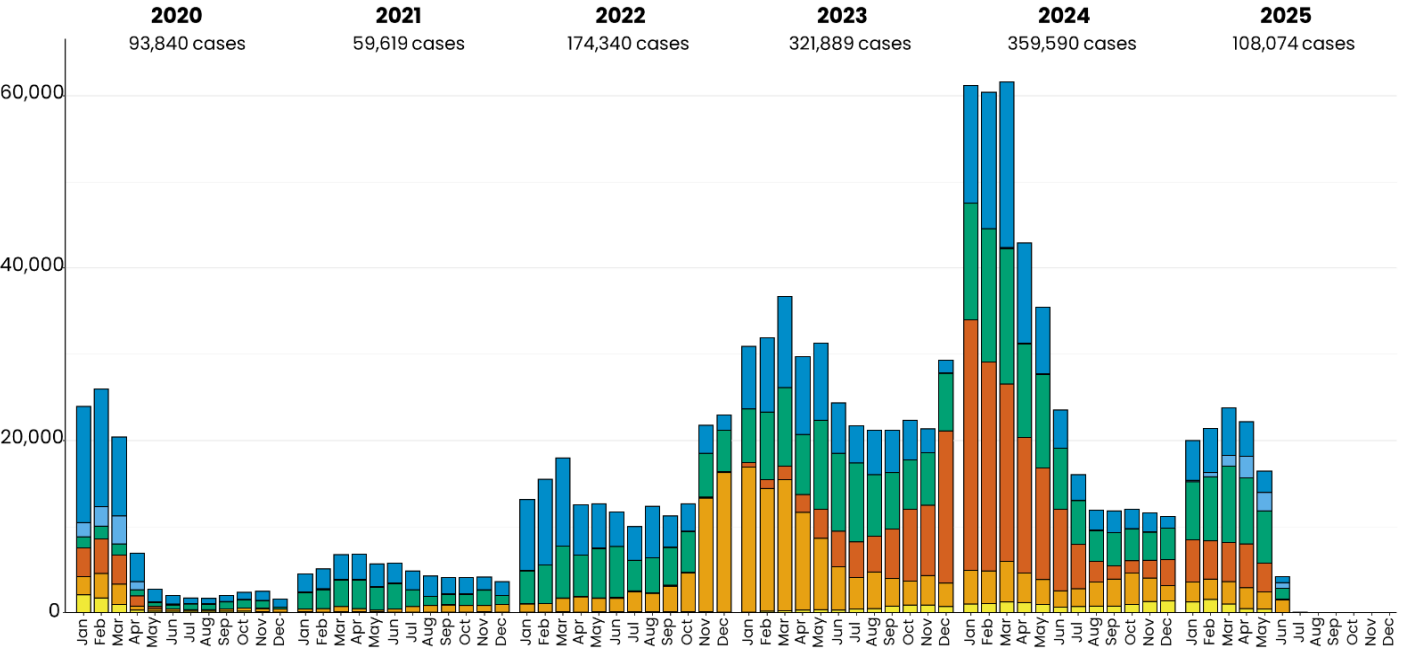
An alert is issued to provide advice to people who have potentially been exposed to measles.

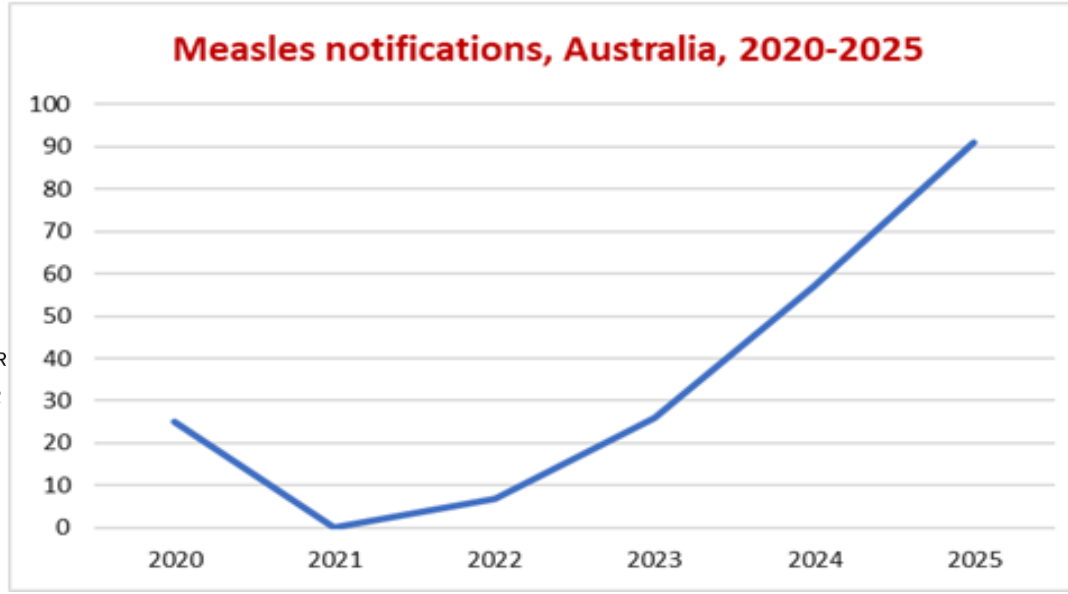
**People may have been exposed if they were at these places (updated 29 August 2025)**

Tuesday 19 August 2025

- Flight JQ60 which arrived in Brisbane from Bali at 5.40am
- Brisbane International Airport between 5.40am and 7.10am
- Yamanto Aldi between 5.50pm and 6.40pm.

# Measles burden globally and in Australia



# Transfer of measles antibody from mothers to babies

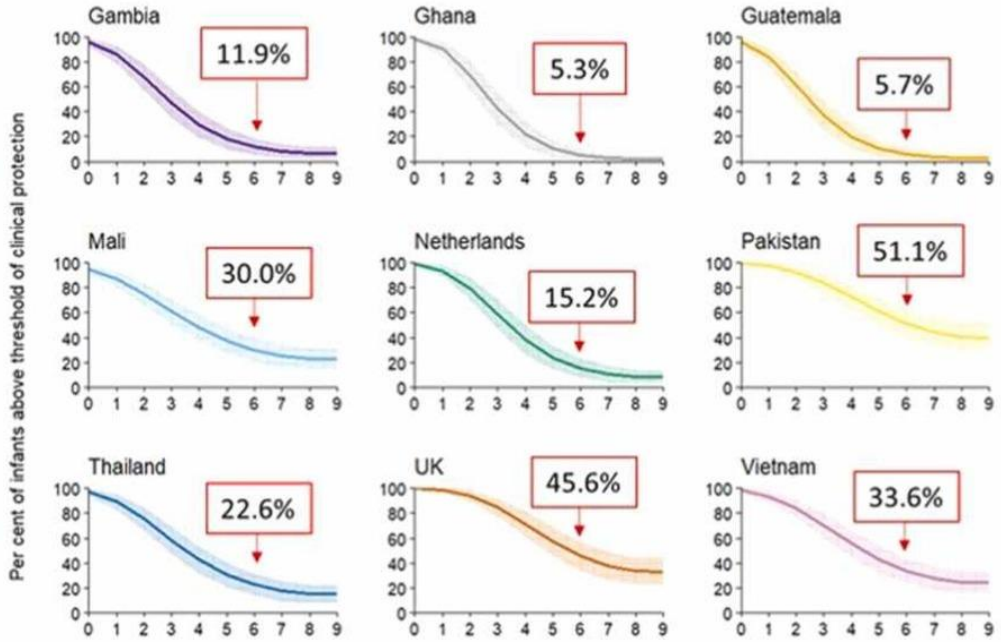
## Waning maternal measles antibody levels across different country settings

**Infant blood samples** from 11 countries (N=2,845)


**Central laboratory**

- Measles plaque reduction neutralisation test (PRNT)
- Measles, mumps and rubella immunoglobulin G

**Antibody decay modelling** and percentage of infants above measles PRNT threshold of clinical protection (0.12 IU/mL) at each age




**Conclusion:** Reliance on maternal antibodies for protection until nine months of age or later leaves the majority of infants in all countries with insufficient direct protection against measles infection between ages six and nine months.

https://doi.org/10.1016/j.jinf.2025.106531

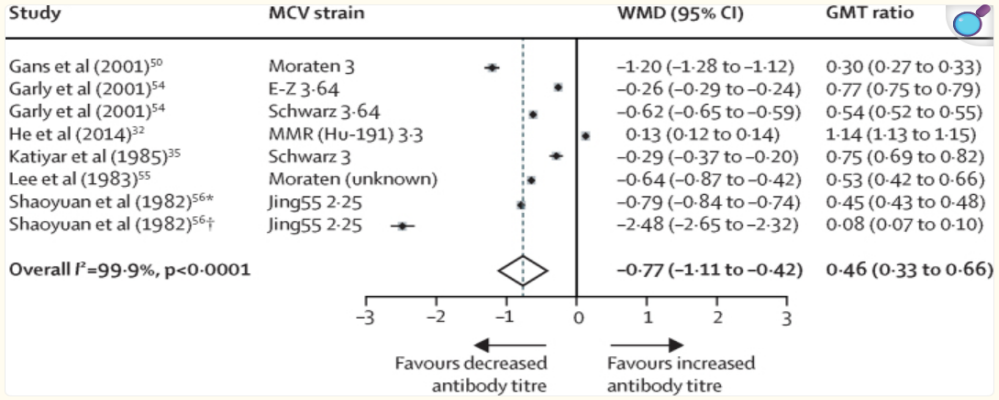
# Why not give MMR vaccine before 12 months of age to all infants?

**Immunogenicity, effectiveness, and safety of measles vaccination in infants younger than 9 months: a systematic review and meta-analysis**

*Laura M Nic Lochlainn, Brechje de Gier, Nicoline van der Maas, Peter M Strebel, Tracey Goodman, Rob S van Binnendijk, Hester E de Melker, Susan J M Hahné*

Pooled estimates of vaccine effectiveness for MCV1 in infants vaccinated <9 months old was **51%** (95% CI –44 to 83) compared with a vaccine effectiveness of **83%** (76 to 88%) for infants aged 9 months or older at vaccination.

Figure 3.



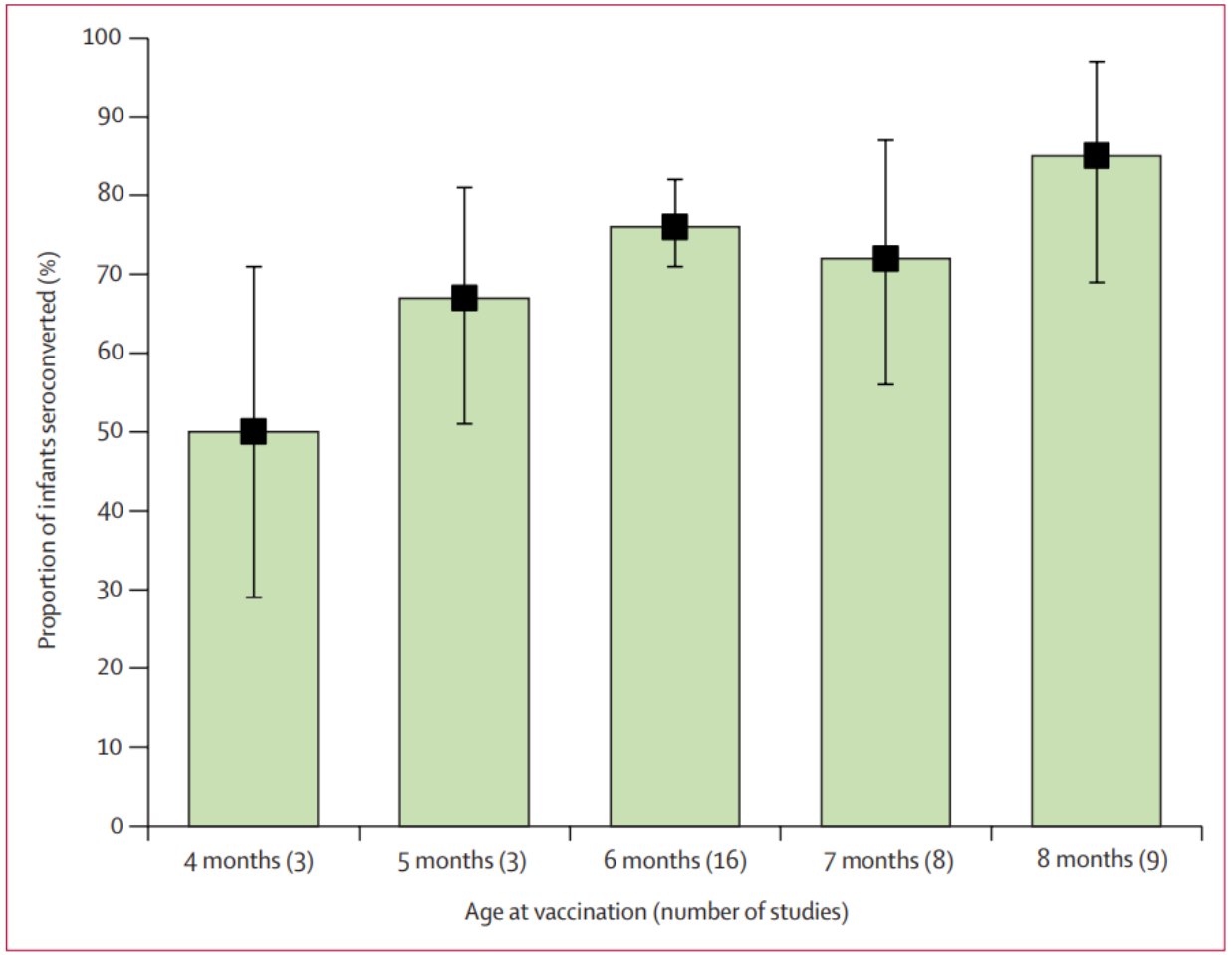




***Figure 2*: Pooled estimates of proportion of infants seroconverted, by age of MCV1 (4–8 months) with 95% CIs**
MCV1=first dose of measles-containing vaccine.

Immunogenicity, effectiveness, and safety of measles vaccination in infants younger than 9 months: a systematic review and meta-analysis - PMC

# Concerns about long term waning from early MCV

## Prospective cohort study Netherlands during 2013-2014 measles outbreak (n=79)

- MMR at 6-8m + routine 14m vs MMR at 9-12m + routine 14m vs control at 14m only.
- Immunogenicity measured prior to routine 14m, after 14m dose, + 1 year, + 3 years.
- Robust early immune response
- Slightly lower nAb levels in early vaccinated groups despite single control group dose
- More substantial declines by 4 years of age.
- 11.1% of 6-8m group had levels below correlate of protection (0.12 mIU/mL PRNT)
- Further study required to confirm results

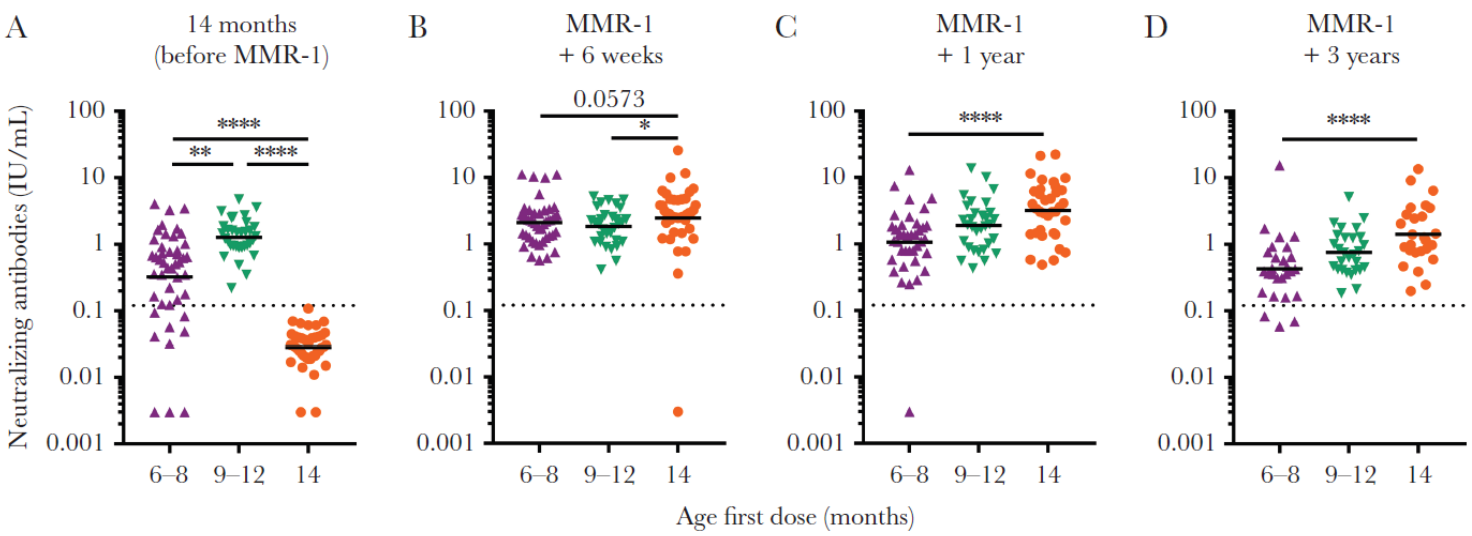
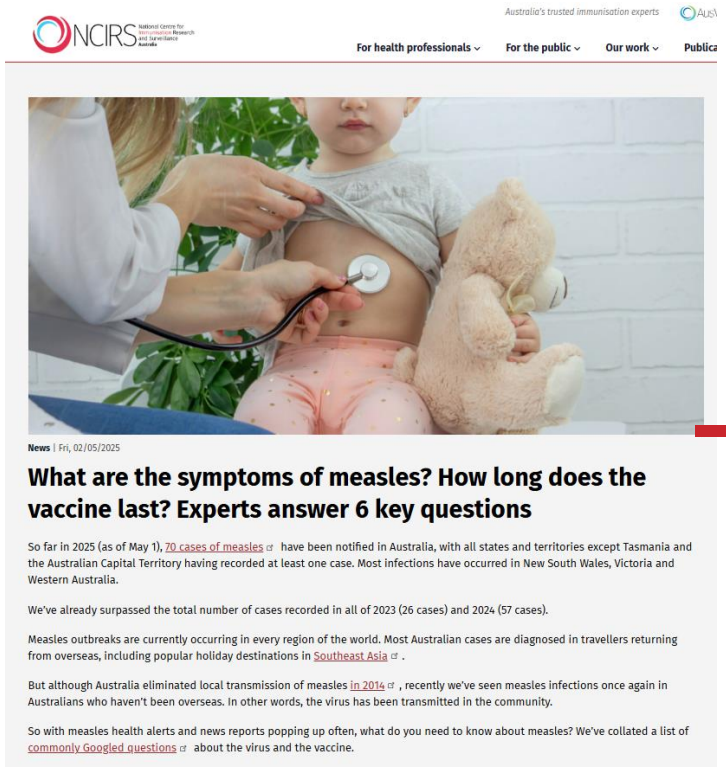



**Figure 2.** Measles virus–specific neutralizing antibodies measured by a focus reduction neutralization test (FRNT) in children who received their first measles, mumps, and rubella vaccine (MMR) dose at 6–8 months, 9–12 months, or 14 months of age. Differences in geometric mean concentrations between groups, represented as horizontal bars, were compared by the Kruskal-Wallis test at 14 months of age (*A*) and then 6 weeks (*B*), 1 year (*C*), and 3 years later (*D*). The dashed gray line indicates the level of antibody sufficient for protection from clinical measles (ie, 0.12 IU/mL). Two controls assumed to have measles, based on positive serologic test results at 14 months of age, were excluded from analysis. MMR-1, MMR dose received at age 14 months. **P* ≤ .05, ***P* ≤ .01, and *****P* ≤ .0001.

# However MMR vaccine can be given earlier when….

- Children as young as 6 months of age can receive MMR vaccine in certain circumstances, including travel to highly endemic areas and during outbreaks
- If an infant receives MMR vaccine at <11 months of age, they still need to also receive the 2 recommended vaccine doses at ≥12 months of age at 12 and 18 months.



NCIRS

Australia's trusted immunisation experts

For health professionals | For the public | Our work | Publica

News | Fri, 02/05/2025

**What are the symptoms of measles? How long does the vaccine last? Experts answer 6 key questions**

So far in 2025 (as of May 1), 70 cases of measles have been notified in Australia, with all states and territories except Tasmania and the Australian Capital Territory having recorded at least one case. Most infections have occurred in New South Wales, Victoria and Western Australia.

We've already surpassed the total number of cases recorded in all of 2023 (26 cases) and 2024 (57 cases).

Measles outbreaks are currently occurring in every region of the world. Most Australian cases are diagnosed in travellers returning from overseas, including popular holiday destinations in Southeast Asia .

But although Australia eliminated local transmission of measles in 2014 , recently we've seen measles infections once again in Australians who haven't been overseas. In other words, the virus has been transmitted in the community.

So with measles health alerts and news reports popping up often, what do you need to know about measles? We've collated a list of commonly Googled questions about the virus and the vaccine.

**5. What is the measles vaccine, and at what age do you get it?**

The measles vaccine contains a live but weakened version of the measles virus. In Australia, measles vaccinations are given as part of a combination vaccine that contains the measles virus alongside the mumps and rubella viruses (the MMR vaccine), and the chickenpox virus (MMRV).

Under the national immunisation program, children in Australia receive measles vaccines at 12 months (MMR) and 18 months of age (MMRV). In other countries, the age of vaccination may vary – but at least two doses are always needed for optimal immunity.

Measles vaccines can be given earlier than 12 months, from as early as six months , to protect infants who may be at higher risk of exposure to the virus (such as those travelling overseas). Infants who receive an early dose of the measles vaccine still receive the usual two recommended doses at 12 and 18 months old.

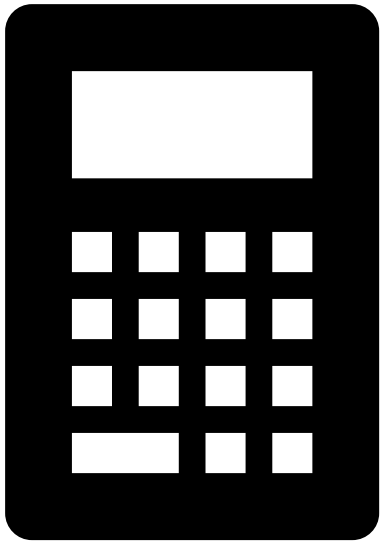
Australians born between 1966 and 1994 (those aged roughly 20–60) are considered to be at greater risk of measles, as the second dose was only recommended from November 1992 [PDF]. Australia is seeing breakthrough measles infections in this age group .

An additional measles vaccine can be given to these adults at any time. It's safe to get an extra dose even if you have been vaccinated before. If you are unsure if you need one, talk to your GP who may check your measles immunity (or immunisation record, if applicable) before vaccinating.

However, as the measles vaccine is a live vaccine, it's not safe to give to people with weakened immune systems (due to certain medical conditions) or pregnant women. It's therefore important that healthy, eligible people receive the measles vaccine to protect themselves and our vulnerable population .

# Is there any easy way to calculate catch-up immunisations?

# National Immunisation Catch-up Calculator



- Available for infants, children and adolescents aged under 20 years
- Option to select if the person identifies as Aboriginal or Torres Strait Islander
- Option for identifying people with one or more medical at-risk conditions
- Include vaccines received overseas
- State/Territory specific
- Low-birth weight and pre-term infants
- Selections for functional asplenia, anatomical asplenia or splenectomy

https://immunisationhandbook.health.gov.au/catch-up-calculator/calculator

# Resources

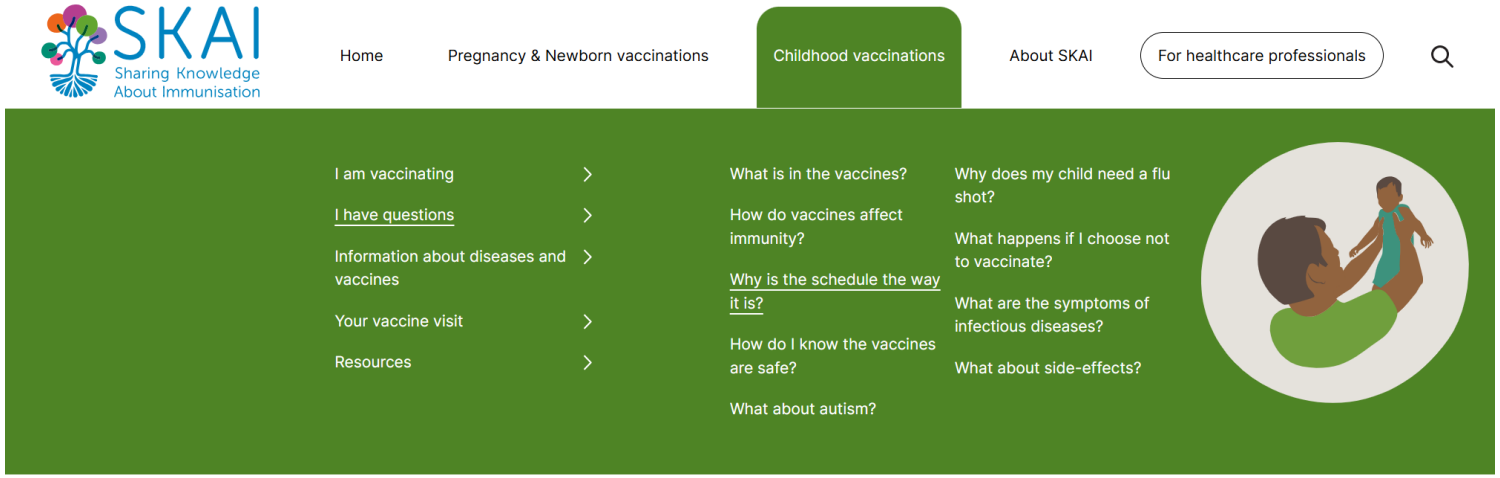
Australian Government
Department of Health and Aged Care

Australian Immunisation Handbook

Home | Contents | Diseases | Vaccines | Catch-up vaccination | Resources

Giving multiple vaccine injections at the same visit | Administration of vaccines | The Australian Immunisation Handbook (health.gov.au)


National Immunisation Program
A joint Australian, State and Territory Government Initiative




Home > Childhood vaccinations > I have questions > Why is the schedule the way it is?

NCIRS National Centre for Immunisation Research and Surveillance

## Co-administration of vaccines for adults: a guide for immunisation providers

Vaccines are recommended throughout an individual's life to protect against severity and complications of vaccine-preventable diseases. An increasing number of vaccines are becoming available and are recommended for use in adults. Refer to the National Immunisation Program (NIP) schedule and NCIRS' immunisation schedules for all funded and recommended vaccines for adults.

The aim of this guide is to assist immunisation providers to identify vaccines that can be co-administered in people aged 18 years and older. While most vaccines can be co-administered with other vaccines at the same schedule point, separate injection sites should be used to ensure adequate immune response and reduce adverse events. This guide should be used in conjunction with the Australian Immunisation Handbook ('Handbook'), which provides detailed advice on vaccine dosage, administration, contraindications and precautions.

https://ncirs.org.au/sites/default/files/2023-11/Co-administration%20of%20vaccines%20for%20adults_November%202023_0.pdf


https://www.cdc.gov/vaccine-safety/about/multiples.html

## Multiple Vaccines at Once

QUESTIONS AND CONCERNS | PAGE 6 OF 9 | ALL PAGES ↓

# Time for discussion