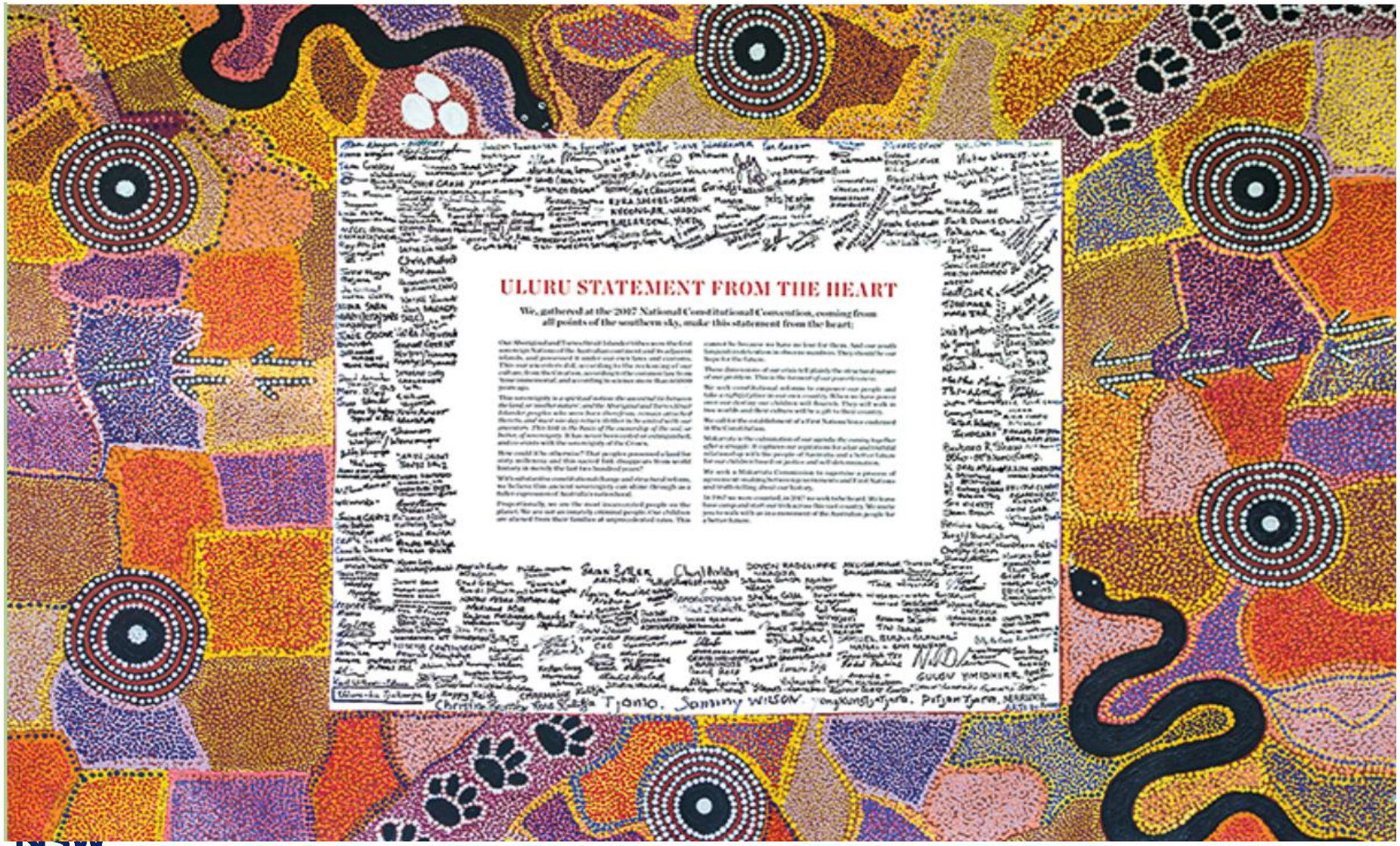
HNE Immunisation update 2020

“In 1967 we were counted, in 2017 we seek to be heard”



NSW GOVERNMENT

Welcome

- HNE self- reporting professional development Annual Update for PN & LHD Authorised Immunisers
- Authorised Immunisers not up date currently keep record attended this session then up to date for for 2020.
- Other LHD’s consult with local PHU / Immunisation Coordinator
- Thanks to PHN,
- HNE Scholarships.

NSW GOVERNMENT

Authority to Immunise

NSW MINISTRY OF HEALTH
POISONS AND THERAPEUTIC GOODS ACT 1966
Authorisation to Supply Poisons and Restricted Substances

Under the provisions of clauses 170 and 171 of the Poisons and Therapeutic Goods Regulation 2008, I, Judith Mackson, Chief Pharmacist, a duly appointed delegate of the Director-General of NSW Health, do hereby issue AUTHORITY to registered nurses and midwives, hereby specified as a class of persons, to supply those poisons and restricted substances listed in the Schedule hereunder either singly or in combination, pursuant to clauses 17 and 53 of the Regulation, subject to the following conditions:

(1) The registered nurse/midwife is employed in connection with a vaccination program, and

(2) The registered nurse/midwife administers a vaccine only in connection with that vaccination program, and

(3) The registered nurse/midwife has successfully completed;

  a) The Department of Health Immunisation Accreditation Program for Registered Nurses, or

  b) The immunisation education program administered by the Australian College of Nursing or its predecessors, or

  c) An interstate or overseas immunisation education program that conforms to the National Guidelines for Immunisation Education for Registered Nurses, as approved by the Australian College of Nursing.

(4) The secure storage, pre and post-vaccination assessment and administration of each vaccine is undertaken in accordance with the procedures specified in the current edition of the National Health and Medical Research Council's *The Australian Immunisation Handbook*, and

(5) The poisons and restricted substances are stored at the temperature stated on the respective manufacturer's pack, and

(6) During each vaccination clinic the registered nurse/midwife carries adrenaline for use in the treatment of anaphylaxis, and

(7) The registered nurse/midwife ensures that procedures for the administration of adrenaline comply with the procedures specified in the current edition of *The Australian Immunisation Handbook*, and

(8) The registered nurse/midwife reports each adverse event following immunisation to the local Public Health Unit, and

(9) The registered nurse/midwife ensures that a medical officer is contactable for medical advice during the vaccination clinic, and

(10) To maintain authority to immunise, the registered nurse/midwife annually reviews best practice policy for immunisation. This may be, but is not limited to, attendance at seminars on current practices. An annual statement of proficiency in cardio-pulmonary resuscitation must also be obtained, and

Annually reviews best practice for immunisation

How to maintain your authority to immunise as an RN or RM

It is your responsibility to keep your practice current.

- The registered nurse/midwife must annually review best practice policy for immunisation.
- Annual CPR

Activities that would assist in fulfilling these requirements include:

- Reading To the Point and other newsletters

http://www.health.nsw.gov.au/immunisation/coldchain/story_flash.html

- Education Updates—**these are not mandatory**
- Journal articles, media releases, online resources, livestream presentations, podcasts etc.

How can I document that I have maintained my currency in immunisation?

- Online apps, eg. Ausmed CPD
- Journalise your learning, eg with the APHRA Self Directed Evidence Record. (google this)

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Are you a bit out of date?

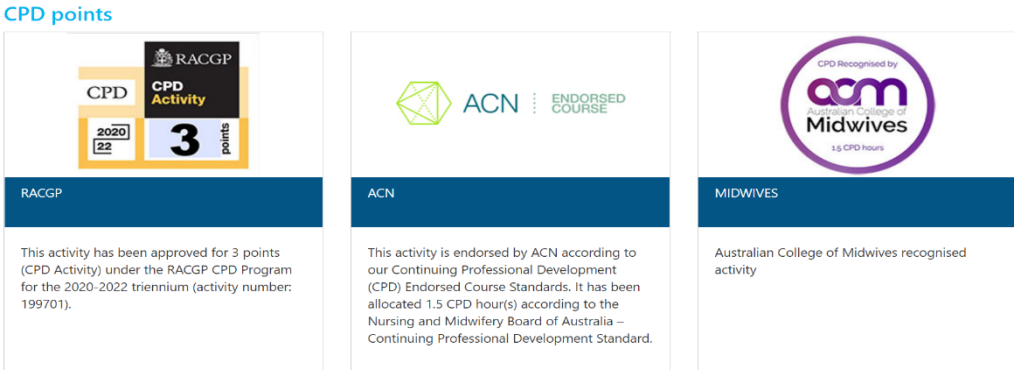
- Completing the cold chain online module 'Vaccine Storage and Cold Chain Management' available as follows:

  HNE employees, through My Health Learning

  For non-HNE nurses via the NSW Health website: http://www.health.nsw.gov.au/immunisation/coldchain/story_flash.html

- SKAI Learning Module

SKAI
Sharing Knowledge About Immunisation



- Immunisation Update

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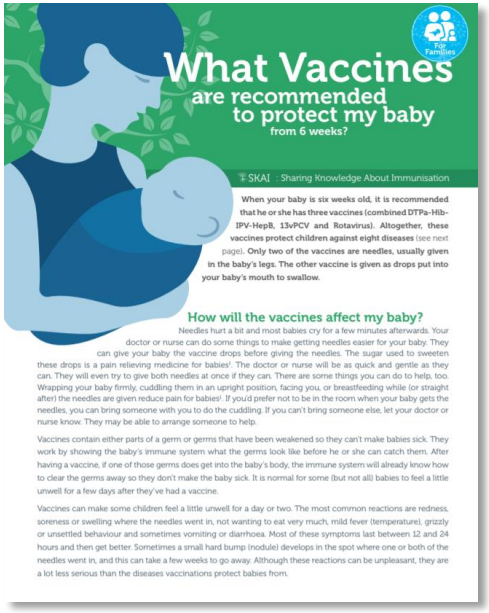
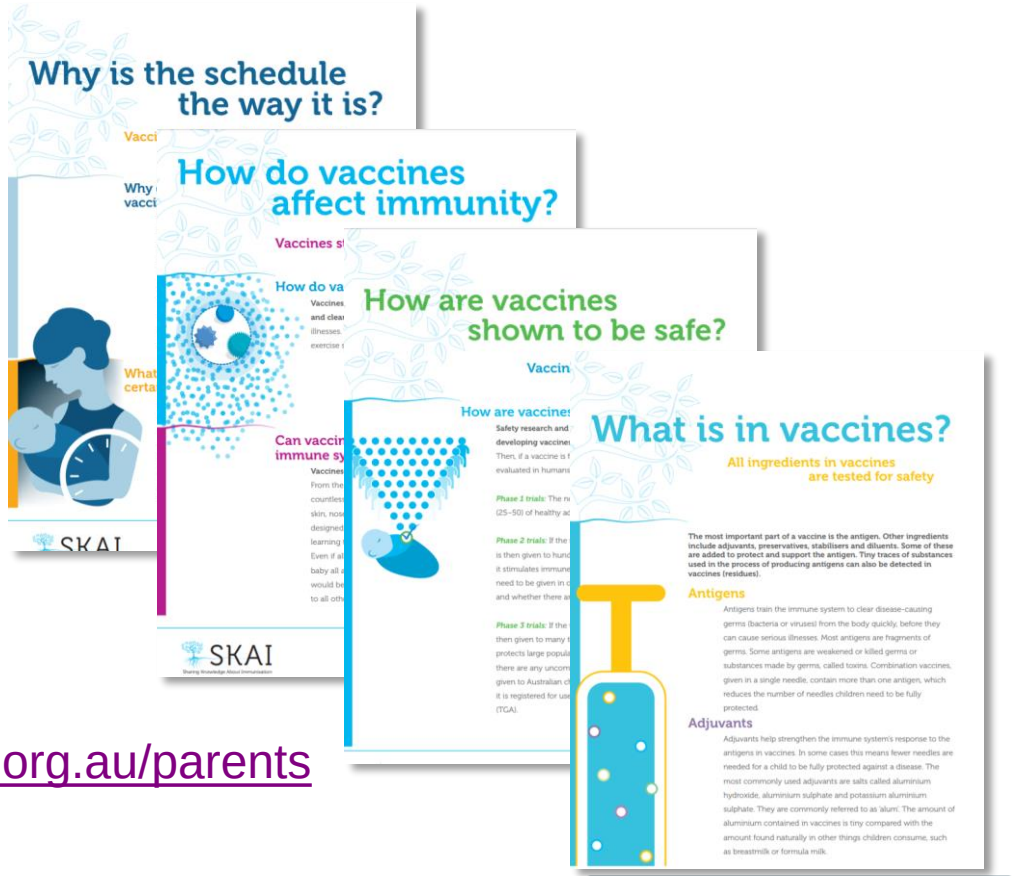
Links to existing Sharing Knowledge About Immunisation (SKAI) resources about childhood vaccination





http://www.talkingaboutimmunisation.org.au/parents

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Melbourne Children's
Excellence in clinical care, research and education

The Royal Children's Hospital Melbourne
murdoch children's research institute
THE UNIVERSITY OF MELBOURNE

APHRA Self Directed Evidence Record

Nursing and Midwifery Board of Australia | AHPRA

Evidence record

Self directed continuing professional development for nurses and midwives

Name:

Date	Source or provider details	Identified learning needs	Action plan	Type of activity	Description of topic (s) covered during activity and outcome	Reflection on activity and specification to practice	No./Title/ Description of evidence provided	CPD hours
01/09/2015	*NMBA*	*RN competency standard* *Practises in accordance with legislation affecting nursing practice and health care*	*1.2 Clarify responsibility for aspects of care with other members of the health team.* *Unsure of my delegation responsibilities in the workplace.* *Plan: Access and review decision making framework*	*Self directed learning.* *Review of decision making framework*	*Reviewed my scope of practice and the scope of practice for my profession.* *Understood the principles I need to apply when making decisions about my nursing practice and when and how I decide to delegate activities to other registered nurses and enrolled nurses.*	*This activity has enabled me to achieve my learning need as per my learning plan.* *As a team leader working in intensive care I will be able to apply the Nursing decision making framework when I allocate staff to patient care and delegate tasks as they arise during a shift.*	*This CPD evidence record*	*4 hours*

Self Sufficient

Coronavirus fires up production at Australia's only medical mask factory

7.30 / By Grace Tobin

Posted Fri 27 Mar 2020 at 8:43am, updated Fri 27 Mar 2020 at 11:33am

"We only had two machines operational, we had a third machine mothballed, and we only had two trained operators.“

Mr Csiszar and the Government worked out a way to quickly increase production by deploying 14 Australian Defence Force personnel to the factory three weeks ago.

"It almost looks like an army barracks now," he said.

NSW GOVERNMENT

Time of the Nurse & AHW

2020
INTERNATIONAL YEAR OF THE NURSE AND THE MIDWIFE

Chorus

G B

So let's build immunity – (let's build immunity)

Pro tect all from disease – (protect all from disease)

Call the immuniser, I need a vaccine

D

I need a vaccine

G G7

I need a vaccine (vaccine)

G D G

To protect the whole world we need a vaccine

.

NSW GOVERNMENT

High standards of Immunisation practice

MEASLES OUTBREAK IN THE PACIFIC - SITUATION REPORT No. 9

Joint WHO/UNICEF Measles Outbreak Response and Preparedness in the Pacific

Table 2. Overview of number of measles cases, morbidity and mortality and trend, in Pacific Islands Countries and areas with measles outbreaks.

Country	Reporting date	Reported cases	Reported deaths	Cumulative in-patients	Case-fatality rate[b]	Trend
Samoa	Dec 29, 2019	5,675	81	1,844	1.4%	Decreasing
Tonga	Dec 27, 2019	598	0	15	0%	Stable
Fiji	Dec 26, 2019	25	0	14	0%	Stable
American Samoa	Dec 30, 2019	10	0	0	0%	Stable
Kiribati	Dec 27, 2019	2	0	0	0%	Under investigation

[a] *This table follows the official reported case as reported in the national sitreps*

[b] *Case-fatality rate = proportion of reported deaths within the total number of reported cases.*

Samoa pop 200,000

Sept – Dec 2019

5,700 cases measles

61 deaths < 4 years

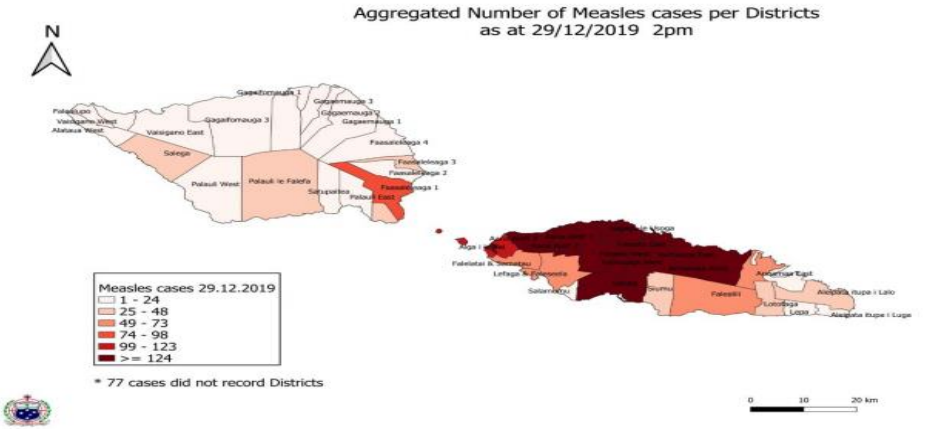

Figure 2. Aggregated number of measles cases in Samoa, by district, date of report: 29 December 2019 (N= 5,675). *Source: Health Emergency Operations Centre (HEOC) Situation Report, Ministry of Health Samoa; Incident Name: Measles outbreak - October 2019; Sitrep No. 44.*

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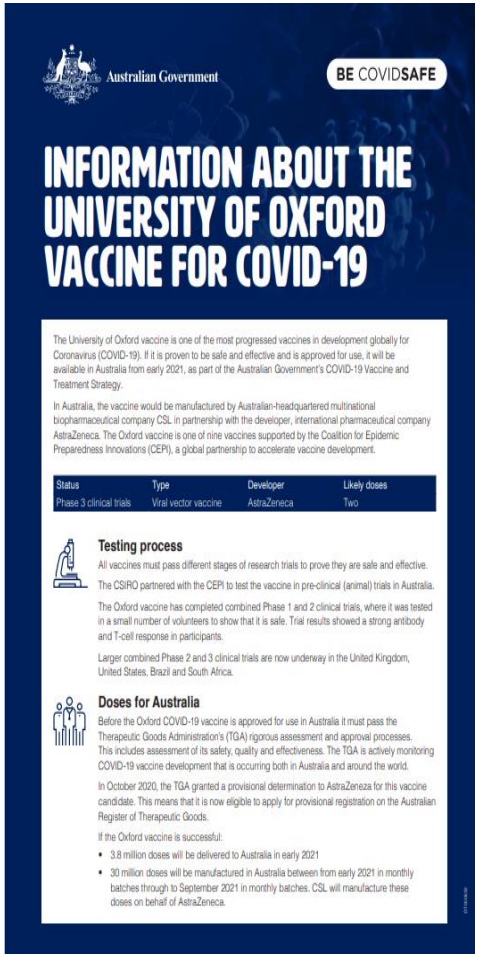
Australia's vaccine agreements



Australian Government

BE COVIDSAFE

INFORMATION ABOUT THE UNIVERSITY OF OXFORD VACCINE FOR COVID-19

The University of Oxford vaccine is one of the most progressed vaccines in development globally for Coronavirus (COVID-19). If it is proven to be safe and effective and is approved for use, it will be available in Australia from early 2021, as part of the Australian Government's COVID-19 Vaccine and Treatment Strategy.

In Australia, the vaccine would be manufactured by Australian-headquartered multinational biopharmaceutical company CSL in partnership with the developer, international pharmaceutical company AstraZeneca. The Oxford vaccine is one of nine vaccines supported by the Coalition for Epidemic Preparedness Innovations (CEPI), a global partnership to accelerate vaccine development.

Status	Type	Developer	Likely doses
Phase 3 clinical trials	Viral vector vaccine	AstraZeneca	Two

Testing process

All vaccines must pass different stages of research trials to prove they are safe and effective.

The CSIRO partnered with the CEPI to test the vaccine in pre-clinical (animal) trials in Australia.

The Oxford vaccine has completed combined Phase 1 and 2 clinical trials, where it was tested in a small number of volunteers to show that it is safe. Trial results showed a strong antibody and T-cell response in participants.

Larger combined Phase 2 and 3 clinical trials are now underway in the United Kingdom, United States, Brazil and South Africa.

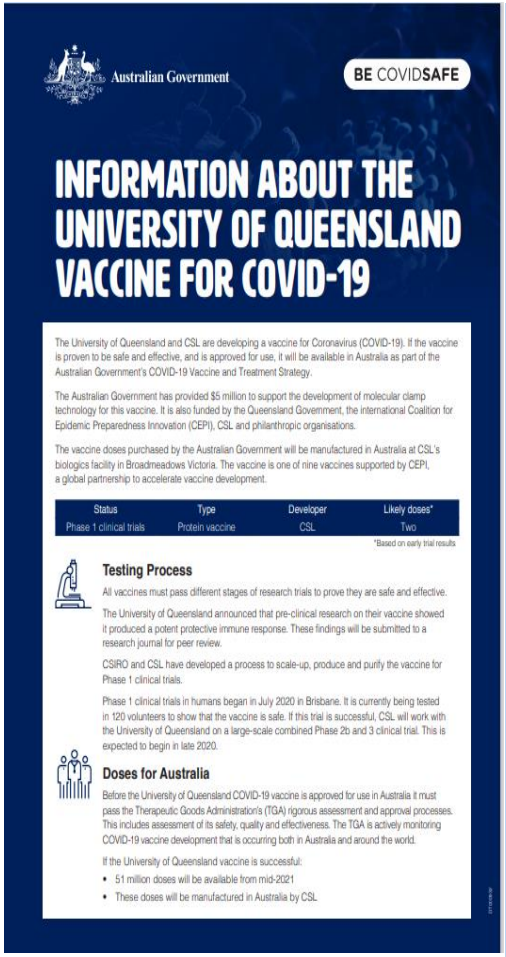
Doses for Australia

Before the Oxford COVID-19 vaccine is approved for use in Australia it must pass the Therapeutic Goods Administration's (TGA) rigorous assessment and approval processes. This includes assessment of its safety, quality and effectiveness. The TGA is actively monitoring COVID-19 vaccine development that is occurring both in Australia and around the world.

In October 2020, the TGA granted a provisional determination to AstraZeneza for this vaccine candidate. This means that it is now eligible to apply for provisional registration on the Australian Register of Therapeutic Goods.

If the Oxford vaccine is successful:

- 3.8 million doses will be delivered to Australia in early 2021
- 30 million doses will be manufactured in Australia between from early 2021 in monthly batches through to September 2021 in monthly batches. CSL will manufacture these doses on behalf of AstraZeneca.



Australian Government

BE COVIDSAFE

INFORMATION ABOUT THE UNIVERSITY OF QUEENSLAND VACCINE FOR COVID-19

The University of Queensland and CSL are developing a vaccine for Coronavirus (COVID-19). If the vaccine is proven to be safe and effective, and is approved for use, it will be available in Australia as part of the Australian Government's COVID-19 Vaccine and Treatment Strategy.

The Australian Government has provided $5 million to support the development of molecular clamp technology for this vaccine. It is also funded by the Queensland Government, the international Coalition for Epidemic Preparedness Innovation (CEPI), CSL and philanthropic organisations.

The vaccine doses purchased by the Australian Government will be manufactured in Australia at CSL's biologics facility in Broadmeadows Victoria. The vaccine is one of nine vaccines supported by CEPI, a global partnership to accelerate vaccine development.

Status	Type	Developer	Likely doses*
Phase 1 clinical trials	Protein vaccine	CSL	Two

*Based on early trial results

Testing Process

All vaccines must pass different stages of research trials to prove they are safe and effective.

The University of Queensland announced that pre-clinical research on their vaccine showed it produced a potent protective immune response. These findings will be submitted to a research journal for peer review.

CSIRO and CSL have developed a process to scale-up, produce and purify the vaccine for Phase 1 clinical trials.

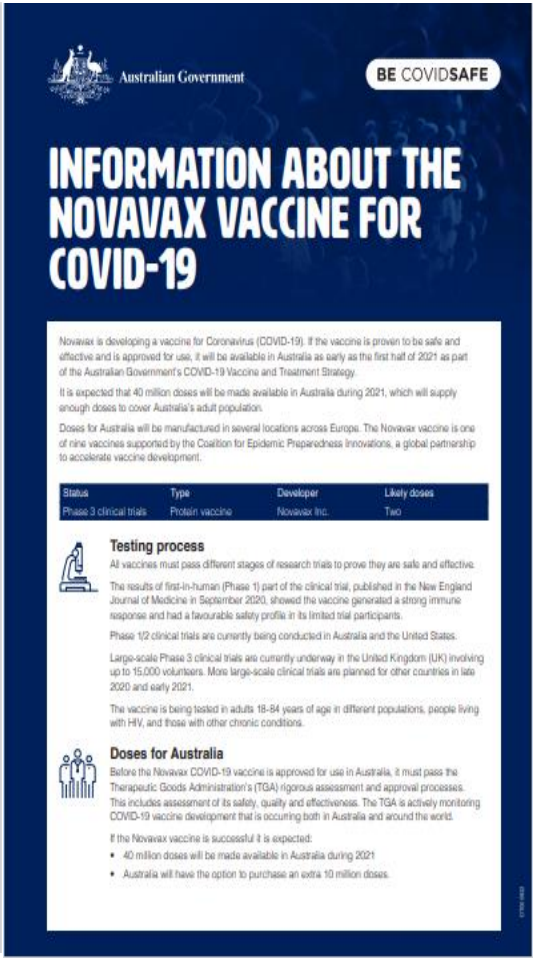
Phase 1 clinical trials in humans began in July 2020 in Brisbane. It is currently being tested in 120 volunteers to show that the vaccine is safe. If this trial is successful, CSL will work with the University of Queensland on a large-scale combined Phase 2b and 3 clinical trial. This is expected to begin in late 2020.

Doses for Australia

Before the University of Queensland COVID-19 vaccine is approved for use in Australia it must pass the Therapeutic Goods Administration's (TGA) rigorous assessment and approval processes. This includes assessment of its safety, quality and effectiveness. The TGA is actively monitoring COVID-19 vaccine development that is occurring both in Australia and around the world.

If the University of Queensland vaccine is successful:

- 51 million doses will be available from mid-2021
- These doses will be manufactured in Australia by CSL



Australian Government

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INFORMATION ABOUT THE NOVAVAX VACCINE FOR COVID-19

Novavax is developing a vaccine for Coronavirus (COVID-19). If the vaccine is proven to be safe and effective and is approved for use, it will be available in Australia as early as the first half of 2021 as part of the Australian Government's COVID-19 Vaccine and Treatment Strategy.

It is expected that 40 million doses will be made available in Australia during 2021, which will supply enough doses to cover Australia's adult population.

Doses for Australia will be manufactured in several locations across Europe. The Novavax vaccine is one of nine vaccines supported by the Coalition for Epidemic Preparedness Innovations, a global partnership to accelerate vaccine development.

Status	Type	Developer	Likely doses
Phase 3 clinical trials	Protein vaccine	Novavax Inc.	Two

Testing process

All vaccines must pass different stages of research trials to prove they are safe and effective.

The results of first-in-human (Phase 1) part of the clinical trial, published in the New England Journal of Medicine in September 2020, showed the vaccine generated a strong immune response and had a favourable safety profile in its limited trial participants.

Phase 1/2 clinical trials are currently being conducted in Australia and the United States.

Large-scale Phase 3 clinical trials are currently underway in the United Kingdom (UK) involving up to 15,000 volunteers. More large-scale clinical trials are planned for other countries in late 2020 and early 2021.

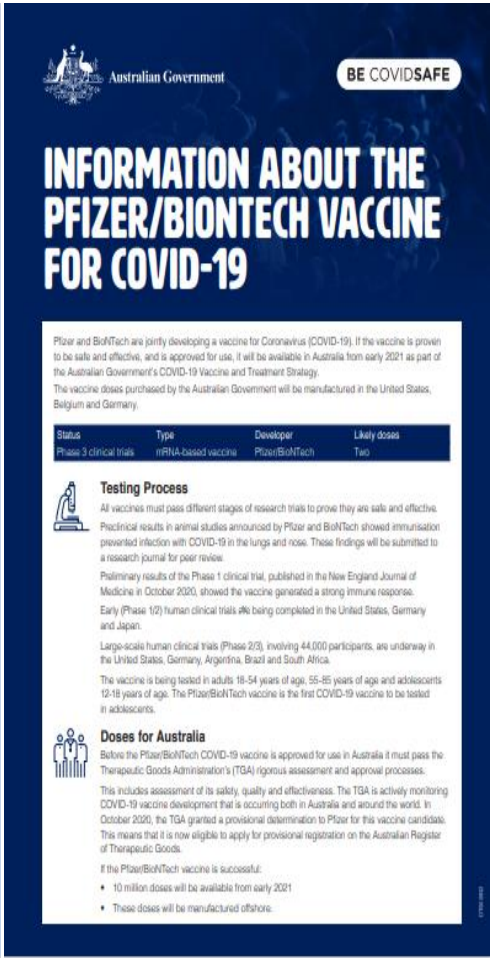
The vaccine is being tested in adults 18-84 years of age in different populations, people living with HIV, and those with other chronic conditions.

Doses for Australia

Before the Novavax COVID-19 vaccine is approved for use in Australia, it must pass the Therapeutic Goods Administration's (TGA) rigorous assessment and approval processes. This includes assessment of its safety, quality and effectiveness. The TGA is actively monitoring COVID-19 vaccine development that is occurring both in Australia and around the world.

If the Novavax vaccine is successful it is expected:

- 40 million doses will be made available in Australia during 2021
- Australia will have the option to purchase an extra 10 million doses.



Australian Government

BE COVIDSAFE

INFORMATION ABOUT THE PFIZER/BIONTECH VACCINE FOR COVID-19

Pfizer and BioNTech are jointly developing a vaccine for Coronavirus (COVID-19). If the vaccine is proven to be safe and effective, and is approved for use, it will be available in Australia from early 2021 as part of the Australian Government's COVID-19 Vaccine and Treatment Strategy.

The vaccine doses purchased by the Australian Government will be manufactured in the United States, Belgium and Germany.

Status	Type	Developer	Likely doses
Phase 3 clinical trials	mRNA-based vaccine	Pfizer/BioNTech	Two

Testing Process

All vaccines must pass different stages of research trials to prove they are safe and effective.

Preclinical results in animal studies announced by Pfizer and BioNTech showed immunisation prevented infection with COVID-19 in the lungs and nose. These findings will be submitted to a research journal for peer review.

Preliminary results of the Phase 1 clinical trial, published in the New England Journal of Medicine in October 2020, showed the vaccine generated a strong immune response.

Early (Phase 1/2) human clinical trials are being completed in the United States, Germany and Japan.

Large-scale human clinical trials (Phase 2/3), involving 44,000 participants, are underway in the United States, Germany, Argentina, Brazil and South Africa.

The vaccine is being tested in adults 18-54 years of age, 55-85 years of age and adolescents 12-18 years of age. The Pfizer/BioNTech vaccine is the first COVID-19 vaccine to be tested in adolescents.

Doses for Australia

Before the Pfizer/BioNTech COVID-19 vaccine is approved for use in Australia it must pass the Therapeutic Goods Administration's (TGA) rigorous assessment and approval processes.

This includes assessment of its safety, quality and effectiveness. The TGA is actively monitoring COVID-19 vaccine development that is occurring both in Australia and around the world. In October 2020, the TGA granted a provisional determination to Pfizer for this vaccine candidate. This means that it is now eligible to apply for provisional registration on the Australian Register of Therapeutic Goods.

If the Pfizer/BioNTech vaccine is successful:

- 10 million doses will be available from early 2021
- These doses will be manufactured offshore.

https://www.health.gov.au/resources/publications/coronavirus-covid-19-information-about-the-university-of-oxford-vaccine-for-covid-19

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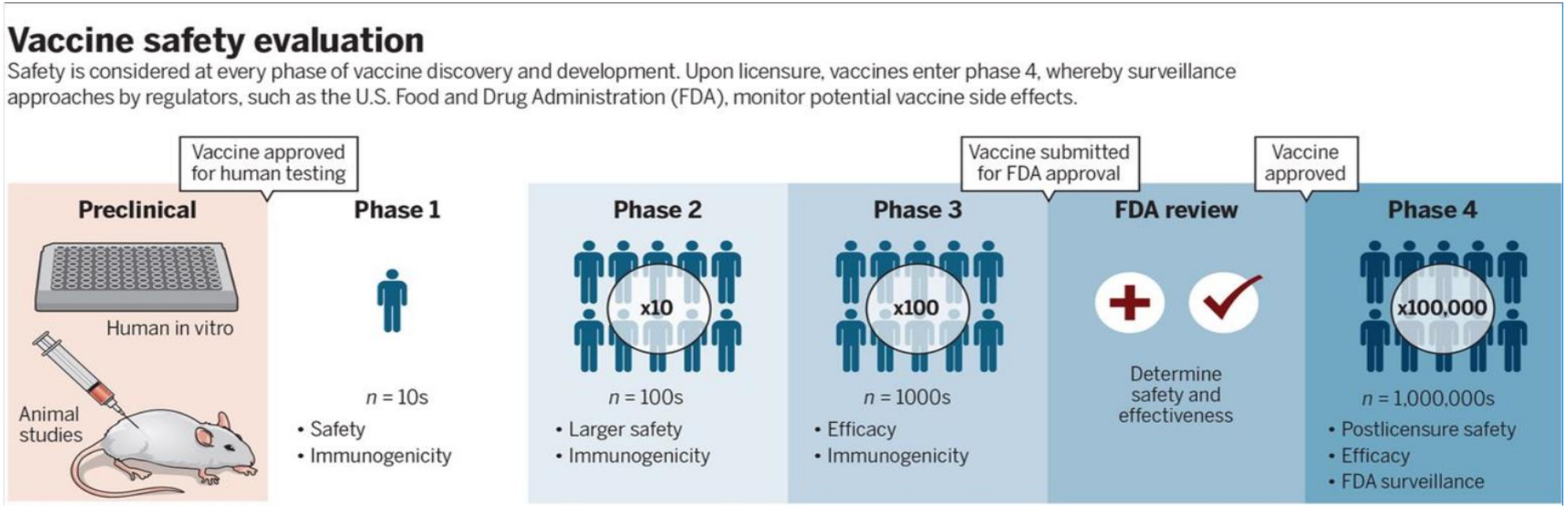
Vaccine Safety – Phase 4



Vaxtracker
Monitoring Vaccine Safety

AusVaxSafety
An NCIRS led collaboration

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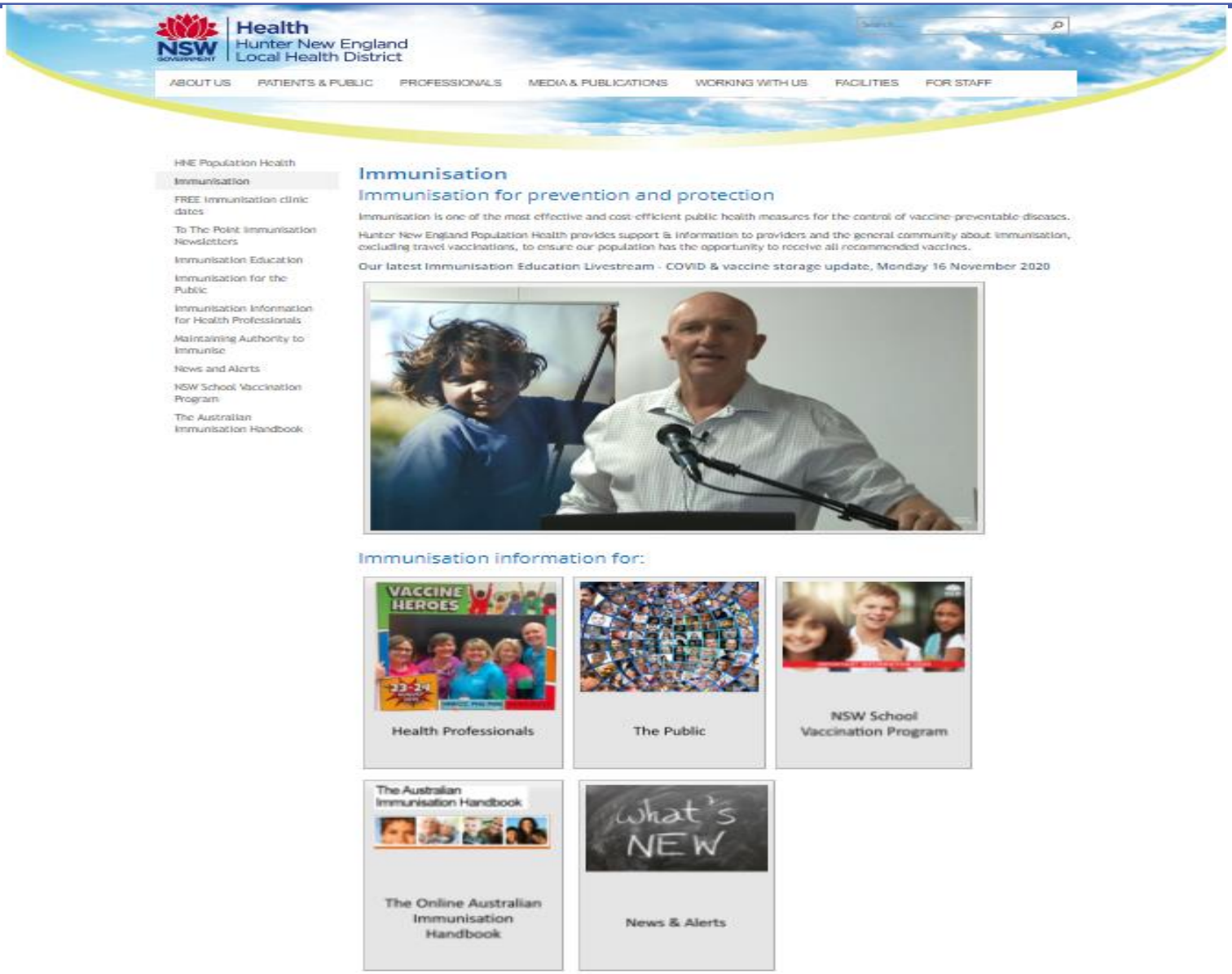
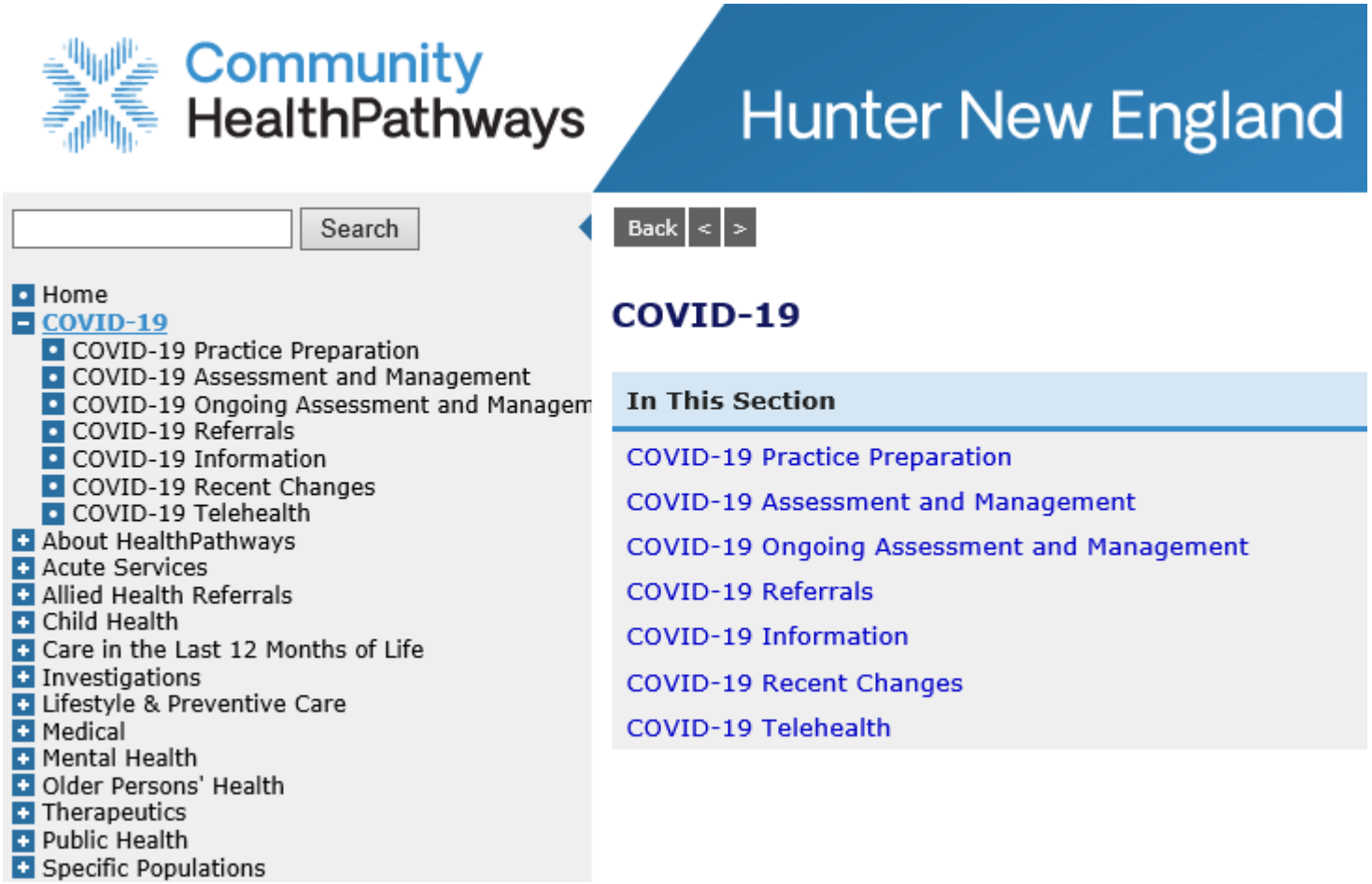
Search for ‘HNE Immunisation’



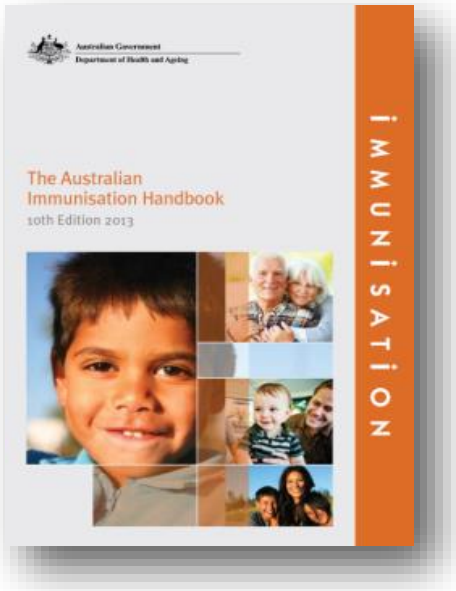
COVID-19 Pathways

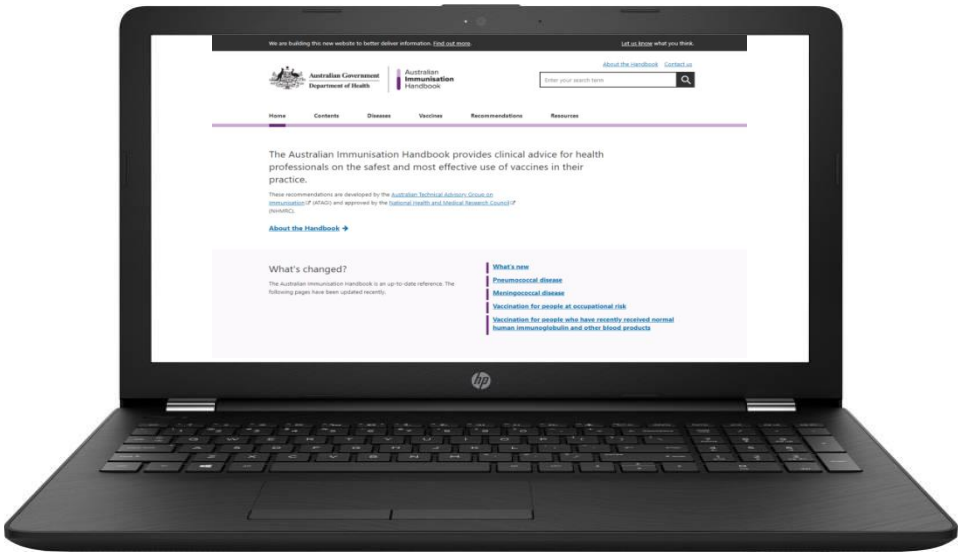
https://hneclassic.communityhealthpathways.org/index.htm?725753.htm



NSW GOVERNMENT

The digital Handbook





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).

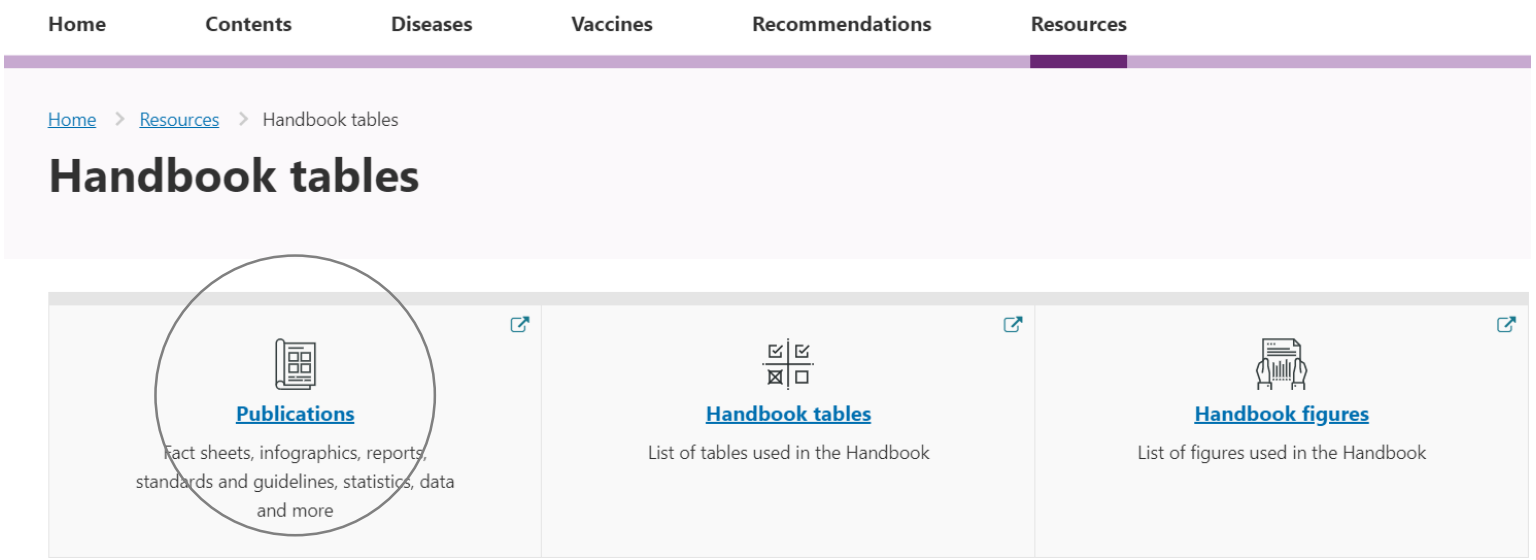
About the Handbook →

What's changed?

- **Pertussis (whooping cough)**
- **Rubella**

Resources

- All table and figures in the Handbook
- Publications icon - infographics
  - summaries of Handbook information in a printable sheet



Australian Government Department of Health | Australian Immunisation Handbook

Vaccination for people who have regular contact with animals

Check the immunisation history for anyone handling animals and give any missed vaccines.

People working in the veterinary industry

These workers can come into contact with a range of animals, which can carry different zoonotic diseases. Only some are vaccine preventable.

Give **Q fever**, **influenza** and **rabies vaccines** to:

- veterinarians
- veterinary nurses
- veterinary students

People working with poultry or swine

These workers are in contact with chickens, ducks and pigs, which can carry avian or swine influenza virus.

Give **influenza vaccine** during an outbreak of avian or swine influenza to:

- poultry workers
- those handling or culling poultry
- swine industry workers

People exposed to animals or products at risk of carrying Q fever

These workers are in contact with high-risk animals, such as sheep, cattle, goats, kangaroos and camels, which can carry Q fever.

Give **Q fever vaccine** to:

- those working with high-risk animals or their products, including agricultural college staff and students aged >15 years
- wildlife and zoo workers who are in contact with high-risk animals
- laboratory personnel who work with veterinary specimens or with Q fever organism (*Coxiella burnetii*)

People working with bats or lyssaviruses

These workers are in contact with flying foxes and microbats, or their tissues, which can carry Australian bat lyssavirus.

Give **rabies vaccine** to:

- bat handlers
- bat scientists
- wildlife officers
- zoo curators
- laboratory personnel who work with bat samples or tissues, or lyssaviruses

See the Australian Immunisation Handbook for more details.

Australian Government Department of Health | Australian Immunisation Handbook

Catch-up vaccination for children <10 years old

Catch-up vaccination aims to provide the best protection against disease as quickly as possible by completing a child's recommended vaccination schedule.

1 Confirm the child's vaccination history

- ✓ Review the child's vaccination history to determine whether they are up to date.
- ✗ If you cannot confirm previous vaccination, assume the child has not received that vaccine. Children can safely receive most vaccines as additional doses.
- ? If you are not sure how to plan the catch-up schedule, or if the catch-up is complicated, seek further advice from your state or territory health authority.

2 Plan a catch-up schedule

Consider laboratory testing for immunity to some diseases

✓ Consider laboratory testing to guide catch-up vaccination for:
- hepatitis A and B
- MMR
- varicella

✗
- Do not use laboratory testing for any other diseases.
- Do not use past infection to guide the catch-up schedule.

Consider valid doses

✓ Check that any previous doses were received at the correct age and dosing intervals.

✗ In almost all cases, do not repeat valid doses — count them as part of the schedule.

Refer to catch-up resources

✓ Use the catch-up resources in the Australian Immunisation Handbook to help plan a catch-up schedule.

3 Start the catch-up schedule

✓ Discuss the catch-up schedule with the parent or carer before starting.

See the Australian Immunisation Handbook for more details.

Australian Government Department of Health | Australian Immunisation Handbook

Avoiding shoulder injury related to vaccine administration

Shoulder injury related to vaccine administration (SIRVA) is a rare complication of incorrect vaccine administration, when the vaccine is given too high into the shoulder joint. This can cause shoulder pain and restricted range of movement. Diagnoses include bursitis, tendinitis and rotator cuff tears. Bursitis is the most commonly reported diagnosis on ultrasound. Symptoms often begin at the time of injection and can last from weeks to years.

Correct injection technique and positioning will avoid SIRVA.

1 Choose the correct size needle

Use an appropriate needle length to improve vaccine delivery and reduce pain.

Age or size of person	Needle type
Child or adult – note that the deltoid muscle is not recommended for vaccination of infants less than 12 months of age	22–25 gauge, 25 mm long
Very large or obese person	22–25 gauge, 38 mm long

2 Expose the entire upper arm

Injection too high ✗

Injection too low ✗

Correct site for injection ✓

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NSW Immunisation schedule

NSW Immunisation Schedule

Funded July 2020

NSW GOVERNMENT

CHILDHOOD VACCINES

AGE	DISEASE	VACCINE	INFORMATION
Birth	Hepatitis B	H-B-VAX II **OR** ENGERIX B (IM)	Within 7 days of birth (ideally within 24 hours)
6 weeks	Diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, hepatitis B, polio	INFANRIX HEXA (IM)	ROTARIX: Dose 1 limited to 6-14 weeks of age BEXSERO: Prophylactic paracetamol recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Pneumococcal	PREVENAR 13 (IM)	
	Rotavirus	ROTARIX (Oral)	
	Meningococcal B (Aboriginal* children only)	BEXSERO (IM)	
4 months	Diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, hepatitis B, polio	INFANRIX HEXA (IM)	ROTARIX: Dose 2 limited to 10-24 weeks BEXSERO: Prophylactic paracetamol recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Pneumococcal	PREVENAR 13 (IM)	
	Rotavirus	ROTARIX (Oral)	
	Meningococcal B (Aboriginal children only)	BEXSERO (IM)	
6 months	Diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, hepatitis B, polio	INFANRIX HEXA (IM)	Children ≥6 months with at risk conditions for IPD† are recommended to receive an additional dose of PREVENAR 13 – see AIH^ Aboriginal children ≥6 months with certain at risk conditions may require an additional dose of Bexsero – see AIH^
12 months	Meningococcal ACWY	NIMENRIX (IM)	Bexsero: Prophylactic paracetamol recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Pneumococcal	PREVENAR 13 (IM)	
	Measles, mumps, rubella	MMR II **OR** PRIORIX (IM or SC)	
	Meningococcal B (Aboriginal children only)	BEXSERO (IM)	
18 months	Diphtheria, tetanus, pertussis	INFANRIX **OR** TRIPACEL (IM)	
	Measles, mumps, rubella, varicella	PRIORIX TETRA **OR** PROQUAD (IM or SC)	
	Haemophilus influenzae type b	ACT-HIB (IM OR SC)	
4 years	Diphtheria, tetanus, pertussis, polio	INFANRIX-IPV **OR** QUADRACEL (IM)	Children with at risk conditions for IPD† are recommended to receive an additional dose of PNEUMOVAX 23 – see AIH^

AT RISK GROUPS, ADOLESCENTS AND ADULTS

AGE/GROUP	DISEASE	VACCINE	INFORMATION
All people with asplenia, hyposplenia, complement deficiency and treatment with eculizumab	Meningococcal ACWY	NIMENRIX (IM)	See AIH^ for required doses and timing Additional groups are recommended to receive these vaccines but these are not funded
	Meningococcal B	BEXSERO (IM)	
>5 years with asplenia or hyposplenia	*Haemophilus influenzae* type b	ACT-HIB (IM or SC)	If incompletely vaccinated or not vaccinated in childhood
Year 7	Diphtheria, tetanus, pertussis	BOOSTRIX (IM)	
	Human papillomavirus	GARDASIL 9 (IM)	
Year 10	Meningococcal ACWY	NIMENRIX (IM)	
Pregnant	Influenza	INFLUENZA	Influenza: Any trimester
	Pertussis	BOOSTRIX **OR** ADACEL (IM)	Pertussis: each pregnancy between 20-32 weeks
Aboriginal people ≥50 years	Pneumococcal	PREVENAR 13 (IM) then PNEUMOVAX 23 (IM)	Prevenar 13: ≥50 years Pneumovax 23: 2-12 months later Pneumovax 23: at least 5 years later
70 years	Pneumococcal	PREVENAR 13 (IM)	Pneumococcal funded for people ≥70
	Zoster	ZOSTAVAX (SC)	Zoster: Catch up available for 71-79 year olds until 31/10/2021
People with at risk conditions for IPD†	See the online AIH^ for conditions recommended to receive PREVENAR 13 and PNEUMOVAX 23		

INFLUENZA

AGE/AT RISK CONDITION	RECOMMENDATION	INFORMATION
All children 6 months <5 years	ANNUAL INFLUENZA VACCINATION	For vaccine brands and eligibility see: www.health.nsw.gov.au/immunisation/Pages/flu.aspx
Aboriginal people ≥ 6 months		
People with at risk conditions ≥6 months		
≥65 years		
Pregnant women		

* The term Aboriginal is inclusive of Aboriginal and Torres Strait Islander people. † IPD: Invasive pneumococcal disease. ^AIH: Online Australian Immunisation Handbook.

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NSW GOVERNMENT

Catch-up

Catch-up schedule

Note: If the person does not present on the date/s recommended in this catch-up schedule, a new calculation should be undertaken at each visit to ensure that minimum intervals between antigen doses are met and the recommended schedule remains current.

This is a catch-up schedule. Once the person has caught up, they may need more recommended NIP vaccines in the future.

john smith

Date of birth: 01 October 2017

Gender: Male

Aboriginal or Torres Strait Islander: No

Immunisation record(s) viewed: Immunisation register

Prescription immunosuppressive medication: No

State: NSW

Date created: 06 December 2020

Age: 3 years, 2 months, 5 days

Vaccination history

01 December 2017

Diphtheria, Tetanus, Pertussis

Hepatitis B

Haemophilus Influenzae Type B

Polio

Pneumococcal

Rotavirus

1 June 2018

Diphtheria, Tetanus, Pertussis

Hepatitis B

Haemophilus Influenzae Type B

Polio

Pneumococcal

NSW GOVERNMENT

Catch-up

Vaccination history

01 December 2017

Diphtheria, Tetanus, Pertussis

Hepatitis B

Haemophilus Influenzae Type B

Polio

Pneumococcal

Rotavirus

1 June 2018

Diphtheria, Tetanus, Pertussis

Hepatitis B

Haemophilus Influenzae Type B

Polio

Pneumococcal

Due immediately

06 December 2020

Infanrix Hexa:

Diphtheria, Tetanus, Pertussis

Hepatitis B

Haemophilus Influenzae Type B

Polio

Pneumococcal

Meningococcal ACWY

Measles, Mumps, Rubella

Next appointment

03 January 2021

Measles, Mumps, Rubella

Varicella

Future appointment(s)

06 June 2021

Diphtheria, Tetanus, Pertussis

01 October 2021

Polio

NSW GOVERNMENT

PneumoSmart

IMMUNISATION COALITION

PneumoSmart

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

Catch-up pneumococcal immunisations for children less than 5 years of age are complex. Appropriate catch-up vaccines should be offered as recommended:

- in the online Australian Immunisation Handbook
- as per the Immunisation Calculator
- catch-up schedule for 13vPCV for Aboriginal and Torres Strait Islander children living in New South Wales, Victoria, Tasmania or the ACT, and all children who do not have risk condition(s) for pneumococcal disease, aged less than 5 years.
- catch-up schedule for 13vPCV for Aboriginal and Torres Strait Islander children living in Northern Territory, South Australia or Western Australia **only**, and all children with risk condition(s) for pneumococcal disease, aged less than 5 years

Important information:

If no written records are available to confirm pneumococcal disease vaccination status, or the type of vaccine (Conjugate or Polysaccharide) that may have been previously administered, the provider shall proceed as if the patient has not received previous vaccinations for pneumococcal disease.

Vaccination Summary

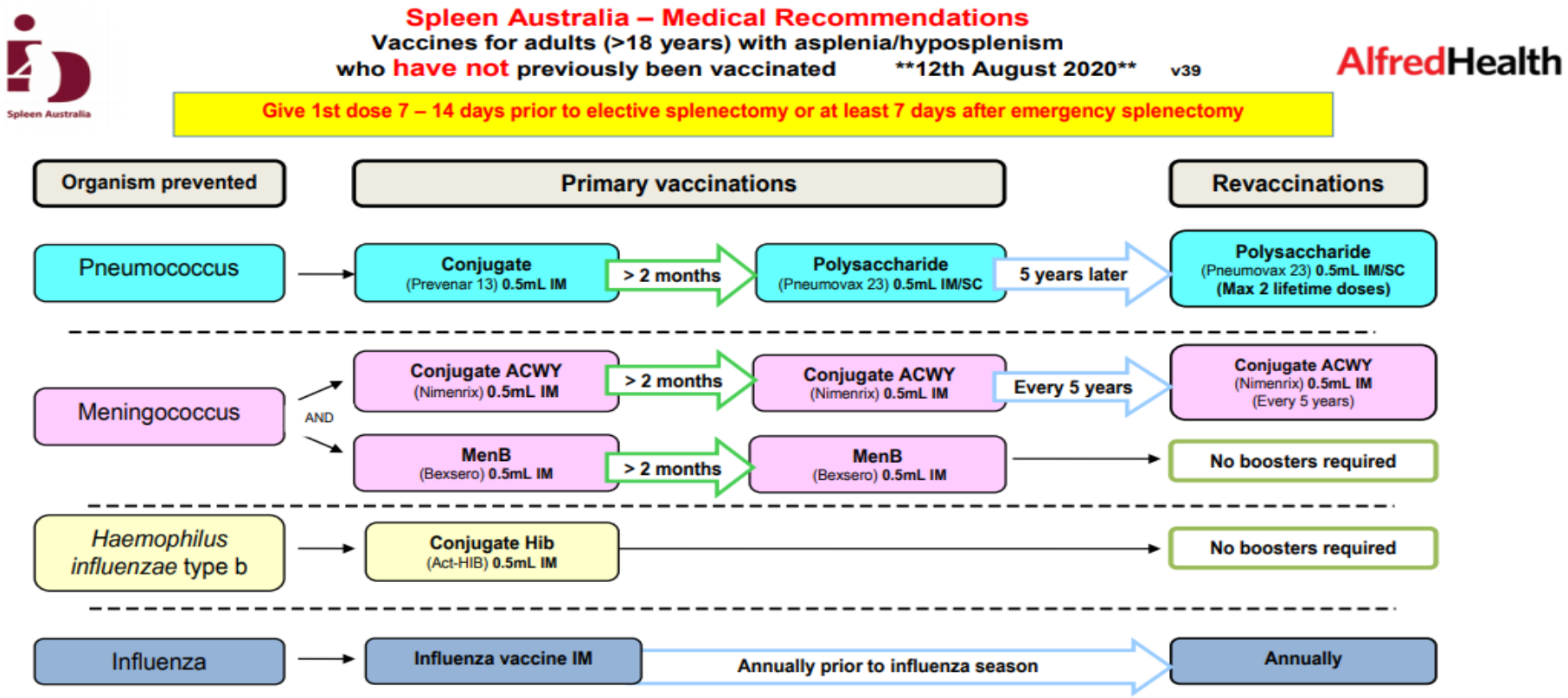
If the patient **has no record** of having received 13vPCV or 23vPPV previously, they are recommended to receive:

When Due	Give	Comment	Funding
Now	13vPCV		NIP
12 months	23vPPV	2-month interval is acceptable since last 13vPCV dose	NIP
5 years	23vPPV	Minimum interval of 5 years since last 23vPPV dose	NIP

The number of lifetime doses of 23vPPV is now limited to 2 doses for all people.

NSW GOVERNMENT

Search ‘Spleen Australia’



Vaccine Brand name	Type of vaccine	Abbreviation
Prevenar 13	13 valent pneumococcal *conjugate* vaccine	13vPCV
Pneumovax 23	23 valent pneumococcal *polysaccharide* vaccine	23vPPV
Nimenrix (preferred - NIP) Menveo, Menactra	(Conjugate ACWY) Quadrivalent meningococcal *conjugate* vaccine	MenACWY
Bexsero (preferred - NIP) Trumenba	Meningococcal B *recombinant* vaccine	MenB
Act-HIB (preferred – NIP) Hiberix	*Haemophilus influenzae* type b conjugate	Hib

National Immunisation Program expansion

National Immunisation Program

A joint Australian, State and Territory Government Initiative

National Immunisation Program

Free catch-up vaccines for all individuals aged 10 to 19 years

Factsheet for vaccination providers

All individuals (including refugees and other humanitarian entrants) 10 to 19 years of age are eligible for free catch-up vaccines through the National Immunisation Program (NIP).

The catch-up schedule will need to commence before the individual's 20th birthday and may be completed beyond this date, as required. Funded vaccines for the eligible cohort are set out in **Table 1**. This cohort should also be evaluated regarding the need for other vaccines based on medical, lifestyle or occupational risk factors (e.g. influenza vaccine). Refer to the **Australian Immunisation Handbook** for more information.

Table 1: Nationally funded catch-up vaccines for children aged 10—19 years

Antigen	Total doses needed	Minimal interval between doses	Notes
Diphtheria, tetanus	3 doses	Between doses 1 and 2: 4 weeks Between doses 2 and 3: 4 weeks	People should receive 1 of the doses as dTpa-containing vaccine and complete the course with dT. This dose would also provide the catch-up dose for pertussis. If dT is not available, use dTpa or dTpa-IPV for all 3 primary doses.
Pertussis	1 dose	Not required	People ≥10 years of age who did not receive all the pertussis vaccine doses recommended before the age of 10 years only need 1 dose to be considered up to date. This is regardless of the number of previous doses they received before the age of 10 years. A booster dose of pertussis-containing vaccine is routinely recommended for all adolescents aged 11—13 years. Take this into account when planning catch-up for pertussis.
Poliomyelitis	3 doses	Between doses 1 and 2: 4 weeks Between doses 2 and 3: 4 weeks	None
Measles, mumps and rubella	2 doses	4 weeks	None
Hepatitis B Note the age groups overlap and this is an either/or, not both	3 paediatric doses aged 10—19 years	Between doses 1 and 2: 1 month Between doses 2 and 3: 2 months	Minimum interval between dose 1 and dose 3 is 4 months.
	2 adult doses aged 11—15 years only	4 months	None

NSW GOVERNMENT

NSW Immunisation Schedule

Funded July 2020

CHILDHOOD VACCINES

AGE	DISEASE	VACCINE	INFORMATION
Birth	Hepatitis B	H-B-VAX II **OR** ENGERIX B (IM)	Within 7 days of birth (ideally within 24 hours)
6 weeks	Diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, hepatitis B, polio	INFANRIX HEXA (IM)	ROTARIX: Dose 1 limited to 6-14 weeks of age BEXSERO: Prophylactic paracetamol recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Pneumococcal	PREVENAR 13 (IM)	
	Rotavirus	ROTARIX (Oral)	
	Meningococcal B (Aboriginal† children only)	BEXSERO (IM)	
4 months	Diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, hepatitis B, polio	INFANRIX HEXA (IM)	ROTARIX: Dose 2 limited to 10-24 weeks BEXSERO: Prophylactic paracetamol recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Pneumococcal	PREVENAR 13 (IM)	
	Rotavirus	ROTARIX (Oral)	
	Meningococcal B (Aboriginal children only)	BEXSERO (IM)	
6 months	Diphtheria, tetanus, pertussis, *Haemophilus influenzae* type b, hepatitis B, polio	INFANRIX HEXA (IM)	Children ≥6 months with at risk conditions for IPD‡ are recommended to receive an additional dose of PREVENAR 13 – see AIH* Aboriginal children ≥6 months with certain at risk conditions may require an additional dose of Bexsero – see AIH*
12 months	Meningococcal ACWY	NIMENRIX (IM)	Bexsero: Prophylactic paracetamol recommended. Catch up available for Aboriginal children <2 until 30/06/2023
	Pneumococcal	PREVENAR 13 (IM)	
	Measles, mumps, rubella	MMR II **OR** PRIORIX (IM or SC)	
	Meningococcal B (Aboriginal children only)	BEXSERO (IM)	
18 months	Diphtheria, tetanus, pertussis	INFANRIX **OR** TRIPACEL (IM)	
	Measles, mumps, rubella, varicella	PRIORIX TETRA **OR** PROQUAD (IM or SC)	
	Haemophilus influenzae type b	ACT-HIB (IM OR SC)	
4 years	Diphtheria, tetanus, pertussis, polio	INFANRIX-IPV **OR** QUADRACEL (IM)	Children with at risk conditions for IPD‡ are recommended to receive an additional dose of PNEUMOVAX 23 – see AIH*

AT RISK GROUPS, ADOLESCENTS AND ADULTS

AGE/GROUP	DISEASE	VACCINE	INFORMATION
All people with asplenia, hyposplenia, complement deficiency and treatment with ecullizumab	Meningococcal ACWY	NIMENRIX (IM)	See AIH* for required doses and timing Additional groups are recommended to receive these vaccines but these are not funded
	Meningococcal B	BEXSERO (IM)	
>5 years with asplenia or hyposplenia	*Haemophilus influenzae* type b	ACT-HIB (IM or SC)	If incompletely vaccinated or not vaccinated in childhood
Year 7	Diphtheria, tetanus, pertussis	BOOSTRIX (IM)	
	Human papillomavirus	GARDASIL 9 (IM)	
Year 10	Meningococcal ACWY	NIMENRIX (IM)	
Pregnant	Influenza	INFLUENZA	Influenza: Any trimester
	Pertussis	BOOSTRIX **OR** ADACEL (IM)	Pertussis: each pregnancy between 20-32 weeks
Aboriginal people ≥50 years	Pneumococcal	PREVENAR 13 (IM) then PNEUMOVAX 23 (IM)	Prevenar 13: ≥50 years Pneumovax 23: 2-12 months later Pneumovax 23: at least 5 years later
70 years	Pneumococcal	PREVENAR 13 (IM)	Pneumococcal funded for people ≥70
	Zoster	ZOSTAVAX (SC)	Zoster: Catch up available for 71-79 year olds until 31/10/2021
People with at risk conditions for IPD‡	See the online AIH* for conditions recommended to receive PREVENAR 13 and PNEUMOVAX 23		

INFLUENZA

AGE/AT RISK CONDITION	RECOMMENDATION	INFORMATION
All children 6 months <5 years Aboriginal people ≥ 6 months People with at risk conditions ≥6 months ≥65 years Pregnant women	ANNUAL INFLUENZA VACCINATION	For vaccine brands and eligibility see: www.health.nsw.gov.au/Immunisation/Pages/flu.aspx

† The term Aboriginal is inclusive of Aboriginal and Torres Strait Islander people. ‡ IPD: Invasive pneumococcal disease. *AIH: Online Australian Immunisation Handbook.

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Which diseases do the changes affect?

- Pneumococcal (Prevenar 13 and Pneumovax 23) –At risk groups, Aboriginal people ≥ 50 years of age (without at risk conditions) and Non-Aboriginal people ≥70 years of age (without at risk conditions), Aboriginal children ONLY in NT, WA, SA and QLD
- Meningococcal B (Bexsero) –Aboriginal children and certain at risk groups
- Meningococcal ACWY (Nimenrix) –Certain at risk groups
- *Haemophilusinfluenzae* type b (Act-HIB) –Certain at risk groups
- HepatitisA–Aboriginal children ONLY in NT, WA, SA and QLD

NSW GOVERNMENT

Overview of changes in vaccine recommendations and NIP-funded doses from July 2020

Disease	Specific vaccine	Non-Indigenous older adults without pneumo-coccal risk conditions	People with some medical at risk conditions			Aboriginal and Torres Strait Islander people		
			Complement deficiency/ eculizumab treatment	Functional or anatomical asplenia	Pneumococcal at risk medical conditions	Infants (with catch-up for age <2 years)	Young children in NT, Qld, SA, WA	Age ≥50 years
Pneumococcal	13vPCV	New recommendation NIP-funded		New recommendation NIP-funded	**New single list** New recommendation NIP-funded for some conditions		New recommendation NIP-funded	New recommendation NIP-funded
	23vPPV	No longer recommended						
Meningococcal	MenB		Newly NIP-funded	Newly NIP-funded		Newly NIP-funded		
	MenACWY							
Hib (if required)	Hib vaccine (if required)			Newly NIP-funded				
Hepatitis A	HepA vaccine						Schedule point change	

NSW GOVERNMENT

Pneumococcal Changes

Pneumococcal Changes

- List of at risk conditions condensed into 1 list i.e. there is no longer category A and category B lists
- All conditions are recommended to receive pneumococcal vaccination but it is only funded for some
- Now limited to 2 lifetime doses of Pneumovax 23

List. Updated list of risk conditions for pneumococcal vaccine recommendations and their eligibility for funding under the national immunisation program (NIP)

Risk condition	Eligibility for NIP funding	
	<5 years of age	≥5 years of age
Previous episode of invasive pneumococcal disease	✓	✓
Functional or anatomical asplenia, including		
– sickle cell disease or other haemoglobinopathies	✓	✓
– congenital or acquired asplenia (for example, splenectomy) or hyposplenia	✓	✓
Immunocompromising conditions, including		
– congenital or acquired immune deficiency, including symptomatic IgG subclass or isolated IgA deficiency	✓	✓
– haematological malignancies	✓	✓
– solid organ transplant	✓	✓
– haematopoietic stem cell transplant	✓	✓
– HIV infection	✓	✓
– immunosuppressive therapy, where sufficient immune reconstitution for vaccine response is expected; this includes those with underlying conditions requiring but not yet receiving immunosuppressive therapy		
– non-haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)		
Proven or presumptive cerebrospinal fluid (CSF) leak, including		
– cochlear implants	✓	✓
– intracranial shunts	✓	✓
Chronic respiratory disease, including¶		
– suppurative lung disease, bronchiectasis and cystic fibrosis	✓	✓
– chronic lung disease in preterm infants	✓	✓
– chronic obstructive pulmonary disease (COPD) and chronic emphysema		
– severe asthma (defined as requiring frequent hospital visits or the use of multiple medications)		
– interstitial and fibrotic lung disease		
Chronic renal disease		
– relapsing or persistent nephrotic syndrome	✓	✓
– chronic renal impairment – eGFR <30 mL/min (stage 4 or 5 disease)	✓*	✓*
Cardiac disease, including¶		
– congenital heart disease	✓	
– coronary artery disease	✓	
– heart failure	✓	
Children born less than 28 weeks gestation	✓	
Trisomy 21	✓	
Chronic liver disease, including¶		
– chronic hepatitis		
– cirrhosis		
– biliary atresia		
Diabetes		
Smoking (current or in the immediate past)		
Harmful use of alcohol (Defined as consuming on average ≥60 g of alcohol (6 Australian standard drinks) per day for males and ≥40 g of alcohol (4 Australian standard drinks) per day for females)		

* Funded under the NIP for eGFR <15 mL/min only (including patients on dialysis)
¶ Individual conditions listed beneath or those that are similar based on clinical judgment

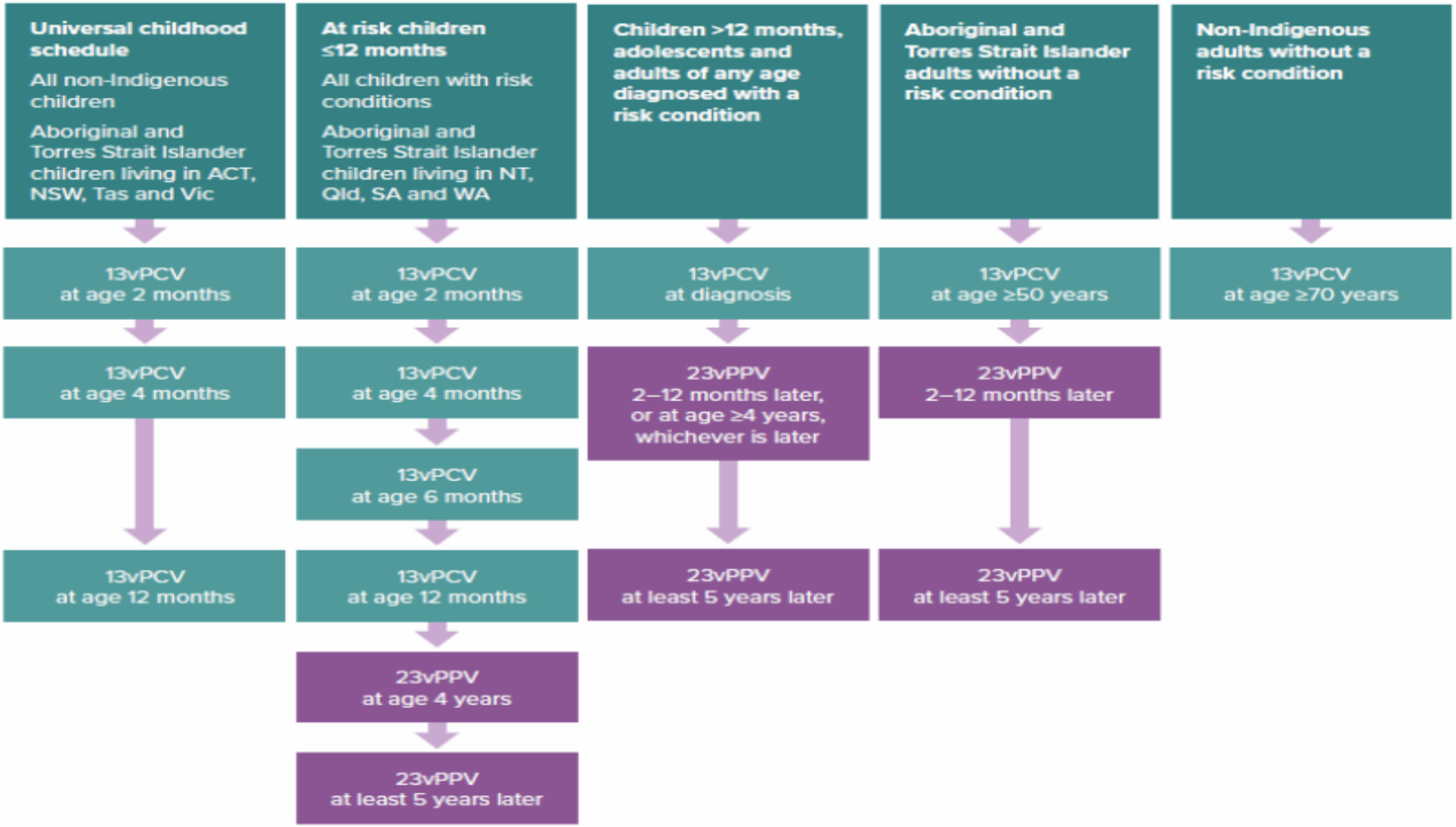
Note: All children and adults with above conditions are recommended to receive additional pneumococcal vaccine doses but they are funded under the NIP for those with the shaded conditions

NSW GOVERNMENT

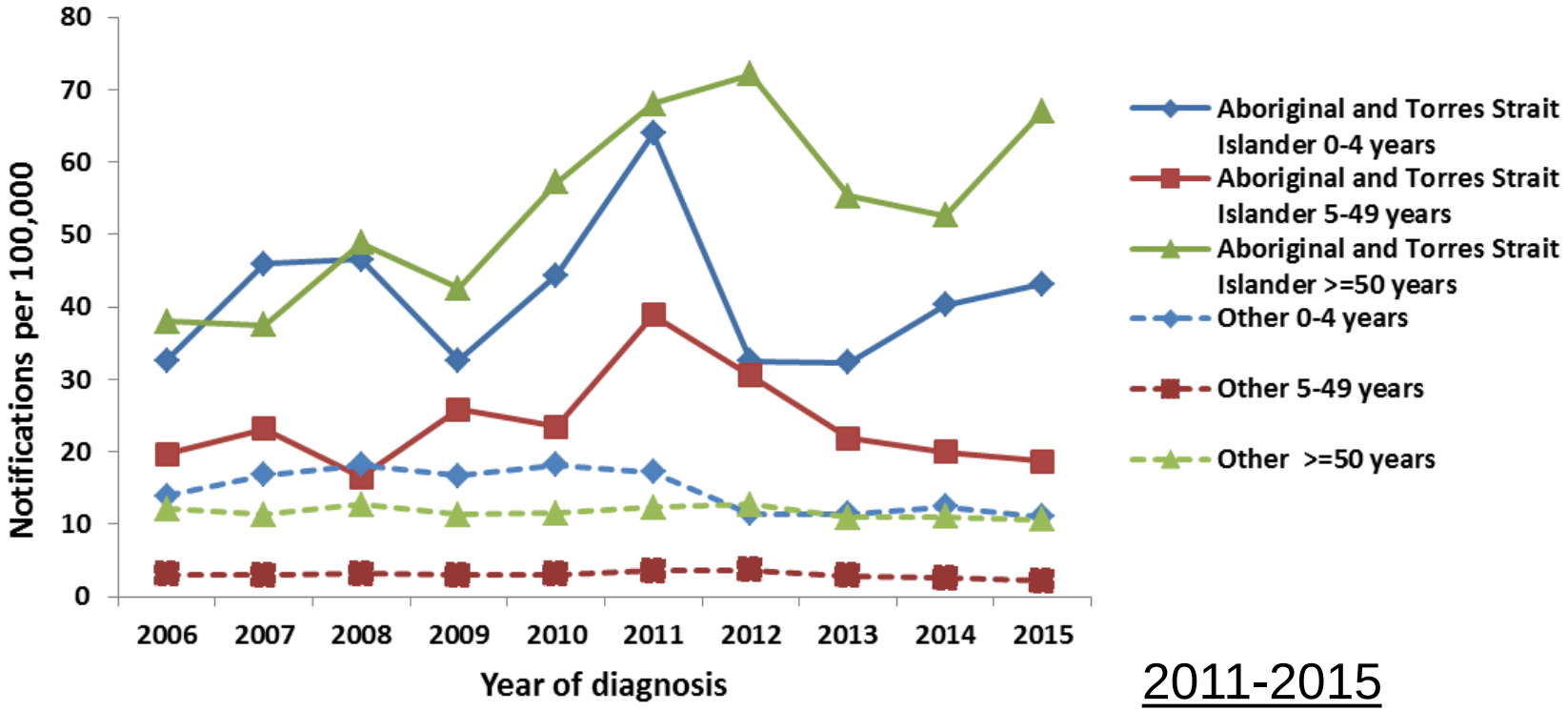
New chart

Figure 1. NIP funded pneumococcal vaccine schedule from 1 July 2020

The list of risk conditions is set out in **Table 1** over the page. Some of these conditions are eligible for NIP funded doses of pneumococcal vaccine.



Invasive pneumococcal disease notifications by age and Indigenous status, Australia, 2006-2015



2011-2015

- 3x higher in <5yrs
- 10x higher in 5-49yrs
- 6x higher in ≥50yrs

NSW GOVERNMENT

Medical conditions associated with increased risk of pneumococcal disease[1,2]

Prevenar 13 recommended and NIP-funded (at diagnosis)[1,2]

Previous episode of IPD

Proven or presumptive CSF leak, including:
- Cochlear implants
- Intracranial shunts

Functional or anatomical asplenia, including:
- Sickle cell disease or other haemoglobinopathies
- Congenital / acquired asplenia (for e.g. splenectomy) or hyposplenia

Selected chronic respiratory disease, including:
- Suppurative lung disease, bronchiectasis and cystic fibrosis
- Chronic lung disease in preterm infants

Other chronic respiratory disease where Prevenar 13 is recommended but only available on private script including:
- *COPD and chronic emphysema*
- *Severe asthma requiring frequent hospital visits or the use of multiple medications*
- *Interstitial and fibrotic lung disease*

Immunocompromising conditions, including:
- Congenital or acquired immune deficiency (including symptomatic IgG subclass or isolated IgA deficiency)
- Haematological malignancies
- Solid organ transplant
- Haematopoietic stem cell transplant (>1 dose is needed)
- HIV infection

Chronic renal disease, including:
- Relapsing or persistent nephrotic syndrome
- Chronic renal impairment – eGFR <15 mL/min, including patients on dialysis (stage 5 disease)

Prevenar 13 recommended and NIP-funded for children <5 years of age only (at diagnosis)[1,2]

Cardiac disease, including:
- Congenital heart disease
- Coronary artery disease
- Heart failure

Children born less than 28 weeks gestation

Trisomy 21

All patients with these medical conditions should receive a 23vPPV dose 2-12 months after Prevenar 13, or at 4 years of age, whichever is later. A second dose of 23vPPV should be given 5-10 years later (two lifetime doses of 23vPPV).[2]

Recommendations and NIP funding status applies to both 13vPCV and 23vPPV.[2]

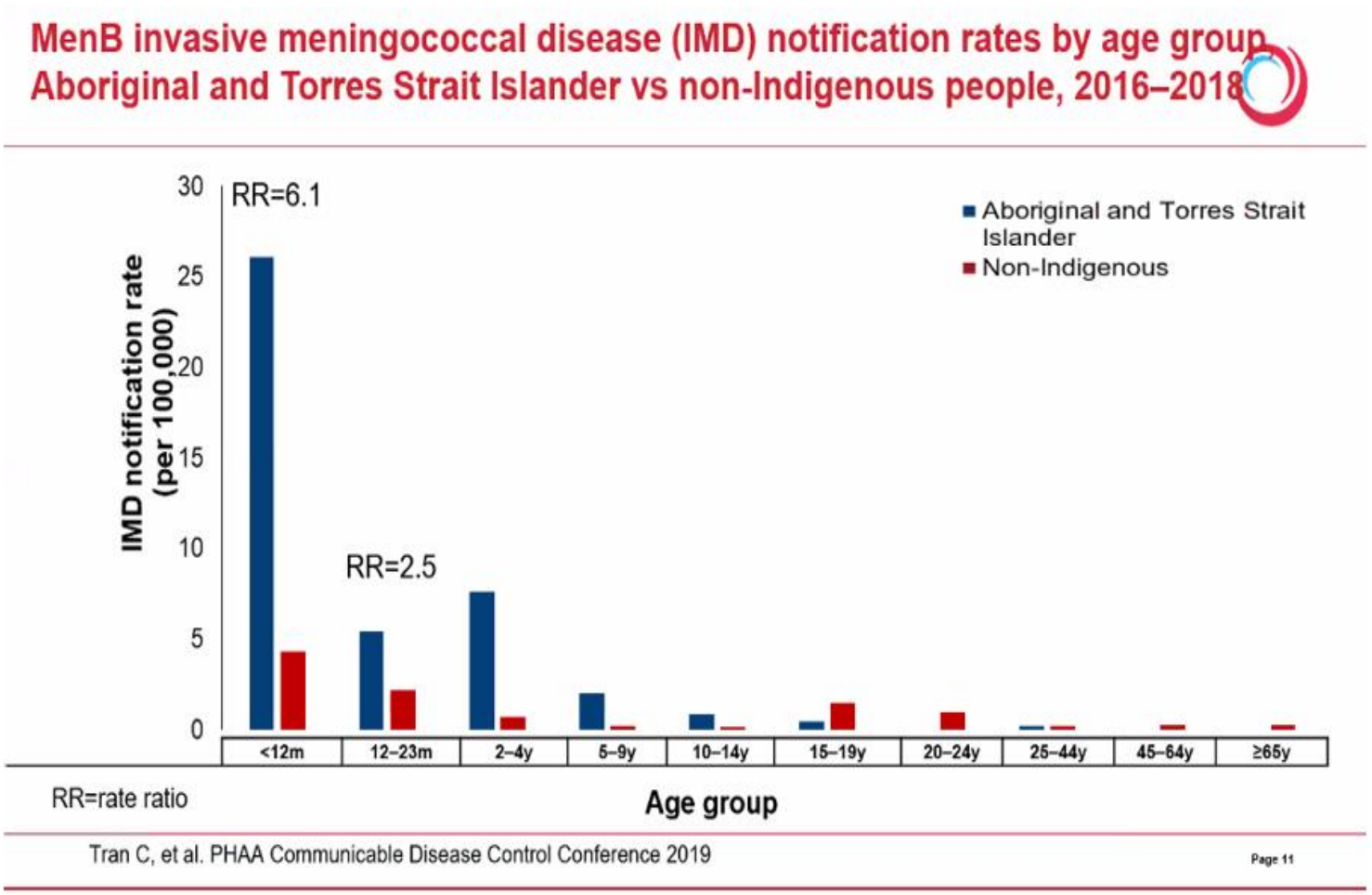
Full details of the recommendations including a full list of risk conditions where pneumococcal vaccines are recommended but available on private script are shown in the Australian Immunisation Handbook.[3]

NSW GOVERNMENT

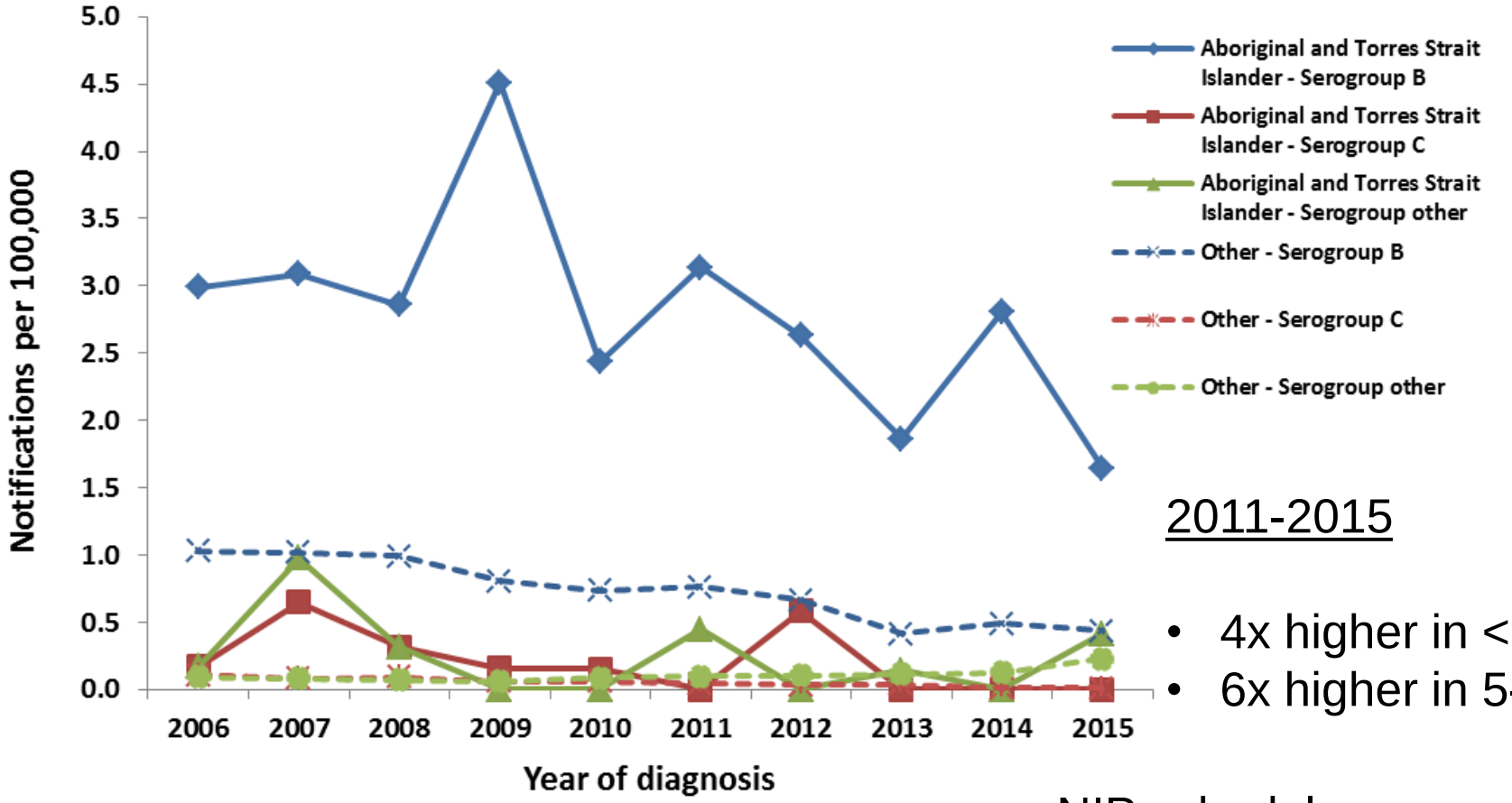
Meningococcal B –Aboriginal children

- Bexsero will now be included on the routine childhood schedule for Aboriginal children at 6 weeks, 4 months and 12 months
- Catch up funded for children <2 years of age until 30 June 2023, number of doses required is age specific, see online Australian Immunisationhandbook for age appropriate course
- Paracetamol is recommended for children less than 2 years of age prior to and post vaccination
- Not included in “up to date” calculations for purposes of payments i.e. “No Jab, No Pay”

Men B Increased risk



Meningococcal disease notification rates (all ages) by serogroup & Indigenous status, Australia, 2006-2015



2011-2015

- 4x higher in <5yrs
- 6x higher in 5-14yrs

NIP schedule gaps:

- Men ACWY gap 5-14yrs

NSW GOVERNMENT

Meningococcal B –At risk groups

- People with the following at risk conditions are now funded to receive Meningococcal B (Bexsero) vaccine

- Asplenia / Hyposplenia
- Complement deficiency
- Treatment with Eculizumab

Additional doses

Meningococcal B vaccine for Aboriginal and Torres Strait Islander children

No changes to handbook recommendations, but new NIP funding for MenB vaccine:

- Meningococcal B vaccine (Bexsero®) will be NIP funded for Aboriginal and Torres Strait Islander infants.
  - 2, 4 and 12 months of age with no medical risk conditions (3 doses)
  - 2, 4, 6 and 12 months of age with risk conditions for IMD (4 doses)

List 1. Risk conditions for invasive meningococcal disease that are eligible for both MenACWY and MenB NIP-funded* vaccines

- Defects in, or deficiency of, complement components, including factor H, factor D or properdin deficiency
- Current or future treatment with eculizumab (a monoclonal antibody directed against complement component C5)
- Functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies, and congenital or acquired asplenia

* Please refer to The Australian Immunisation Handbook available at immunisationhandbook.health.gov.au for advice on persons who are strongly recommended to receive meningococcal vaccination but not eligible for NIP funded MenB and MenACWY vaccines

NSW GOVERNMENT

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Meningococcal B Vaccine and Meningococcal Carriage in Adolescents in Australia

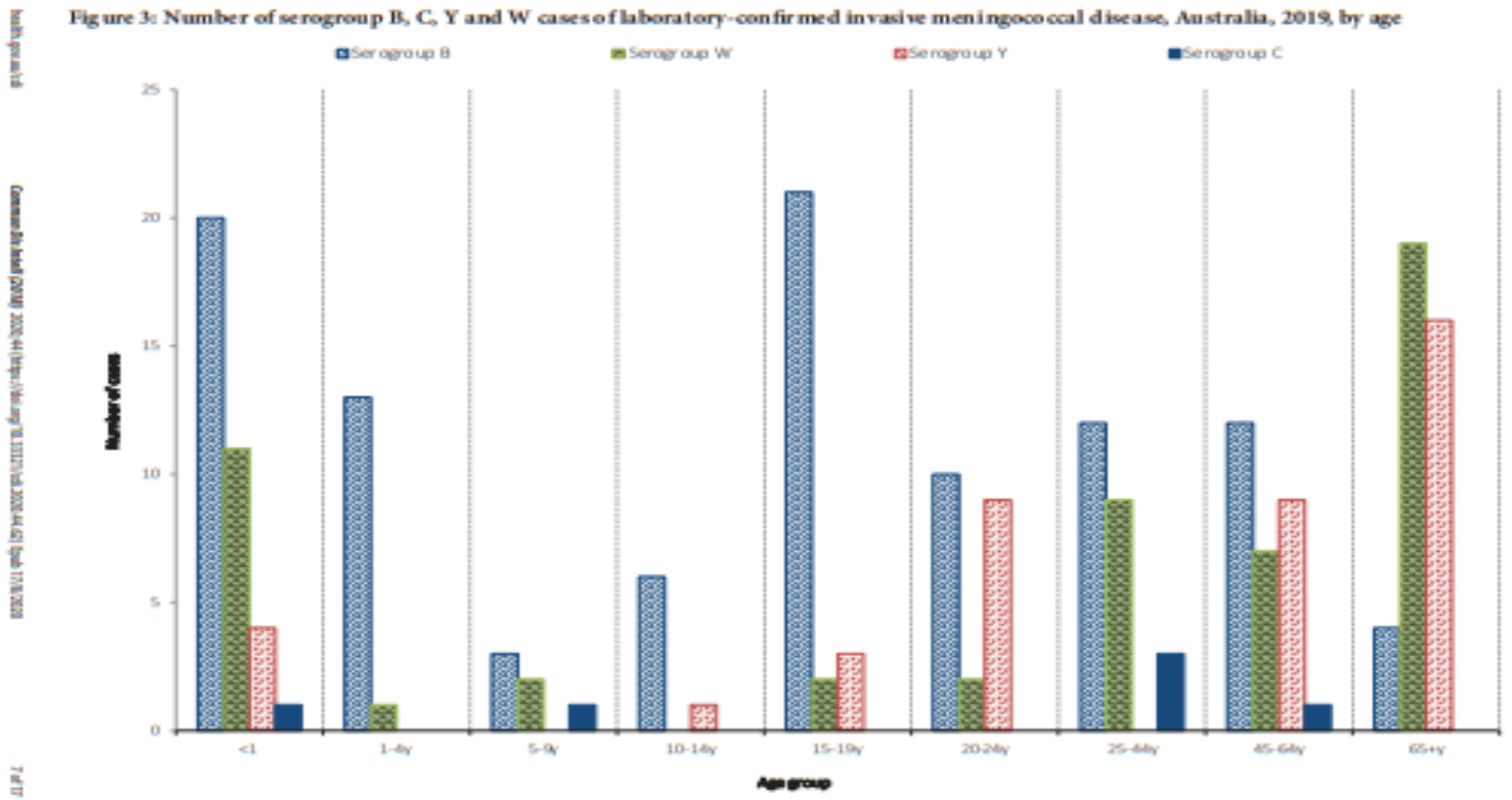
Helen S. Marshall, M.D., Mark McMillan, M.Clin.Sc., Ann P. Koehler, F.R.C.P.A., Andrew Lawrence, M.Sc., Thomas R. Sullivan, Ph.D., Jenny M. MacLennan, M.R.C.P., Martin C.J. Maiden, F.R.C.Path., Shamez N. Ladhani, M.R.C.P.C.H.(U.K.), Ph.D., Mary E. Ramsay, F.F.P.H., Caroline Trotter, Ph.D., Ray Borrow, F.R.C.Path., Ph.D., Adam Finn, Ph.D., Charlene M. Kahler, Ph.D., Jane Whelan, Ph.D., Kumaran Vadivelu, M.B., B.S., and Peter Richmond, F.R.A.C.P.

CONCLUSIONS

Among Australian adolescents, the 4CMenB vaccine had no discernible effect on the carriage of disease-causing meningococci, including group B. (Funded by GlaxoSmith-Kline; ClinicalTrials.gov number, NCT03089086.)

NSW GOVERNMENT

CDI 2019



https://www1.health.gov.au/internet/main/publishing.nsf/Content/AD2DF748753AFDE1CA2584E2008009BA/$File/australian_meningococcal_surveillance_programme_annual_report_2019.pdf

NSW GOVERNMENT

MenB

Table 2: Number of laboratory-confirmed cases of invasive meningococcal disease, Australia, 2019, by state or territory and serogroup

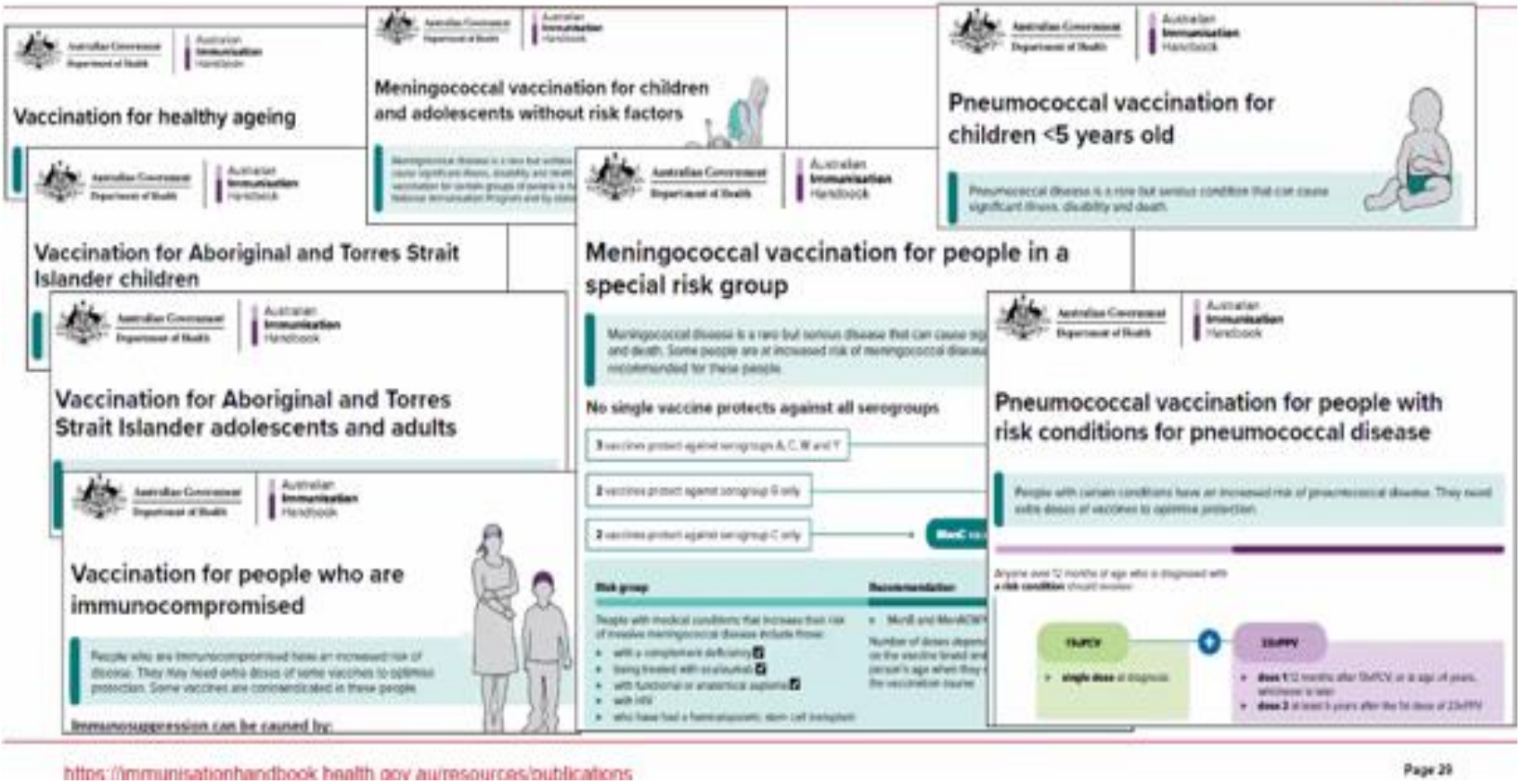
State/ territory	Serogroups				
	B	C	Y	W	Total
ACT	1	0	0	0	1
NSW	34	0	14	10	58
NT	1	0	0	6	7
Qld	18	0	18	9	45
SA	18	0	4	3	25
Tas	5	0	0	2	7
Vic	16	0	4	14	34
WA	8	6	2	9	25
Australia	**101**	**6**	**42**	**53**	**202**
	50.0	3.0	20.8	26.2	%

https://www1.health.gov.au/internet/main/publishing.nsf/Content/AD2DF748753AFDE1CA2584E2008009BA/$File/australian_meningococcal_surveillance_programme_annual_report_2019.pdf

NSW GOVERNMENT

Handbook

Handbook recommendations infographics



Viewpoint

October 7, 2019

Adolescent Consent to Vaccination in the Age of Vaccine-Hesitant Parents

Y. Tony Yang, ScD, LLM, MPH[1,2]; Robert S. Olick, JD, PhD[3]; Jana Shaw, MD, MPH[4]

» Author Affiliations

JAMA Pediatr. 2019;173(12):1123-1124. doi:10.1001/jamapediatrics.2019.3330

The power of social media took Ethan Lindenberger for a ride, where he presented at a Senate hearing, influenced businesses, and was even invited for a TED talk. His Reddit post motivated Amazon's removal of misinformed books about autism and vaccines from its e-commerce website and GoFundMe canceling the anti-vax campaigns on its platform.

Coming from a very sincere place, Nathan's message during his talk on vaccines is that "people resonate with people" and not the data -- that we can share and grow from personal stories.

Insta

Instagram

Search

Log In Sign U

j_lindenberger Follow

90 posts 1,233 followers 273 following

Ethan Lindenberger

Pro-science advocate | Ted talk speaker | TIME next generation leader | "...one of our country's most important vaccine advocates" -Jerome Adams, MD

unity4teenvax.org

TED talk

Claifornia

Full frontal

MSNBC @MSNBC

Sen. Isakson: Does your mother get most of her info online?

Ethan Lindenberger, 18-year-old who got vaccinated against his mom's wishes: "Yes... Mainly Facebook."

Isakson: Where do you get your info?

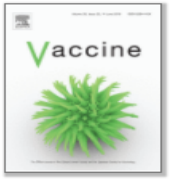
Lindenberger: "Not Facebook. CDC, the World Health Org...accredited sources."

4:40 AM · Mar 6, 2019

"Approaching this issue with the concern of education and addressing misinformation properly can cause change, as it did for me," 18-year-old Ethan Lindenberger said while testifying before the Senate Health, Education, Labor and Pensions Committee on Tuesday. "Although the debate around vaccines is not necessarily centered around information, and concerns for health and safety, this is why education is so important, and also why misinformation is so dangerous."

NSW GOVERNMENT

Vaccine
Volume 36, Issue 25, 14 June 2018, Pages 3606-3612



Polarization of the vaccination debate on Facebook

Ana Lucía Schmidt [a], Fabiana Zollo [a], Antonio Scala [b], Cornelia Betsch [c], Walter Quattrociocchi [a]

Show more

https://doi.org/10.1016/j.vaccine.2018.05.040

Get rights and content

We
with

n of 2.6 M users
nonths.

Results

Our findings show that the consumption of content about vaccines is dominated by the echo chamber effect and that polarization increased over the years. Well-segregated communities emerge from the users' consumption habits i.e., the majority of users consume information in favor or against vaccines, not both.

Cochrane Library

Cochrane Database of Systematic Reviews

Improving vaccination uptake among adolescents (Review)

Abdullahi LH, Kagina BM, Ndze VN, Hussey GD, Wiysonge CS

SUMMARY OF FINDINGS

Summary of findings for the main comparison. Health education compared to usual practice

Comparison 1: health education compared to usual practice

Population: adolescents and parents
Setting: Sweden and USA
intervention: health education
Comparison: usual practice

Outcomes	Impact				№ of participants (studies)	Certainty of the evidence (GRADE)**
	Absolute effects* (95% CI)		Relative effect (95% CI)	Narrative results		
	With usual practice	With health education				
Uptake of HPV vaccine[a]	209 per 1000	298 per 1000 (242 to 367)	**RR 1.43** (1.16 to 1.76)	Health education improves uptake of HPV vaccine compared to usual practice.	1054 (3)[b]	⊕⊕⊕⊕ **High**[c,d,e]

CI: confidence interval; **HPV:** human papillomavirus; **RR:** risk ratio.

***The anticipated absolute effect in the intervention group** (and its 95% confidence interval) is based on the assumed likelihood of being vaccinated in the usual care group and the **relative effect** of the intervention (and its 95% CI).

Cochrane Library
Trusted evidence.
Informed decisions.
Better health.

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Improving vaccination uptake among adolescents (Review)

Abdullahi LH, Kagina BM, Ndze VN, Hussey GD, Wiysonge CS

What were the main results of the review?

The review authors found 16 relevant studies. Twelve of the studies were from the USA. The other studies were one each from Australia, Sweden, Tanzania, and the UK. These studies showed the following.

When adolescents (girl or boys, or both) and their parents were given vaccination information and education, more adolescents got HPV vaccines (high-certainty evidence).

When adolescents were given gift vouchers, more adolescents may have got HPV vaccines (low-quality evidence). However, we were uncertain whether giving adolescents and their parents health education, cash, and gift packages led to more adolescents getting hepatitis B vaccines (very low certainty evidence).

When laws were passed stating that adolescents must be vaccinated to go to school, substantially more adolescents probably got hepatitis B vaccines (moderate-certainty evidence).

When healthcare providers were reminded to vaccinate adolescents when they opened their electronic medical charts, this probably had little or no effect on the number of adolescents who got tetanus–diphtheria–pertussis, meningococcal, HPV, or influenza vaccines (moderate-certainty evidence).

When healthcare providers were given education with performance feedback, more adolescents may have got HPV vaccines (low-certainty evidence).

When healthcare providers were given education, individualised feedback, frequent visits, and incentives, more adolescents probably got HPV vaccines (moderate-certainty evidence).

When healthcare providers and parents were targeted in several ways, including through education, telephone calls, and radio messages, more adolescents may have got HPV vaccines (low-certainty evidence).

These studies compared the use of these approaches (health education, gifts and rewards, laws, or reminders) to using no approaches.

In addition, one study from Tanzania gave vaccination information to all girls that were in school class six but were not necessarily of the same age. They were compared to girls who were given vaccination information because they were all born in the same year, but were not necessarily in the same class. This study showed that the class-based approach probably led to slightly more girls getting HPV vaccines (moderate-certainty evidence).

How up-to-date is this review?

The review authors searched for studies that had been published up to 31 October 2018.

Good School Immunisation Program

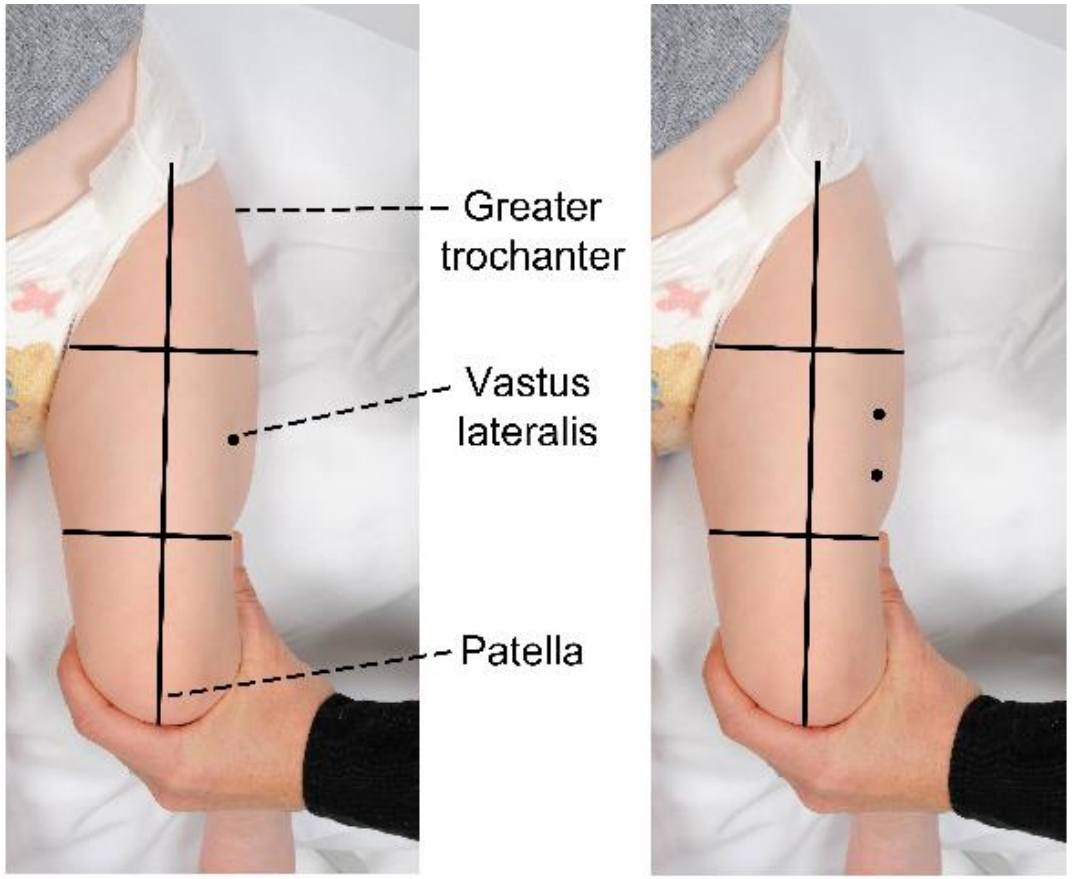
- Education of students about HPV and HPV vaccination prior to vaccination day;
- Vaccinating adolescents in the morning so that they are not waiting all day;
- Use of privacy screens during vaccination;
- Bringing adolescents to the vaccination area in small groups to avoid extended waiting times;
- Having a separate entrance and exit point so that vaccinated adolescents
- Distraction techniques such as iPod use while waiting for vaccination, and relaxation techniques such as breathing exercises learned prior to vaccination day,

NSW GOVERNMENT

BMC Public Health **volume 15**, Article number: 896 (2015)

Recommended injection sites by age

Infants < 12-months



Do not inject into the anterior aspect of the thigh as underlying structures may be damaged.

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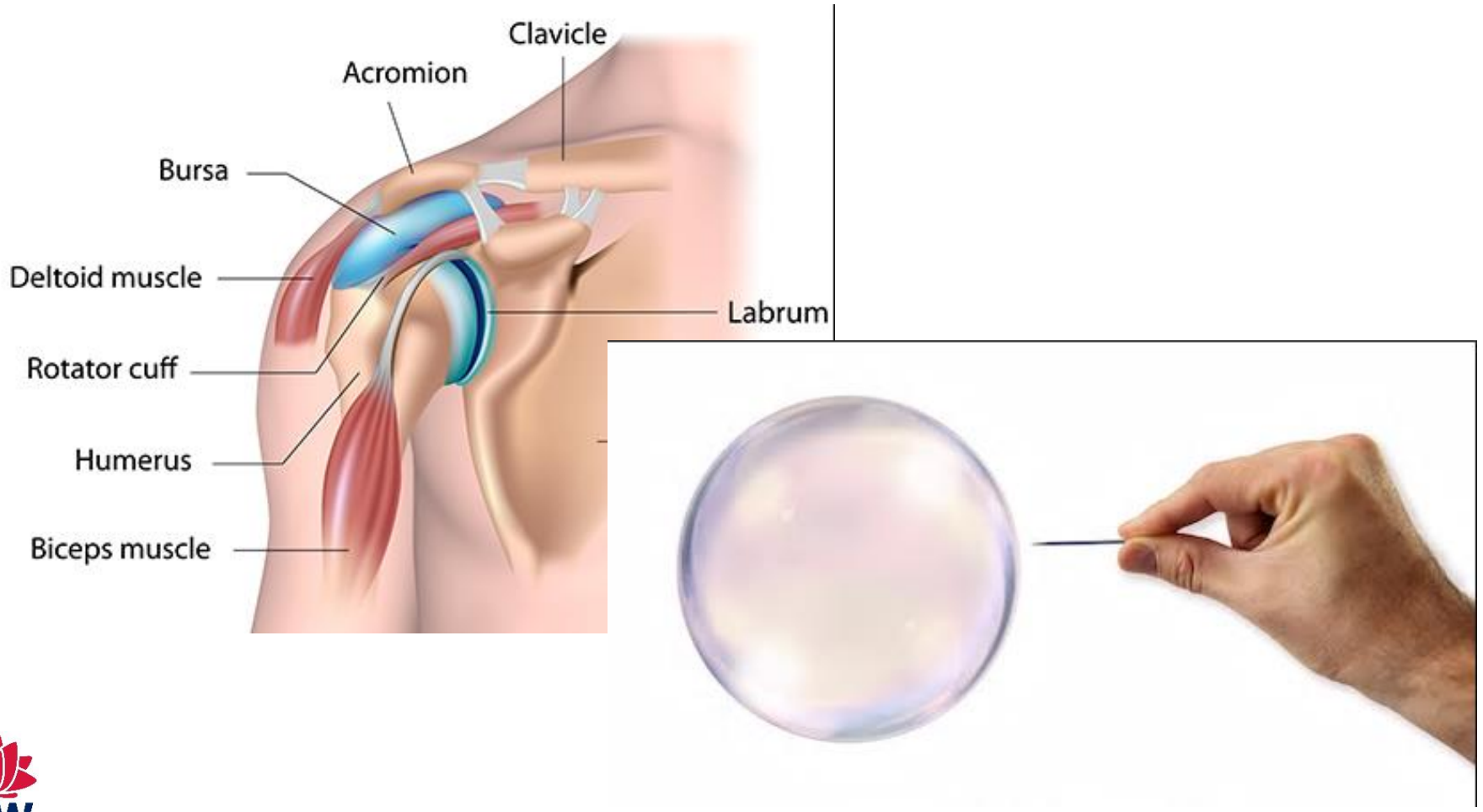
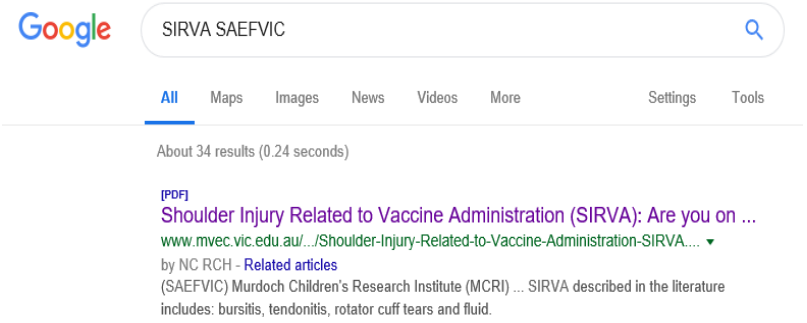
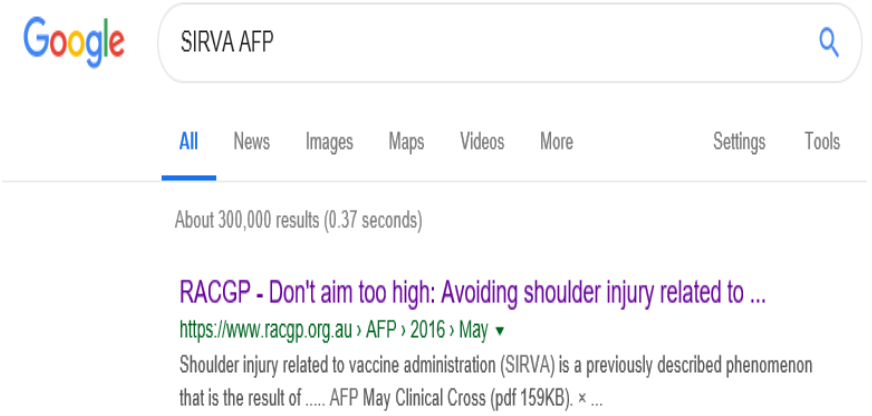
Shoulder injury related to vaccine administration (SIRVA)



NSW GOVERNMENT

References





Melbourne VACCINE EDUCATION Centre

Shoulder Injury Related to Vaccine Administration (SIRVA): Are you on Target? – A SAEFVIC Case Series

Department of Health Newsletter: October 2017

Author: Mel Addison Surveillance of Adverse Events Following Vaccination in the Community (SAEFVIC) Murdoch Children's Research Institute (MCRI)

Acknowledgements: Georgina Lewis (SAEFVIC), Alissa McMinn (SAEFVIC), Dr Jim Buttery (MMC) & Dr Nigel Crawford (RCH)

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Papa Bear

Injection technique: TOO HIGH

Mumma Bear

Injection technique: TOO LOW

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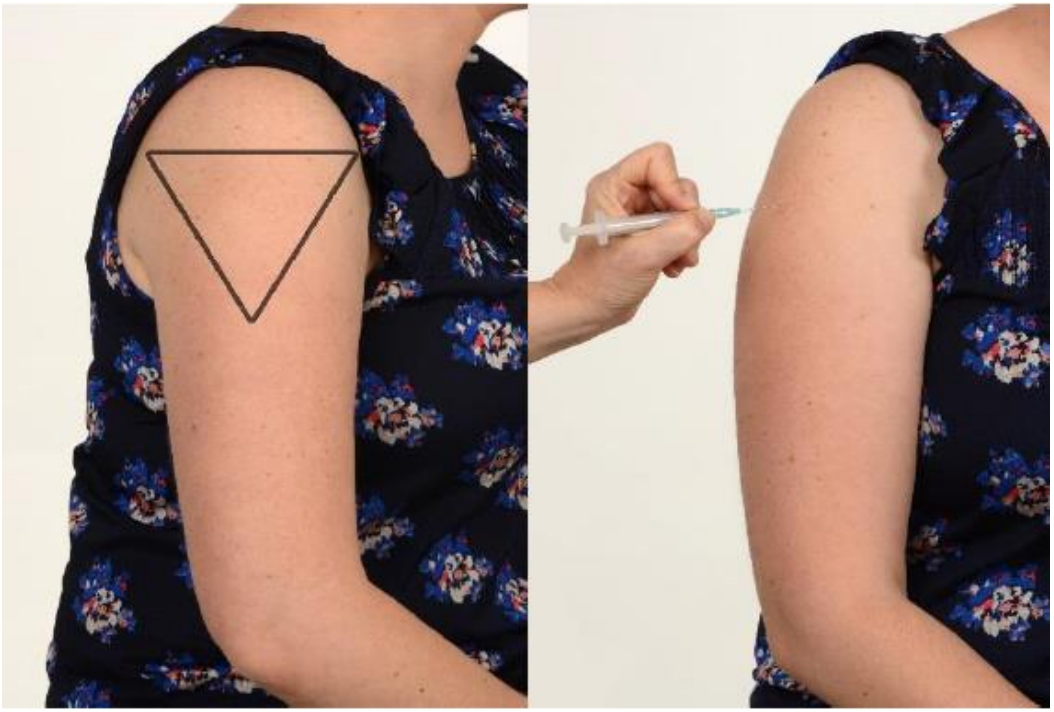
Goldilocks



Injection technique: CORRECT!

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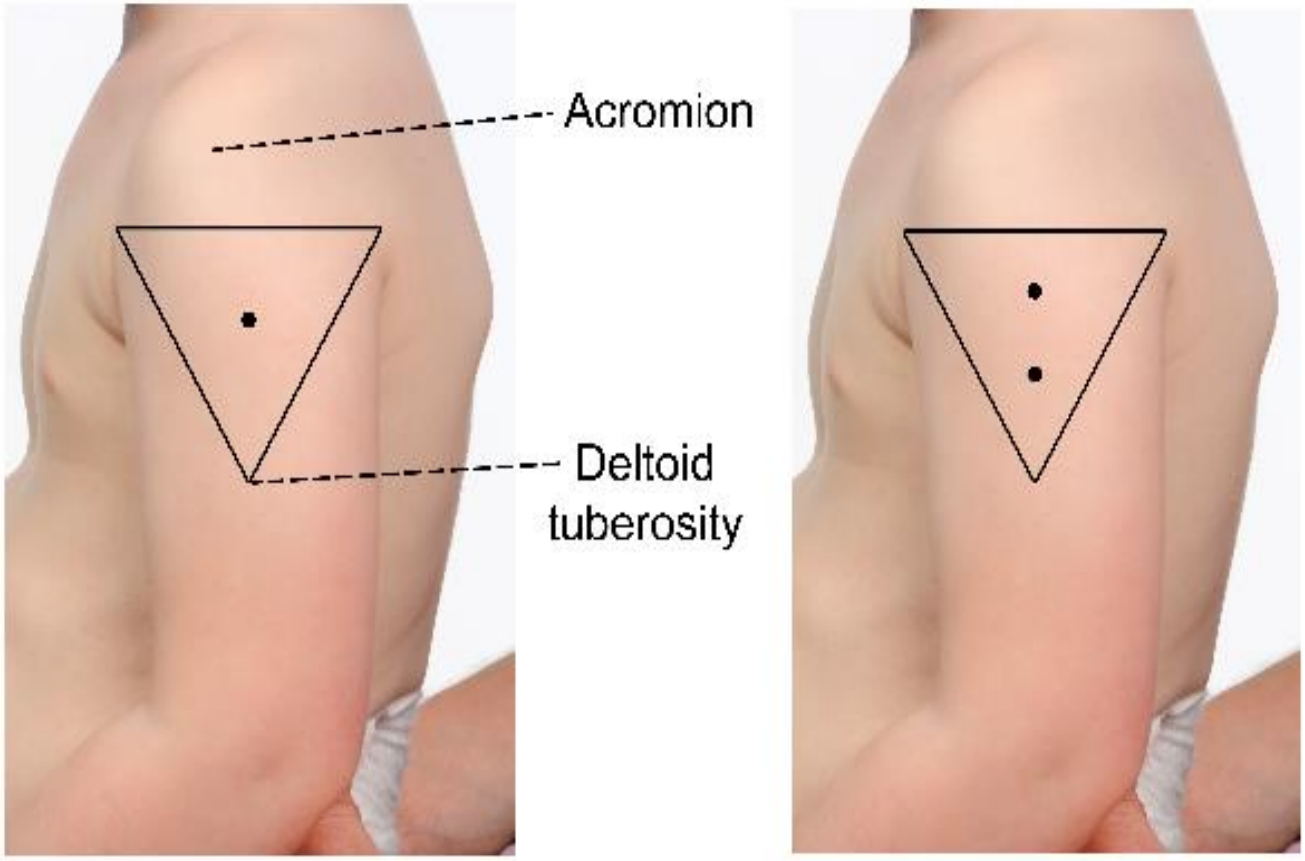
Superhero

Children ≥ 12-months of age, adolescents and adults

More than one vaccine can be given into the deltoid muscle ensuring each vaccine is separated by 2.5cm.



NSW GOVERNMENT

Cervical Cancer

MAY 2018: WHO DIRECTOR-GENERAL'S CALL TO ACTION TO ELIMINATE CERVICAL CANCER

JAN 2019: 144TH WHO EXECUTIVE BOARD

More than 70 countries supported the decision for WHO secretariat to develop a:

Global Strategy towards the Elimination of Cervical Cancer

Photo credit: Chris Black

World Health Organization

Why vaccinate teenagers

(Petersen et al, 2017)

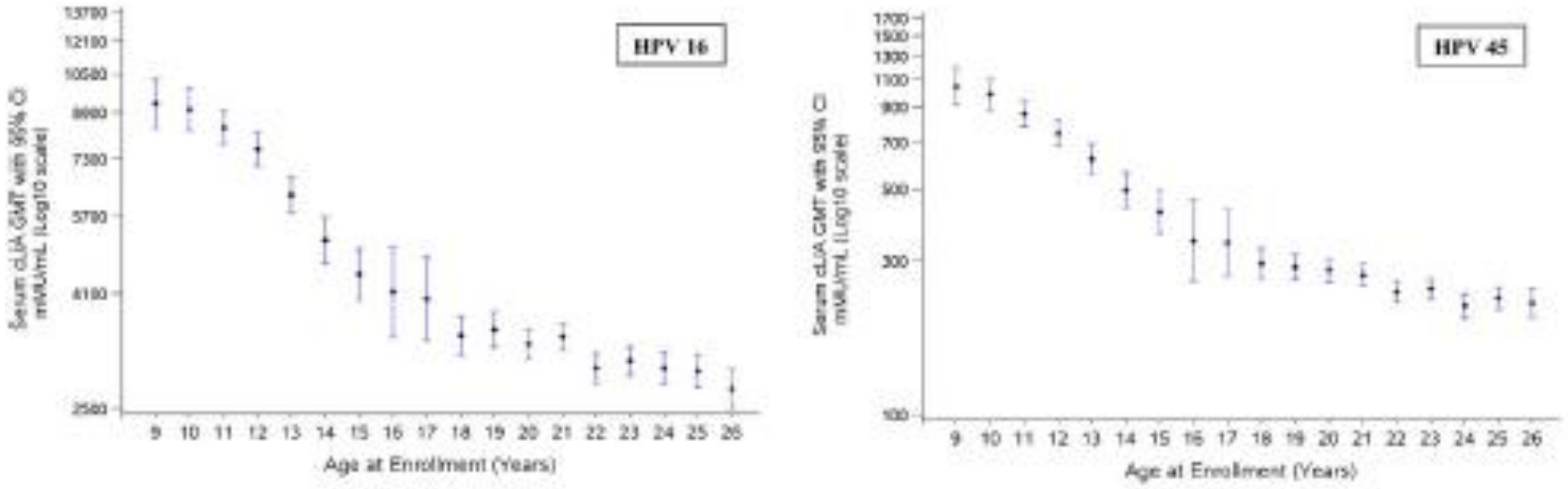


Fig. 1. Plots of month 7 anti-HPV geometric mean titers (GMTs) responses in females to component human papillomavirus (HPV) vaccine types, by age at enrollment. GMTs with associated 95% confidence intervals are presented for the per-protocol immunogenicity population. cLIA, competitive Luminex-based immunoassay; mMU, milli-Merck units.

Papillomavirus Research 3 (2017) 105–115

NSW GOVERNMENT

Danish documentary

HPV vaccine rates Denmark

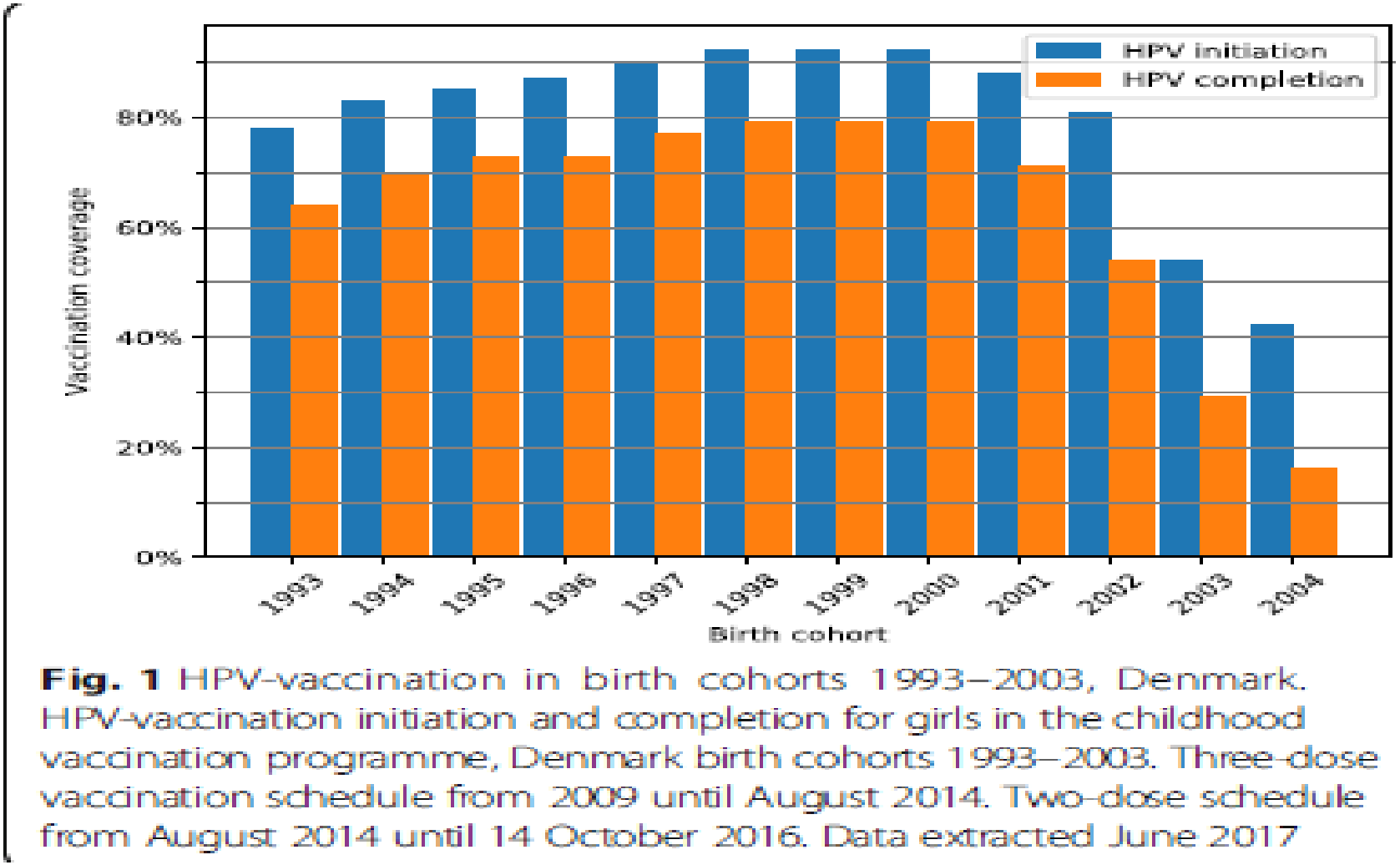


Fig. 1 HPV-vaccination in birth cohorts 1993–2003, Denmark. HPV-vaccination initiation and completion for girls in the childhood vaccination programme, Denmark birth cohorts 1993–2003. Three-dose vaccination schedule from 2009 until August 2014. Two-dose schedule from August 2014 until 14 October 2016. Data extracted June 2017

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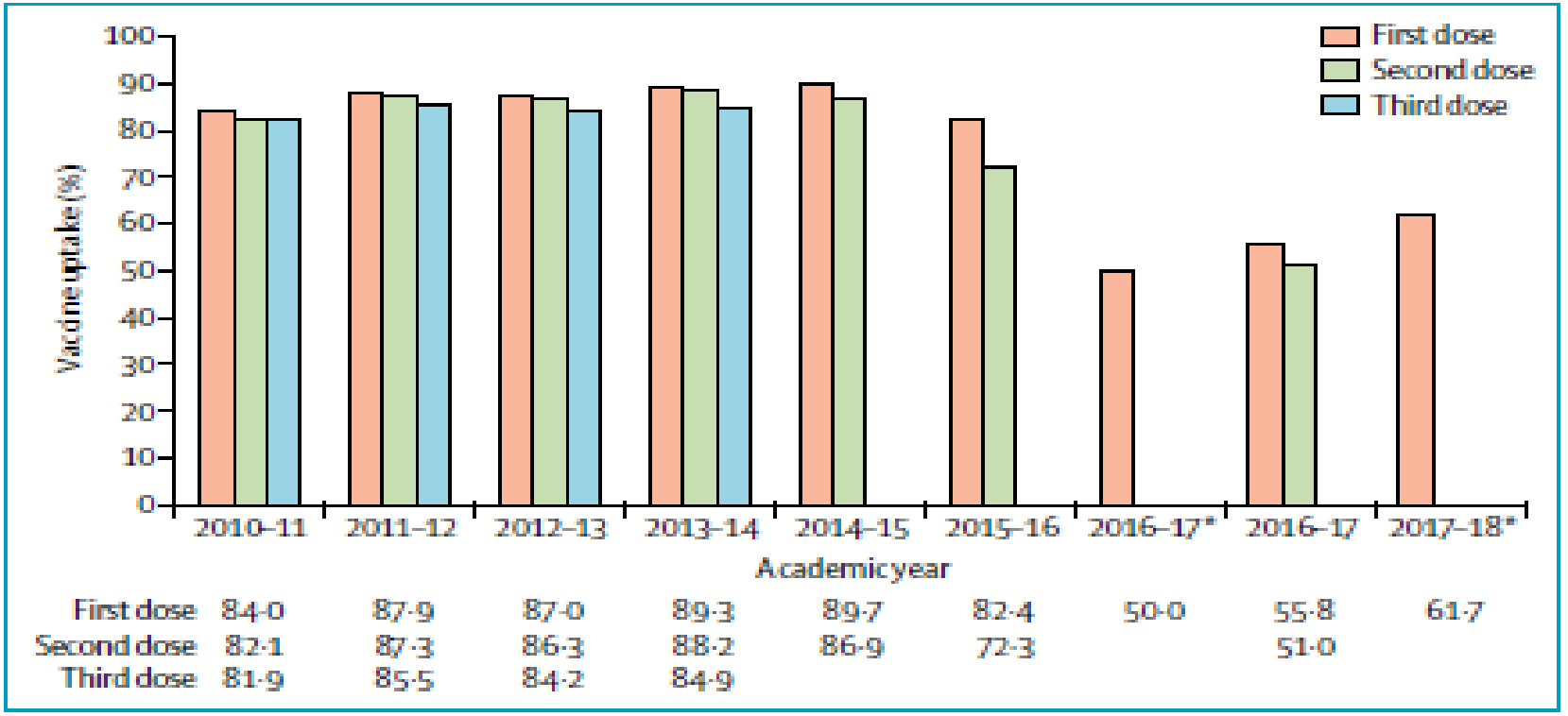
HPV vaccine uptake Ireland



	2010–11	2011–12	2012–13	2013–14	2014–15	2015–16	2016–17*	2016–17	2017–18*
First dose	84·0	87·9	87·0	89·3	89·7	82·4	50·0	55·8	61·7
Second dose	82·1	87·3	86·3	88·2	86·9	72·3		51·0	
Third dose	81·9	85·5	84·2	84·9					

Figure: **HPV vaccine uptake by academic year in Ireland, from 2010–11 to 2017–18**
Data are the proportion of girls aged 12–13 years who were given the first, second, and third doses of vaccine (the dosing schedule for the vaccination was changed in 2014–15 from three doses to two doses). Data are from the Irish Health Protection Surveillance Centre.[1] HPV=human papillomavirus. *Data estimated from the Irish National Immunisation Office.

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HPV vaccine rates Sapporo Japan

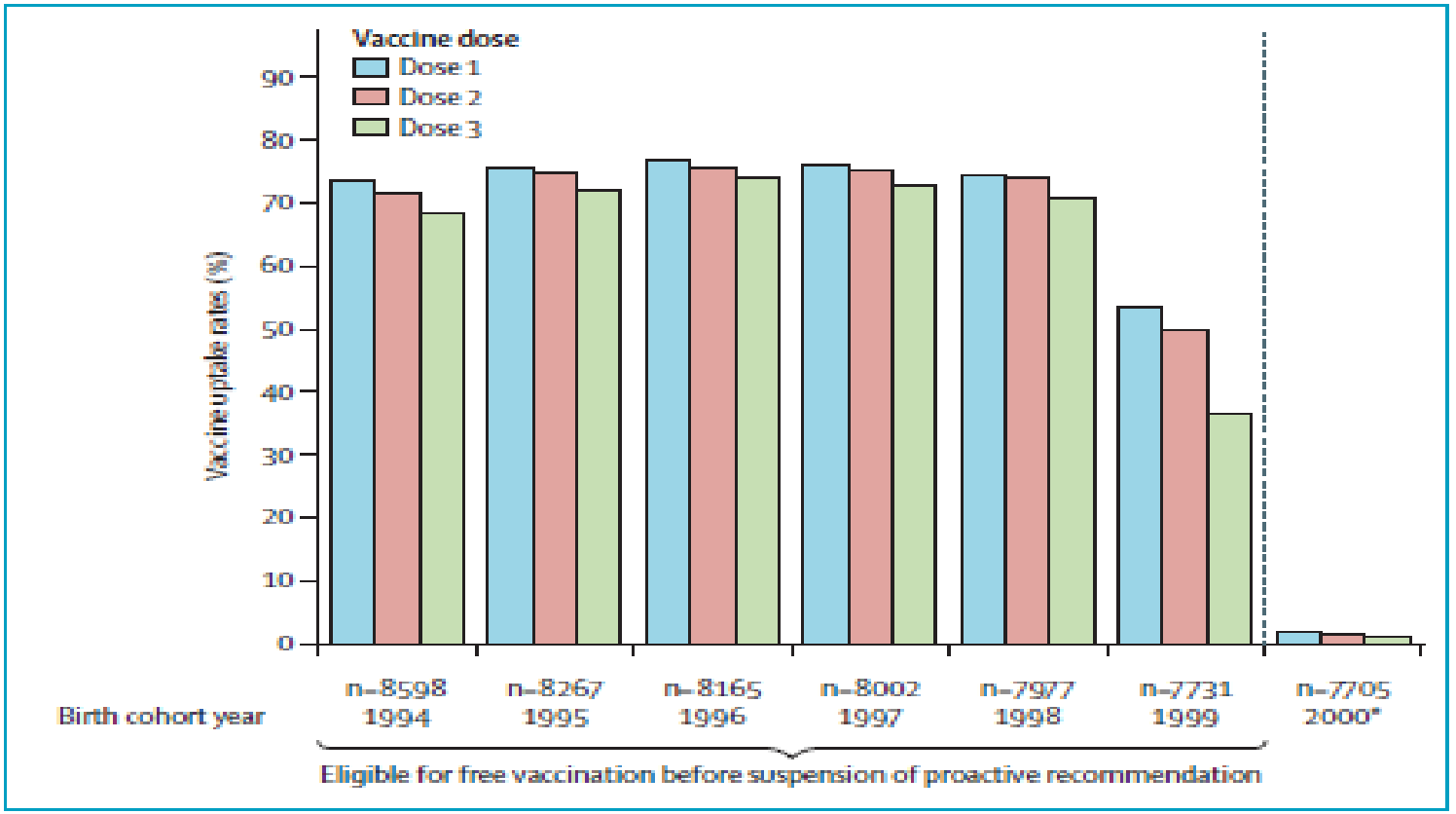

Figure: **Uptake rates for the human papillomavirus vaccine in Sapporo, Japan, as of March, 2014**
Data are from the Department of Infection Control, Sapporo Health Board (Sapporo, Japan). n=number of girls in cohort. *The first birth cohort who were eligible for free vaccination after suspension of proactive recommendation.

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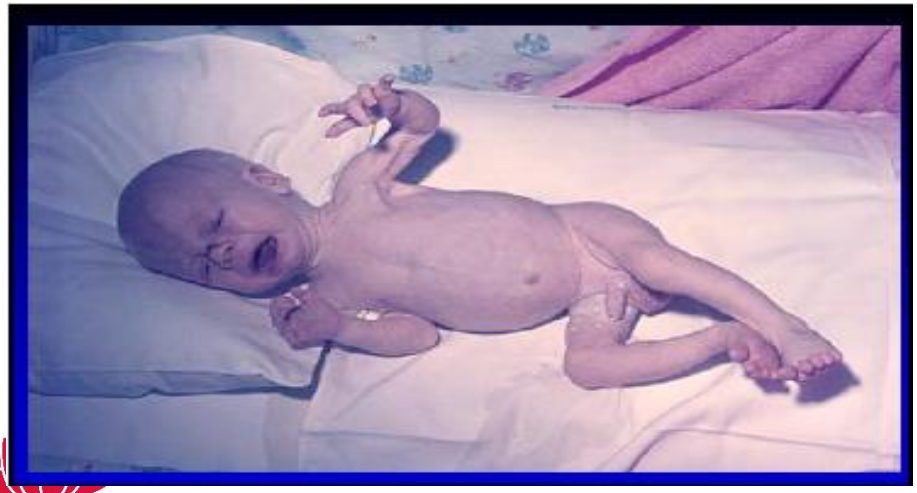
Japan

- 2013 Japan 14 344 cases of confirmed rubella and 32 cases of congenital rubella syndrome
- Dec 2018 – CDC advice for pregnant women not to travel to Japan



NSW GOVERNMENT

Suppli et al. BMC Public Health (2018) 18:1360
https://doi.org/10.1186/s12889-018-6268-x

BMC Public Health

RESEARCH ARTICLE Open Access

Decline in HPV-vaccination uptake in Denmark – the association between HPV-related media coverage and HPV-vaccination

Camilla Hiul Suppli[1*], Niels Dalum Hansen[2], Mette Rasmussen[4], Palle Valentiner-Branth[1], Tyra Grove Krause[1] and Kåre Mølbak[3]

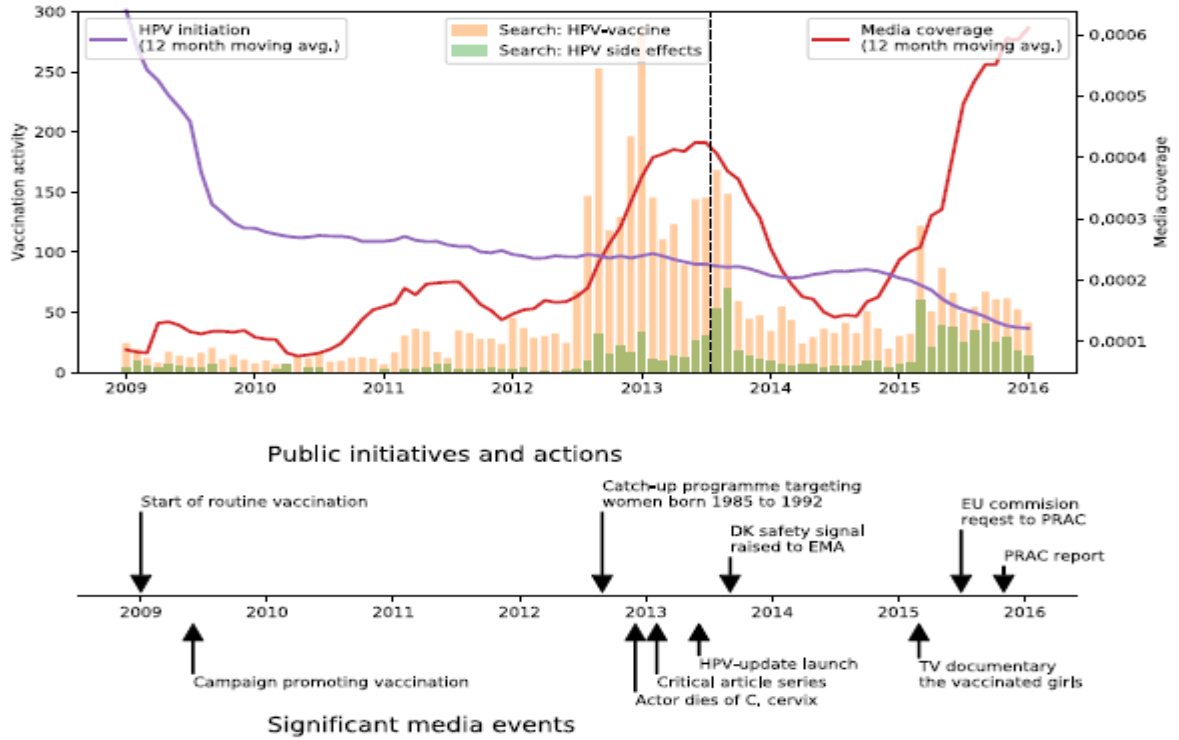


Fig. 2 HPV-vaccination activity, media coverage, Google Health Trends search activity, public initiatives and significant media events, 2009–2016 in Denmark. Monthly HPV-vaccination initiation (HPV1) and media coverage in Denmark 2009–2015. Vaccination activity defined as proportion of vaccinated girls in relation to girls eligible for vaccination. Media coverage in Denmark 2009–2015 define number of HPV-related news items proportional to the total number of news items. Search activity indicates a relative probability for observation the defined search terms service allowing for a relative comparison between the search volume of different searches, though the absolute number of searches is unknown. The timeline in the bottom of the plot shows public initiatives and significant media events regarding the HPV-vaccine in Denmark. The vertical dotted line shows the changing point in the correlation between vaccine activity and media coverage

Contents lists available at ScienceDirect

Papillomavirus Research

journal homepage: www.elsevier.com/locate/pvr

No association between HPV vaccine and reported post-vaccination symptoms in Japanese young women: Results of the Nagoya study

Sadao Suzuki*, Akihiro Hosono

Department of Public Health, Graduate School of Medical Sciences, Nagoya City University, 1 Kawasumi, Mizuho-cho, Mizuho-ku, Nagoya 466–8601, Japan

EUROPEAN MEDICINES AGENCY
SCIENCE MEDICINES HEALTH

5 November 2015
EMA/714950/2015

Review concludes evidence does not support that HPV vaccines cause CRPS or POTS

Reports of CRPS and POTS after HPV vaccination are consistent with what would be expected in this age group

The European Medicines Agency's Pharmacovigilance Risk Assessment Committee (PRAC) has completed a detailed scientific review of the evidence surrounding reports of two syndromes, complex regional pain syndrome (CRPS) and postural orthostatic tachycardia syndrome (POTS) in young women given human papillomavirus (HPV) vaccines. These vaccines are given to protect them from cervical cancer and other HPV-related cancers and pre-cancerous conditions. This review concluded that the evidence does not support a causal link between the vaccines (Cervarix, Gardasil/Silgard and Gardasil-9) and development of CRPS or POTS. Therefore there is no reason to change the way the vaccines are used or amend the current product information.

GOVERNMENT

Suppli et al. BMC Public Health (2018) 18:1360
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Decline in HPV-vaccination uptake in Denmark – the association between HPV-related media coverage and HPV-vaccination

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- Allegations regarding vaccine-related adverse events needs to be dealt with rapidly and effectively to not undermine confidence in the vaccine.
- Managing inaccurate perceptions of vaccination risks is as important as handling scientifically confirmed risks
- From a public trust standpoint, it is advisable to proactively take control of the story by communicating rapidly, accurately and provide transparency

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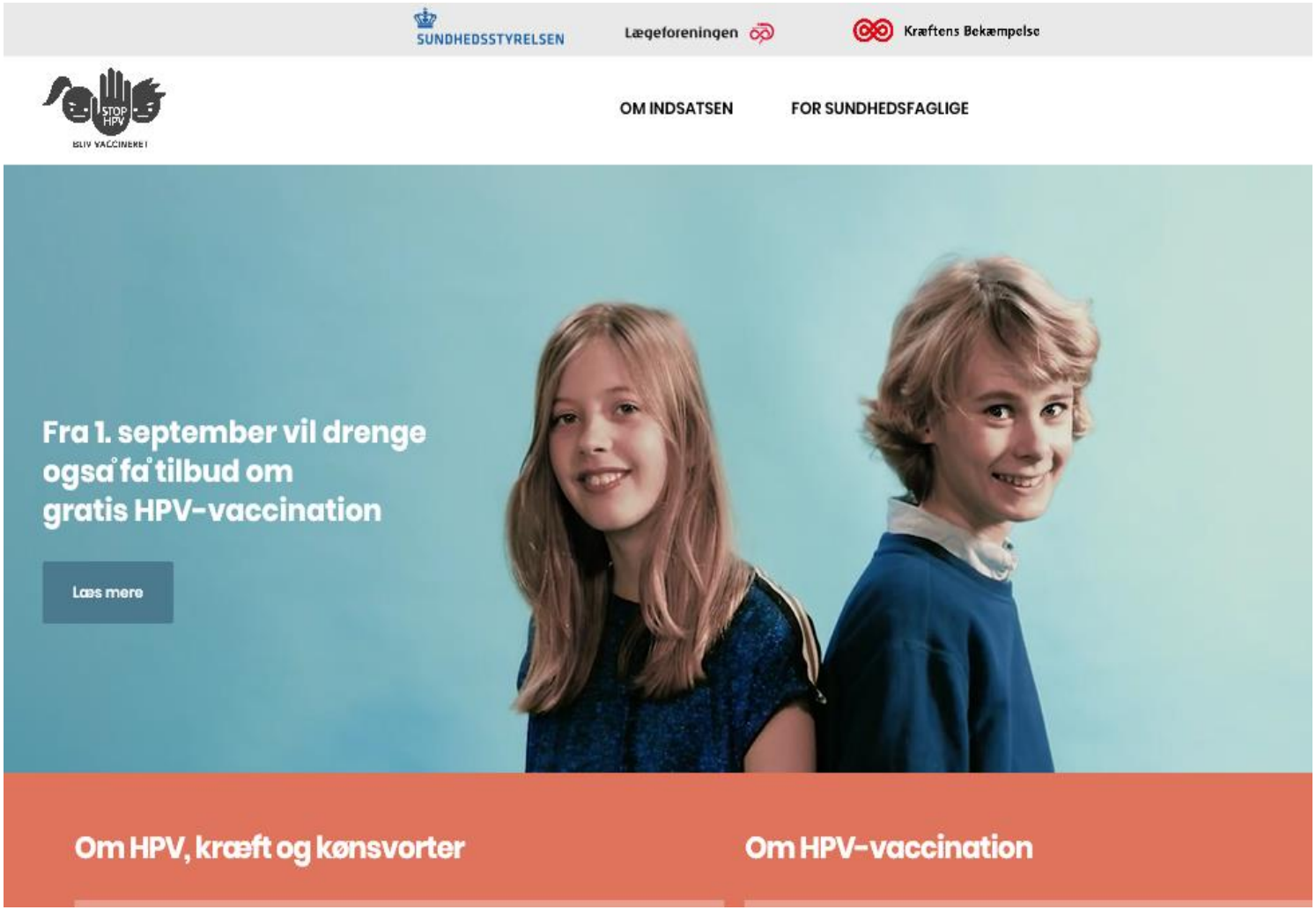
Denmark Stop HPV information homepage

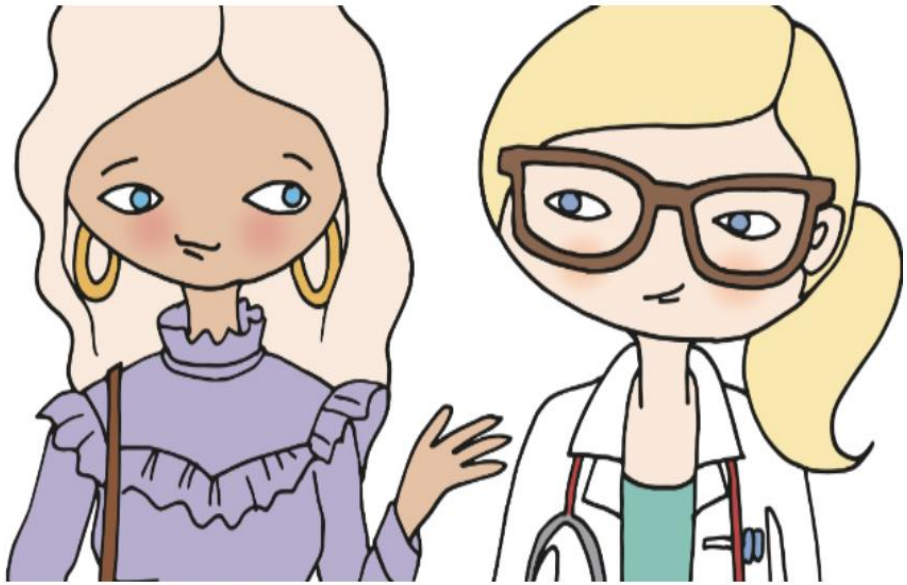


World Health Organization

Health Topics | Countries | Newsroom | Emergencies

Denmark campaign rebuilds confidence in HPV vaccination

February 2018



Campaign material from Stop HPV - stop livmoderhalskræft in Denmark

STOP HPV

STOP LIVMODERHALSKRÆFT

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Social science in immunisation

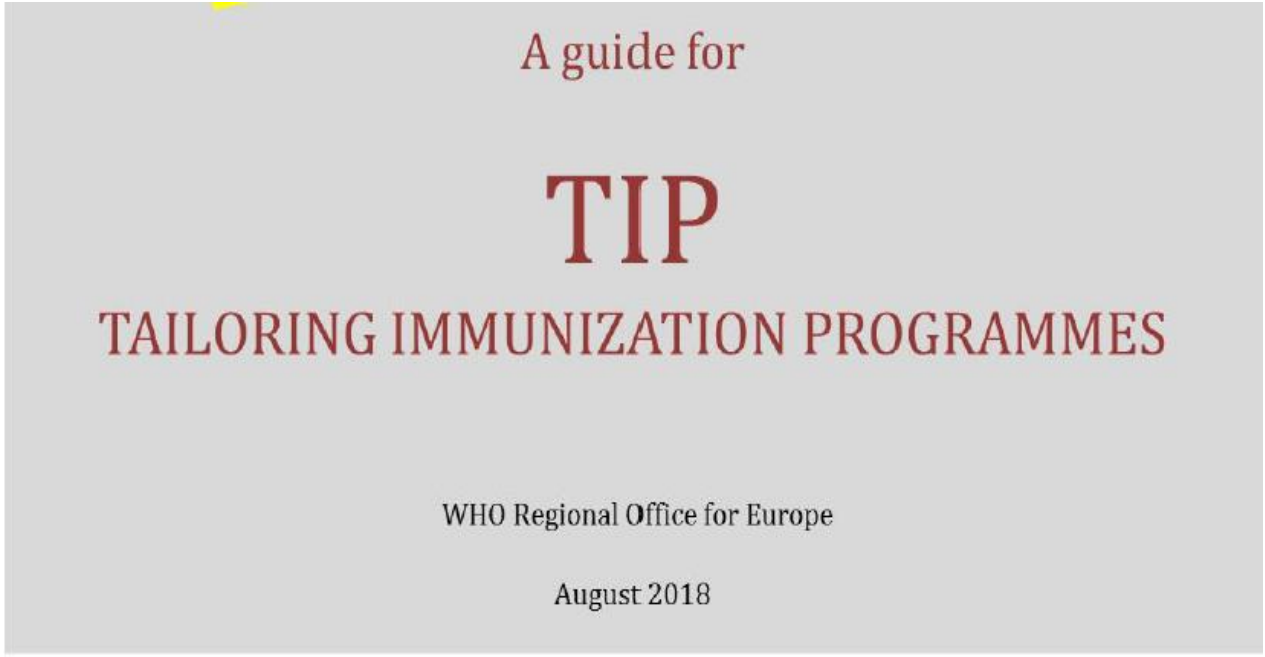
COSS | Collaboration on Social Science and Immunisation

Meet Australia's most influential woman

FINANCIAL REVIEW

Newsfeed

The overall winner of The Australian Financial Review Women of Influence Awards, Julie Leask, wants to reset the conversation around "anti-vaxxers".



WORLD HEALTH ORGANIZATION
ORGANISATION MONDIALE DE LA SANTÉ
WELTGESUNDHEITSORGANISATION
ВСЕМИРНАЯ ОРГАНИЗАЦИЯ ЗДРАВООХРАНЕНИЯ

Influenza vaccination in pregnancy

- Influenza vaccine is recommended in every pregnancy and at any stage of pregnancy
- Influenza vaccine can safely be given at the same time as pertussis vaccine
- For women who received an influenza vaccine in 2019, revaccinate if the 2020 influenza vaccine becomes available before the end of pregnancy
- For women who receive an influenza vaccine before becoming pregnant, revaccinate during pregnancy to protect the unborn infant

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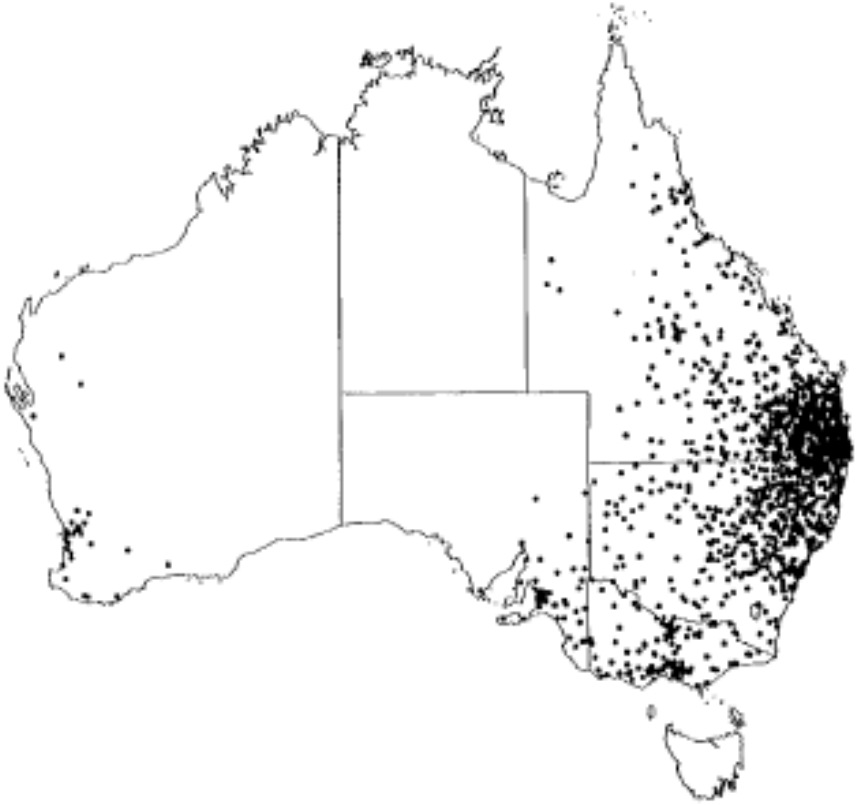
Q Fever

Q Fever notifications, Australia



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How common is Zoster ?

VZV seroprevalence:

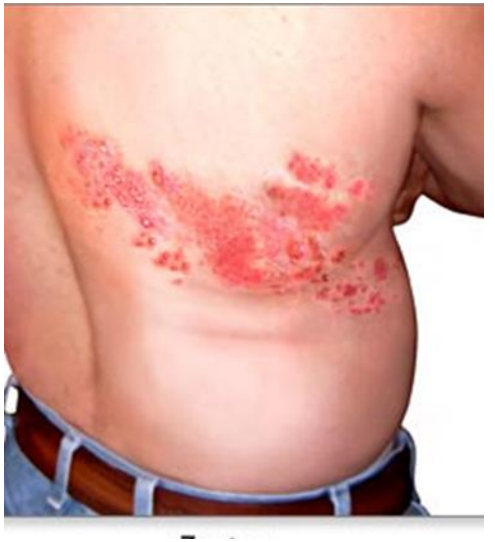
>97% in those aged >35 years – who is less likely to be seropositive?

HZ

- **Over 150,000 new cases annually in Australia**
- **70% of all HZ cases are in ≥50 yrs of age**
- **Cumulative lifetime risk of HZ ~20%**
- **By age 85 – 50% chance of getting zoster**
- **Recurrence = rare (1 – 5%)**
- **Only ~1 - 3% of cases hospitalised**

PHN

- **15% of all HZ cases aged > 50 years of age**
- **25% of all HZ cases aged > 80 years of age**



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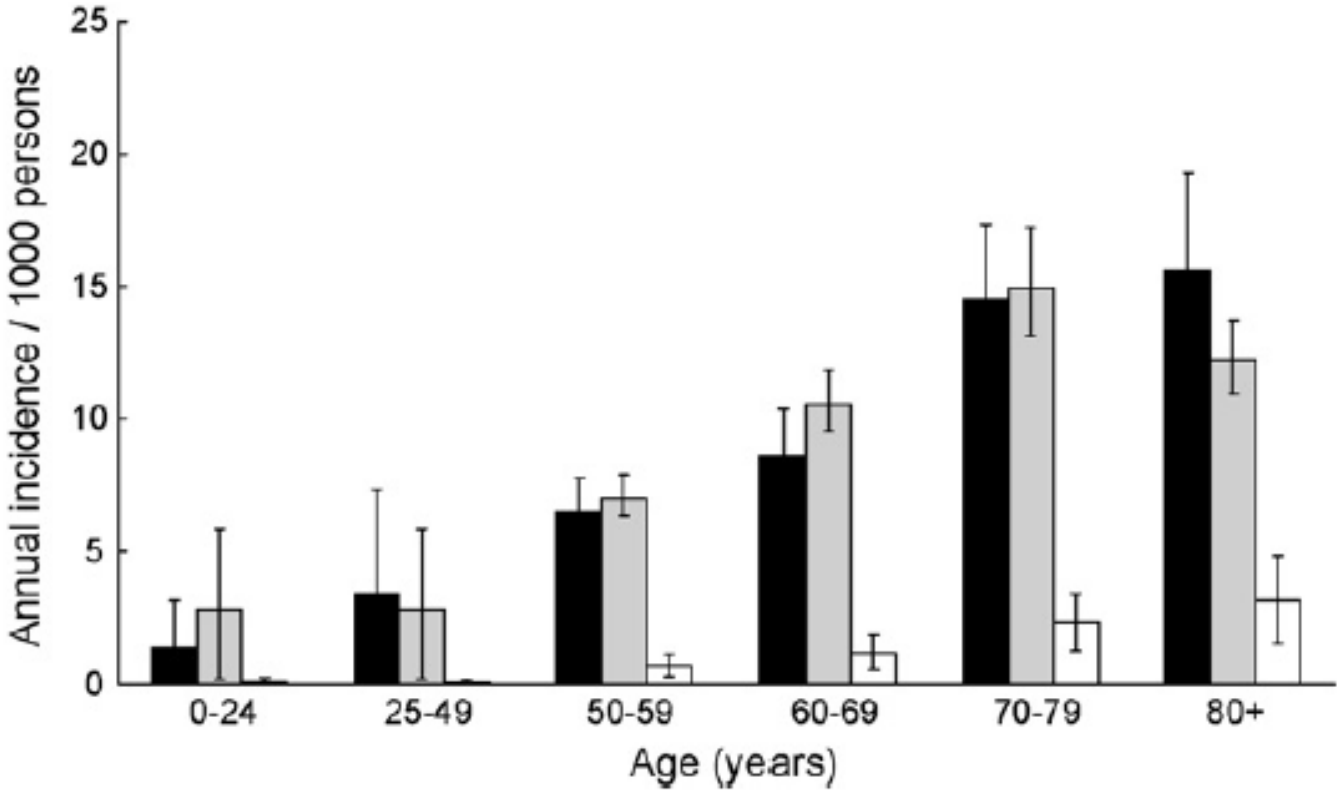
Epidemiology of Zoster and PHN in Australia



Stein AC, *Vaccine* 2009

Vaccine recommendations

- **Patients 70 – 79 years – National Immunisation Program**
  - Consider for all*, particularly those with splenectomy, diabetes, inflammatory bowel disease, rheumatoid arthritis, psoriasis
- Patients 50 – 59 years (private script)
  - Administer if interested*
- Patients 60 – 69 years (private script)
  - Recommended - likely to have population level benefit*
- Patients 80 years and over (private script)
  - Individual benefit but lower efficacy, likely to wane rapidly*

*** Unless severe immunocompromise**

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UK Published Case Report_Scottish gentleman

- 79 yo with history of CLL
- Vaccinated with Zostavax
- 2 weeks later developed flu-like symptoms, fever and then widespread vesicular rash
- Delay in recognition of illness as potentially vaccine associated
- Commenced on IV aciclovir
- Day 5 developed respiratory and renal failure, ICU admission
- Death from multi-organ failure on Day 16

- Oka vaccine strain varicella-zoster virus detected in vesicle fluid

Patient had not received immunosuppressive agents for 6 months prior to vaccination !!

NSW GOVERNMENT

Safety information

- Reporting problems & complaints
- Alerts
  - Current year alerts
  - All alerts
- Recalls
- Early warning system
- Safety information & education

Zostavax vaccine

Safety advisory – not to be used in patients with compromised immune function

7 March 2017

The TGA has received a report of a death occurring in a person with pre-existing compromised immune function after receiving Zostavax – a live, attenuated varicella-zoster virus vaccine that is used to prevent shingles and prevention/treatment of nerve pain associated with the virus.

Zostavax should not be used in people who are immunocompromised, as this is associated with a risk of mild to serious complications (including death) from infection with the vaccine virus.

Zostavax is used for:

- prevention of herpes zoster (shingles) in people aged 50 years and older
- prevention of post-herpetic neuralgia (nerve pain due to damage caused by the varicella-zoster virus) and for reduction of acute and chronic zoster-associated pain in individuals 60 years of age and older.

Zostavax was included in the National Immunisation Program on 1 November 2016 for the prevention of herpes zoster in patients 70 years of age. A five-year catch-up program for people aged 71-79 years is also underway.

Further information about the use of Zostavax among immunocompromised patients has recently been distributed to general practitioners and general practice nurses via state/territory health departments.

DO NOT give to persons with Severe Immunocompromise

- **high-dose systemic immunosuppressive therapy**, such as chemotherapy, radiation therapy, oral corticosteroids or disease modifying anti-rheumatic drugs (DMARDs);

- **suffering from malignant conditions** of the reticuloendothelial system (such as lymphoma, leukaemia, Hodgkin's disease), even if not on active treatment (eg CLL);

- **AIDS or symptomatic HIV infection**;

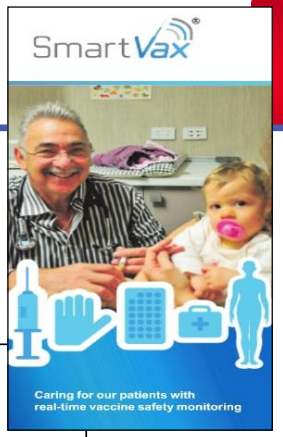
- **solid organ or bone marrow transplants** (within 2 years of transplantation) or transplant recipients who are still taking immunosuppressive drugs

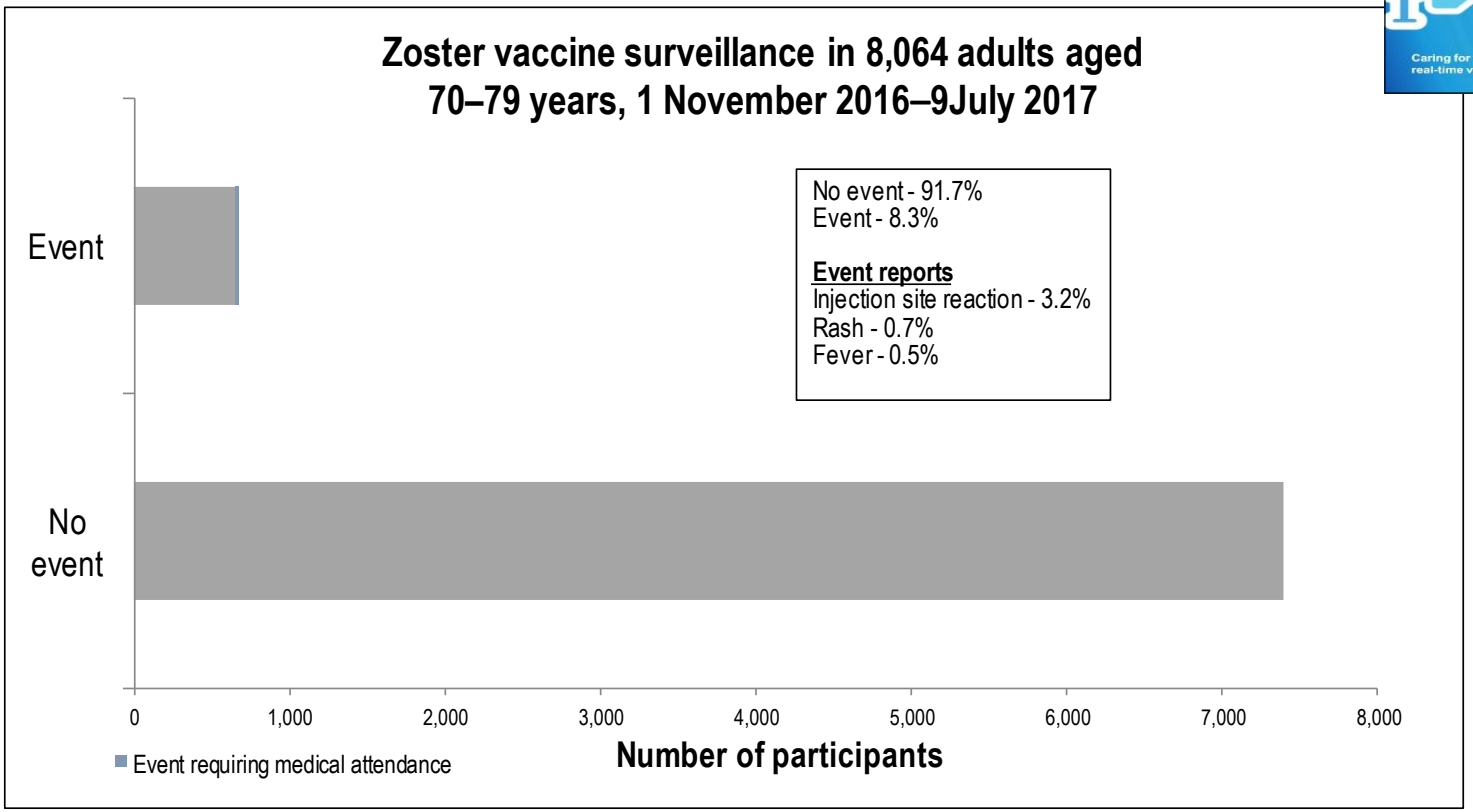
- **similar immunocompromise** due to a disease or treatment

NSW GOVERNMENT

Table. Recommendations for use of zoster vaccine in people on immunosuppressive therapy

Immunosuppressive therapy		Safe dose to vaccinate	Dose vaccine contraindicated and acceptable timing to vaccinate	
			Dose	Timing of vaccination
corticosteroid monotherapy		≤20 mg per day of prednisilone or equivalent*	≥20 mg/day of prednisilone or equivalent for less than 14 days	• At least 1 month before treatment starts, or • Any time after treatment stops
			≥20 mg/day of prednisilone or equivalent for 14 days or longer	• At least 1 month before treatment starts, or • At least 1 month after treatment stops
Anti-TNF — (Etanercept Infliximab Adalimumab)		None	All regimens	• At least 1 month before treatment starts, or • At least 3 months after treatment stops
csDMARD	Azathioprine Mercaptopurine Methotrexate	≤3mg/kg/day ≤1.5mg/kg/day ≤0.4mg/kg/week (if used as a single agent, with or without low-dose corticosteroid)	>3.0 mg/kg/day >1.5 mg/kg/day >0.4 mg/kg/week	• At least 1 month before treatment starts, or • At least 3 months after treatment stops
	Sulfasalazine, Hydroxychloroquine	Any dose	NA	NA
	Mycophenolate	None	All regimens	• At least 1 month before treatment starts, or • At least 12 months after treatment stops
	Other csDMARDs	None	All regimens	• At least 1 month before treatment starts, or • At least 3 months after treatment stops
T-cell inhibitors/activators (eg tacrolimus, cyclosporine except denosumab for which there is no evidence of significant immunosuppression)		None	All regimens	• At least 1 month before treatment starts, or • At least 3 months after treatment stops
Other unspecified immunosuppressants (eg chemotherapy, radiotherapy)		None	All regimens	• At least 1 month before treatment starts, or • At least 3 months after treatment stops, and at least 6 months for people who have received chemotherapy or radiotherapy (based on an individual patient risk assessment)
tsDMARDs (Janus kinase inhibitors [Tofacitinib], phosphodiesterase-4 inhibition [Apremilast]) or bDMARDs (eg monoclonal antibodies, IL inhibitors [Anakinra; Tocilizumab], Costimulation blockers [Abatacept], B-cell depleting agents [Rituximab])		None	All regimens	• 1 month before treatment starts, or • At least 12 months after treatment stops — this must be discussed with the treating physician
Haematopoietic stem cell transplant		None	All regimens	• At least 1 month before transplant, or • At least 24 months after transplant

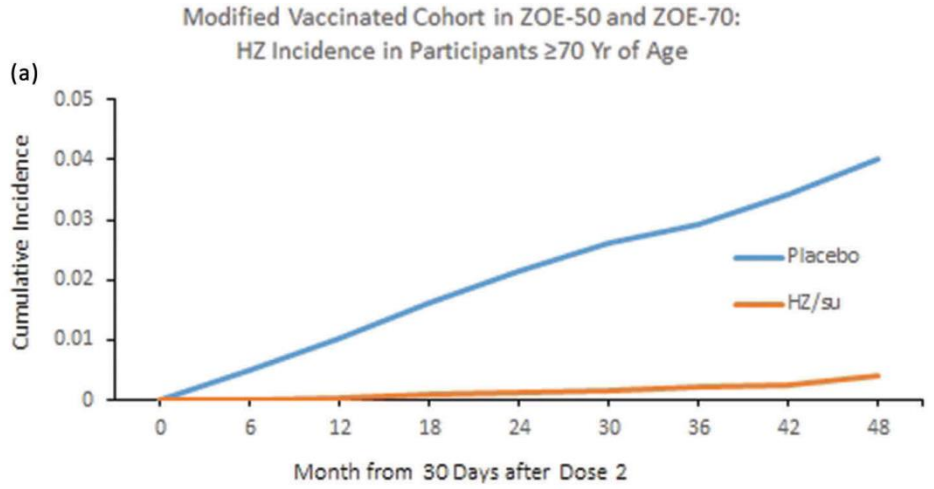

SmartVax
Caring for our patients with
real-time vaccine safety monitoring

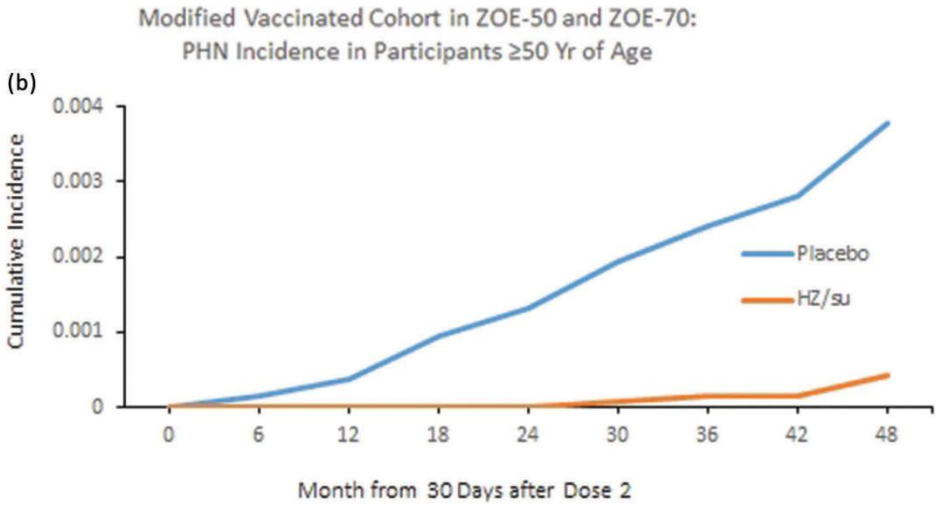

Zoster vaccine surveillance in 8,064 adults aged 70–79 years, 1 November 2016–9July 2017
Event
No event
No event - 91.7%
Event - 8.3%
Event reports
Injection site reaction - 3.2%
Rash - 0.7%
Fever - 0.5%
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
Number of participants
Event requiring medical attendance

HZ vaccine (Shingrix, GSK)
NOT YET REGISTERED

- Non-live recombinant subunit (glycoprotein E) and a strong adjuvant (AS01)
- >90% efficacy HZ
- 85% + efficacy PHN
- Maintained in older persons
- Immunogenic in immunocompromised

(phase III efficacy study awaited)





NSW GOVERNMENT

- Thanks to
- PHN
- CC PHU
- HNE PHN
- Scientists
- Nurses & AHW’s +++++++