

Pneumococcal Disease: Implications of NIP recommendations

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Conflict of Interest / Financial Disclosure Dr Peter Eizenberg

- Conflict of Interest:
 - Director, Doctors of Ivanhoe
 - Member
 - Immunisation Coalition SAC
 - AusVaxSafety AG (NCIRS)
 - Pfizer Vaccine Education Advisory Board
 - Seqirus Flucelvax Advisory Board.
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- PE has no ownership or shares in any vaccine or pharmaceutical company.
- Views expressed in this presentation do not necessarily represent any of the above organisations



Implications of Pneumococcal NIP

- Background to Pneumo NIP changes 1 July 2020
- Overview of Pneumo NIP recommendations
- Impact of NIP recommendations
- Implications for at-risk individuals, vaccine providers & the community



The impact of the changing pneumococcal national immunisation program among older Australians



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ABSTRACT

Australia has a universal infant pneumococcal conjugate vaccination program and until recently a universal pneumococcal polysaccharide vaccine program for non-Indigenous adults aged \geq 65 years and Indigenous adults aged \geq 50 years. We documented the impacts of infant and adult vaccination programs on the epidemiology of invasive pneumococcal disease (IPD) in Indigenous and non-Indigenous adults.

IPD notifications from the National Notifiable Disease Surveillance System were analysed from 2002 to 2017, grouped by age, vaccine serotype group and Indigenous status. Since the universal funding of infant and elderly pneumococcal vaccination programs in January 2005, total IPD decreased by 19% in non-Indigenous adults aged \geq 65 years but doubled in Indigenous adults aged \geq 50 years. Vaccine uptake was suboptimal in both groups but lower in Indigenous adults. IPD due to the serotypes contained in the pneumococcal conjugate vaccines (PCV) except for serotype 3 declined markedly over the study period but were replaced by non-PCV serotypes. Serotype 3 is currently the most common in older adults. In the populations eligible for the adult 23-valent pneumococcal polysaccharide vaccine (23vPPV) program, IPD rates due to its exclusive serotypes increased to a lower extent than non-vaccine types. In 2017, non-vaccine serotypes accounted for the majority of IPD in younger adults.

Infant and adult pneumococcal vaccination programs in Australia have shaped the serotype-specific epidemiology of IPD in older adults. IPD remains a significant health burden for the Indigenous population. Herd immunity impact is clear for PCV serotypes excluding serotype 3 and serotype replacement is evident for non-PCV serotypes. The adult 23vPPV immunisation program appears to have partially curbed replacement with IPD due to its eleven exclusive serotypes, highlighting a potential benefit of increasing adult 23vPPV coverage in Australia.

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Fig. 2. IPD rates among non-Indigenous adult Australians aged 50–64 years (Panel A) or aged \geq 65 years (Panel B) by serotype grouping, 2002–2017. Fig. 3. IPD rates among Indigenous adult Australians aged 25–49 years (Panel A) or aged \geq 50 years (Panel B) by serotype grouping, 2002–2017.

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Implications of Pneumococcal NIP - the vaccine provider perspective

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Background to Pneumo NIP changes 1 July 2020

- Existing extremely successful universal childhood Pn vacc program using 13vPCV given at age 2, 4 & 12 months
 - additional doses of 23vPPV for children with high-risk medical conditions & Indigenous children in higher-risk geographical areas
 - High coverage rates for all children ~94% (93% Indigenous)



Vaccine/antigen	Milestone age	Indi	igenous (%)	All o	hildren (%)
		2018	2019	2018	2019
	12 monthst	92.4	92.9	93.9	94.
'Fully vaccinated'*	24 months‡	87.8	88.9	90.1	90.
	60 months§	96.4	96.9	94.0	94.3
	12 monthst (Dose 3)	92.5	93.2	94.7	95.0
Diphtheria, tetanus, acellular pertussis	24 monthst (Dose 4)	90.6	91.5	92.8	93.
	60 months§ (Dose 4 or 5)	96.5	97.4	94.1	94.8
	12 monthst (Dose 3)	92.5	93.1	94.6	95.0
Polio	24 months‡ (Dose 3)	97.2	97.1	96.4	96.4
	60 months§ (Dose 4)	96.4	97.0	94.2	94.3
	12 monthst (Dose 3)	92.5	93.1	94.5	94.9
Haemophilus influenzae type b	24 monthst (Dose 4)	95.2	94.6	94.7	94.
	60 months§ (Dose 4)	98.3	98.9	95.9	96.6
	12 monthst (Dose 3)	92.6	93.1	94.3	94.8
Hepatitis B	24 months‡ (Dose 3)	97.1	97,1	95.9	95.9
	60 months§ (Dose 3)	98.5	98.7	96.4	96.4
	12 months	N/A	N/A	N/A	N/A
	24 months‡ (Dose 1)	96.6	96.6	95.4	95.3
Measles, mumps, rubella	24 months# (Dose 2)	91.8	92.7	93.0	93.3
	60 months§ (Dose 2)	98.5	98.8	96.3	96.4
	12 months	N/A	N/A	N/A	N/A
Varicella	24 months‡ (Dose 1)	91.1	92.0	92.8	93.0
	60 months§ (Dose 1)	97,2	97.6	95.1	95.3
	12 months	N/A	N/A	N/A	N/A
Meningococcal C	24 months# (Dose 1)	96.4	96.6	95.1	95.2
	60 months§ (Dose 1)	98.5	98.9	96.4	96.7
	12 months	N/A	N/A	N/A	N/A
Meningococcal ACWY	24 months# (Dose 1)	N/A	95.0	N/A	93.6
	60 months§ (Dose 1)	N/A	N/A	N/A	N/A
	12 monthst (Dose 2 or 3)	95.8	97.0	95.7	96.
13-valent pneumococcal conjugate	24 months‡ (Dose 3)	96.8	96.0	95.7	95.2
	60 months§ (Dose 3)	96.0	96.6	93.7	94.4
	12 monthst (Dose 2)	86.7	87.3	90.9	91.9
Rotavirus	24 months	N/A	N/A	N/A	N/A
	60 months	N/A	N/A	N/A	N/A

Table 1. Vaccination coverage estimates (%) by age assessment milestone, vaccine/antigen and Indigenous status, -

* Refer to Appendix for details of 'fully vaccinated' assessment algorithms. Coverage estimates in this table are calculated using 12-month-wide cohorts and may differ slightly from estimates published elsewhere using rolling annualised cohorts. t Cohort born 1 January 2017 – 31 December 2017 (2018 estimate) and 1 January 2018 – 31 December 2018 (2019 estimate). ‡ Cohort born 1 January 2016 – 31 December 2016 (2018 estimate) and 1 January 2017 – 31 December 2017 (2019 estimate).

§ Cohort born 1 January 2013 - 31 December 2013 (2018 estimate) and 1 January 2014 - 31 December 2014 (2019 estimate).

N/A - Not applicable (vaccine either not given prior to this milestone or contraindicated after previous milestone)

Source: Australian Immunisation Register, data as at 31 March 2019 for 2018 estimates and 31 March 2020 for 2019 estimates.

Table 1. Vaccination coverage estimates (%) by age assessment milestone, vaccine/antigen and Indigenous status, Australia, 2018 versus 2019

Vaccine/antigen	Milestone age	Indigenous (%)		All children (%)	
		2018	2019	2018	2019
	12 monthst	92.4	92.9	93.9	94.3
'Fully vaccinated'*	24 months‡	87.8	88.9	90.1	90.2
	60 months§	96.4	96.9	94.0	94.2

	12 monthst (Dose 2 or 3)	95.8	97.0	95.7	96.1
13-valent pneumococcal conjugate	24 months‡ (Dose 3)	96.8	96.0	95.7	95.2
	60 months§ (Dose 3)	96.0	96.6	93.7	94.4



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 - wide gap between coverage rates for Indigenous & non-Indig adults





ENHANCING ADULT VACCINATION COVERAGE RATES IN AUSTRALIA

Policy white paper

28 June 2021 Authors: Danica Prodanovic, Katrina Lapham, Ryan Keenan, Carolyn Austin, Jennifer Herz (Biointelect); Prof Robert Booy, Prof Mary-Louise McLaws, Kim Sampson (Immunisation Coalition)



2020 childhood vaccination data were obtained from national coverage rates published annually by the Department of Health¹⁰. National coverage rates for adult vaccination are not regularly reported. Data for adults was obtained from the 2009 Adult Immunisation Survey⁴. Note that at the time of the survey, adults aged 65 years and over were eligible for pneumococcal vaccines on the NIP; this has since been raised to 70 years. Coverage of medically at risk populations aged under 65 years are excluded.

Figure 3 NIP funded vaccines: doses distributed vs. doses recorded on AIR for adults, Australia, 2016-2018



*TIV vaccine: study period 1 January to 30 September 2018; Pneumococcal vaccine: study period 1 January 2017 – 30 September 2018; Zoster vaccine: study period 1 October 2016 – 30 September 2018

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Australian recommendations for pneumococcal vaccination in adults and availability under the NIP[™]

PNEUMOVAX®23 (pneumococcal vaccine, polyvalent) is the only pneumococcal vaccine funded on the NIP and subsidised on the PBS for eligible adults

Risk of invasive disease	Indigenous status	Age	13-valent conjugate vaccine*	NIP	PNEUMOVAX 23**	NIP
llaaltinu	Non-indigenous	≥65 years	-	-	1 dose	Yes
nealthy	Indigenous	≥50 years	19 <u>11</u>	3 <u>8-</u>	2 doses#	Yes
Increased risk category (B): • Diabetes mellitus	New York	18–64 years	-	,	3 doses##	No [‡] (PBS)
Chronic lung disease Chronic cardiac disease Chronic liver disease Down Syndrome Alcoholism Tobacco smoking	Non-Indigenous	≥65 years	-	8-	2 doses#†	Yes
	In diama and	15–49 years		8 <u>-</u>	3 doses##	Yes
	indigenous	≥50 years	_	-	2 doses#	Yes
Highest risk category (A):	Non indigonous	18–64 years	1 dose	No	3 doses##	No [‡] (PBS)
 Functional or anatomical aspienta Immunocompromised persons (e.g. chronic renal failure) Cerebrospinal fluid leaks 	Non-Indigenous	≥65 years	1 dose	No	3 doses#	Yes
	In Course of	15–49 years	1 dose	No	3 doses##	Yes
Intracranial shunts	inaigenous	≥50 years	1 dose	No	3 doses ^{#††}	Yes

The minimum interval between any 2 doses of PNEUMOVAX23 is 5 years with a maximum of 3 lifetime adult doses¹ Please refer to the 10th Edition Australian Immunisation Handbook¹ for comprehensive listing of at risk conditions and recommendations

* Recommended for those with risk factors for invasive disease who have never received the 13-valent conjugate vaccine. This dose should precede the first dose of PNEUMOVAX23 by 2 months. For those who have had PNEUMOVAX23, the 13-valent vaccine dose should be given at least 12 months later.

** The minimum interval between any 2 doses of PNEUMOVAX23 is 5 years with a maximum of 3 lifetime adult doses.

The second dose should be given 5 years after the first dose.

The second dose should be given 5-10 years after the first. The third dose should be given at 65 years for non-indigenous people and 50 years for indigenous people, or 5 years after the second dose, whichever is later.

+ Those diagnosed as being at increased risk after receiving PNEUMOVAX23 at age 65 should receive a second dose at time of diagnosis or 5 years after the previous dose, whichever is later.

++ The third dose should be given at 65 years or 5 years after the second dose, whichever is later.

⁺ The 3rd dose, if given at 65 years or later for non-indigenous people and 50 years or later for indigenous people is funded on the NIP. Refer to NIP Schedule.

Adapted from Chiu et al. 2013.3

RISK OF IPD		AG	θE	13vPCV 2*	23vPPV 1**
		Non-Indigenous	Indigenous		
Healthy		≥ 65yrs		-	1 dose [‡]
			≥ 50yrs	-	2 doses#
Increased risk category (B)	 Diabetes mellitus Chronic lung disease Chronic cardiac disease Chronic liver disease 	18-64 yrs	18–49 yrs	-	3 doses*
	 Down syndrome Alcoholism Tobacco smoking 	≥ 65yrs	≥ 50yrs	-	2 doses*
 ighest risk ategory (A) Functional or anatomical asplenia Immunocompromised persons (eg chronic renal failure) 		18–64 yrs	18–49 yrs	1 dose	3 doses*
	 Cerebrospinal fluid leaks Cochlear implants Intracranial shunts 	≥ 65yrs	≥ 50yrs	1 dose	3 doses*

1 23vPPV is funded under the NIP, except for non-indigenous category A & B 18–64 yrs, which is subsidised on the PBS for eligible adults.

2 13vPCV is not funded under the NIP.

- * Recommended for those with risk factors for invasive disease who have never received the 13vPCV. This dose should precede the 1st dose of the recommended 23vPPC by 2 months. For those who have had 23vPPC, the 13-valent vaccine should be given at least 12 months later.
- ** The minimum interval between any 2 doses of Pneumovax23 is 5 years with a maximum of 3 lifetime adult doses.
- [‡] The 2nd dose should be given 5 years after the 1st dose.
- * The 2nd dose should be given 5–10 years after the 1st dose. The 3rd dose should be given at 50 years for indigenous people or 5 years after the 2nd dose, whichever is later.
- The 3rd dose should be given at 65 years or 5 years after the 2nd dose, whichever is later.
- Ref: NHMRC Australian Immunisation Handbook, 10th Edition, 2013. Pharmaceutical Benefits Scheme Listing Pneumococcal Purified Capsular Polysaccharides. Available at http://www.pbs.gov.au/ medicine/item/1903E



MMUNISATION

PneumoSmart Vaccination Tool

THE PNEUMOSMART VACCINATION TOOL

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.

The tool does not accommodate catch-up pneumococcal disease immunisations for children less than 5 years of age. Appropriate catch-up vaccines should be offered as recommended:

- in the online Australian Immunisation Handbook. (Handbook link)
- as per the Immunisation Calculator (Calculator link)

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.

I have read and agree to the Terms and Conditions of use for the PneumoSmart Vaccination Tool.

PROCEED

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- 13vPCV recommended for 'highest at-risk' was unfunded via NIP or PBS
- Clear need to 'lift our game' for all adults





A joint Australian, State and Territory Government Initiative

Clinical advice for vaccination providers

From 1 July 2020, there are changes to the pneumococcal vaccination schedule under the National Immunisation Program (NIP).

The new recommendations from 1 July 2020 are:

- · Children and adults with conditions that increase the risk of pneumococcal disease:
 - Individuals aged >12 months with risk conditions for pneumococcal disease are recommended to receive 1 dose of 13vPCV and 2 lifetime doses of 23vPPV.
 - Children diagnosed with risk conditions for pneumococcal disease at ≤12 months of age who have received 4 doses
 of 13vPCV according to the existing recommendations do not require an additional 13vPCV dose.
- Aboriginal and Torres Strait blander children who reside in NT, Old, SA and WA are already recommended to receive an
 extra dose of 13vPCV. In addition, they should now receive two doses of 23vPPV. This is because a considerable proportion
 of invasive pneumococcal disease in these children is caused by serotypes that are present in 23vPPV but not in 13vPCV.
- All Aboriginal and Torres Strait Islander adults ≥50 years of age are recommended to receive 13vPCV and two doses of 23vPPV.
- Older Australians without risk conditions for pneumococcal disease should receive a single dose of 13vPCV at age ≥70 years. This age of receiving a dose of pneumococcal vaccination for older Australians has been moved to age ≥70 years from ≥55 years because pneumococcal disease is much more common in people over 70 years of age than in people aged 65–69 years. Vaccination from 70 years of age will provide better protection as people move into older age groups with increasing pneumococcal disease risk.

Pneumococcal vaccination

From 1 July 2020, the NIP funded pneumococcal vaccination schedule will change to reflect the current best clinical evidence in preventing pneumococcal disease in adults and in people with conditions that increase their risk of disease.

The changes seek to simplify vaccination advice by making it easier to understand who should get vaccinated, when and which vaccine they should get.

There are no changes to the routine infant schedule for 13-valent conjugate pneumococcal vaccine (13vPCV).

All children are recommended to receive three doses of 13vPCV at ages 2, 4 and 12 months. The exception to this is Aboriginal and Torres Strait Islander children living in NT, Gld, SA and WA and children with risk conditions who are recommended to have an additional dose of 13vPCV at 6 months of age.

The NIP funded pneumococcal vaccine eligibility from 1 July 2020 is set out in more detail in **Table 1**.

These changes are further represented in the NIP pneumococcal vaccination schedule decision tree from 1 July 2020.

The revised recommendations are also published in the Australian Immunisation Handbook.

Children and adults with conditions that increase the risk of pneumococcal disease

In addition to changes to the recommendations for the pneumococcal vaccine, the list of conditions that increase the risk of pneumococcal disease has also been revised and simplified to a single list of risk conditions.

The pneumococcal vaccines recommended for many of those with risk conditions are now funded under the NIP for children and adults. However, for other risk conditions, where the rate of disease is not sufficiently high enough to be cost-effective, people will not be eligible to receive the recommended pneumococcal vaccines under the NIP.

The list of risk conditions for pneumococcal disease both funded and not funded under the NIP is set out in Table 1 of the NIP pneumococcal vaccination schedule decision tree from July 2020.

It should be noted that individuals with functional or anatomical asplenia, including sickle cell disease or other haemoglobinopathies, and congenital or acquired asplenia, who are now eligible for NIP funded pneumococcal vaccination are now also eligible to receive meningococcal B, meningococcal ACWY and *Haemophilus influenzoe* type b (Hib) vaccinations through the NIP.

Table 1. NIP funded pneumococcal vaccination schedule from 1 July 2020

Universal childhood schedule

- All non-Indigenous children to receive 1 dose of 13vPCV at ages 2, 4, and 12 months (3 doses in total).
- All Aboriginal and Torres Strait Islander children living in ACT, NSW, Tas and Vic to receive 1 dose of 13vPCV at ages 2, 4 and 12 months (3 doses in total).

People with medical risk conditions

- Children, adolescents and adults aged >12 months with identified risk conditions to receive 1 dose of 13vPCV and 2 doses of 23vPPV.
- Children diagnosed with certain risk conditions at s12 months of age to receive 1 dose of 13vPCV at ages, 2, 4, 6 and 12 months (4 doses in total) and 23vPPV first dose at age 4 years and another dose at least 5 years later (2 doses in total). These children do not require any further doses of 13vPCV and 23vPPV.

Aboriginal and Torres Strait Islander people

- Aboriginal and Torres Strait Islander children living in NT, Old, SA and WA to receive 1 dose of 13vPCV at ages 2, 4, 6 and 12 months (4 doses in total) and 23vPPV first dose at age 4 years and another dose at least 5 years later (2 doses in total).
- Aboriginal and Torres Strait Islander adults aged >50 years without conditions associated with an increased risk of pneumococcal disease to receive 1 dose of 13vPCV and 2 doses of 23vPPV.

Non-Indigenous older adults with no risk conditions

- All non-Indigenous adults who do not have conditions associated with an increased risk of pneumococcal disease turning T0 years
 of age on or after 1 July 2020 to receive 1 dose of 13vPCV regardless of whether the person has previously received a NIP-funded
 dose of 23vPPV.
- Those who are already 70 years of age or older on 1 July 2020 are also eligible for a single NIP-funded dose of 13vPCV, which can
 be given opportunistically at a suitable clinical encounter.

Dose intervals

The recommended interval between the dose of 13vPCV and the first dose of 23vPPV is 12 months (although an interval of at least 2 months is acceptable), and the youngest age recommended for receiving the first dose of 23vPPV after the required dose(s) of 13vPCV is 4 years.

The recommended interval between the two 23vPPV doses is at least 5 years.

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

The doses of 23vPPV received in the past are also counted when deciding how many more are required.

If a person has already received at least two doses based on previous recommendations, no further doses of 23vPPV are to be given. (Refer to the Australian Immunisation Handbook for further details).

Pneumococcal disease

Pneumococcal disease is caused by the bacterium Streptococcus pneumoniae. It can cause severe or invasive disease, including pneumonia, meningitis and bacteraemia.

Invasive pneumococcal disease (IPD) is when the bacteria are found in the blood, spinal fluid or another part of the body that would normally be sterile. IPD mainly affects young children, older people, Aboriginal and Torres Strait Islander people, people with certain long-term diseases and people with weakened immune systems.

Australian Immunisation Register

The Australian Immunisation Register (AIR) accepts data on vaccines administered to people of all ages. Providers are required to submit data to the AIR on all vaccines administered.

Further information

Advice on the 1 July 2020 NIP schedule changes can be found in:

- The ATAGI clinical advice on changes to recommendations for the use and funding of pneumococcal vaccines from 1 July 2020.
- The ATAGI clinical advice on changes to vacaine recommendations and funding for people with tisk conditions from 1 July 2020.
- The ATAGI clinical advice on the changes to vaccine recommendations and funding for Aboriginal and Torres Strait Islander people from 1 July 2020.
- The ATAGI clinical advice on changes to vacaine recommendations and funding for older non-Indigenous adults from 1 July 2020.
- The ATAGI clinical advice on changes to recommendations for the use and funding of meningococcal vaccines from 1 July 2020.
- The Australian Immunisation Handbook.

All information in this fact sheet is correct as at June 2020. REPORT all vaccinations to the Australian Immunisation Register (AIR).

State and territory health department contact numbers:

ACT

NSW

NT

WA

	02 5124 9800	SA	1300 232 272
1	1300 066 055	TAS	1800 671 738
	08 8922 8044	VIC	1300 882 008
	08 9321 1312	QLD	Contact your local Public Health Unit



National Immunisation Program

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Clinical decision tree for vaccination providers

From 1 July 2020, there are changes to the National Immunisation Program (NIP) pneumococcal vaccination schedule.

This decision tree should be read in conjunction with the NIP pneumococcal vaccination schedule from 1 July 2020 clinical advice for vaccination providers and the Australian Immunisation Handbook.

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.



Table 1. Updated list of risk conditions for pneumococcal vaccine recommendations and their eligibility for funding under the National Immunisation Program (NIP)

	Eligibility for	for NIP funding	
Risk condition		≥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	~	~	
- haematopoletic stem cell transplant	1	~	
- HIV infection	2	~	
 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)	~	1.	
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 ar those that are similar based on clinical judgment.

Note: All children and adults with above conditions are recommended to receive additional pneumococcol vaccine doses however, they are only funded under the NIP for those with the shaded canditions.

All information in this fact sheet is correct as at June 2020. REPORT all vaccinations to the Australian Immunisation Register (AIR).

State and territory health department contact numbers:

ACT	02 5124 9800	50	1300 232 272
NSW	1200 066 065	TAS	1800 671 738
NT	08 8922 8044	VIC	1000 582 008
AVA.	OB 9321 1312	QLD	Contact your los



National Immunisation Program

cal Public Health Unit Australian Governmen Department of Health

A joint Australian, State and Territory Government Initiative

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

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Table 1. Updated list of risk conditions for pneumococcal vaccine recommendations and their eligibility for funding under the National Immunisation Program (NIP)

	Eligibility fo	r NIP funding
Risk condition	<5 years of age	25 years of age
Previous episode of invasive pneumococcal disease	~	~
Functional or anatomical aspienia, 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	2	2
 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)	~	<i>.</i>
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		
– ciπhosis		
– biliary atresia		
Diabetes		
Smoking (current or in the immediate past)		
Harmful use of alcohol (defined as consuming on average 260 g of alcohol (6 Australian standard drinks) per day for males and 240 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 however, they are only funded under the NIP for those with the shaded conditions.

Overview of Pneumo NIP recommendations

- Revised eligibility criteria for NIP-funded Pn vaccine/s
 - Critical distinction between 'NIP-recommended' and 'NIP-funded' medical conditions
- Removal of PBS listing for 23vPPV



Overview of Pneumo NIP recommendations

- Revised eligibility criteria for NIP-funded Pn vaccine/s
 - Critical distinction between 'NIP-recommended' and 'NIP-funded' medical conditions
- Removal of PBS listing for 23vPPV
- Groups of adults who were formally eligible <1/7/20 for PBS script for 23vPPV and now not eligible for NIP-funded vaccines >1/7/20, include:
 - Smokers
 - Diabetes
 - Asthma (all severity), COAD, non-suppurative chronic lung disease, interstitial or fibrotic lung disease
 - immuno-suppressive therapy
 - non-haematol malignancies receiving chemo or radio therapy
 - cardiac, liver or renal disease (unless eGFR <15m/min, Stg 4-5)



Overview of Pneumo NIP recommendations

- Revised eligibility criteria for NIP-funded Pn vaccine/s
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 - Smokers
 - Diabetes
 - Asthma (all severity), COAD, non-suppurative chronic lung disease, interstitial or fibrotic lung disease
 - immuno-suppressive therapy
 - non-haematol malignancies receiving chemo or radio therapy
 - cardiac, liver or renal disease (unless eGFR <15m/min, Stg 4-5)
- (exception of age-eligible NIP-funded dose of 13vPCV for non-Indig adults ≥70 yrs; 1x 13vPCV + 2x 23vPPV for Indig adults ≥50 yrs)





Australian Government

AUSTRALIAN TECHNICAL ADVISORY GROUP ON IMMUNISATION (ATAGI) | **CLINICAL ADVICE**

Issue date: 1 July 2020

ATAGI CLINICAL ADVICE ON CHANGES TO VACCINE

RECOMMENDATIONS AND FUNDING FOR PEOPLE WITH RISK CONDITIONS FROM 1 JULY 2020





Clinical advice for vaccination providers

From 1 July 2020, there are changes to the pneumococcal vaccination schedule under the National Immunisation Program (NIP).

· Children and adulta with conditions that increase the risk of preumococcel disease: Individuals aged H2 months with risk conditions for pneumococcal dasase are recommended to receive 1 does of 13xPCV and 2 lifetime dates of 23xPPV.

Onlideen diagnosed with risk conditions for pneumococcal disease at x12 months of age who have received 4 doses of TaPCV according to the existing recommendations do not require an additional TaPCV dose.

iginal and Tomes Strait Islandar children who reside in NT, Clid, SA and WA are almody recommended to receive an does of TUAPCV in addition, they should now receive hos does of 22/4PV. This is because a considerable proport cave potenticocci disease in these children is caused by sendopse that are prevent in 22/4PV but not in 10/4PU.

Other Australiem without risk conditions for presurrococcal disease should necelve a single does of DAPCV at top 3/D year This age of working a does of presurrococcal wachings for a does Australian too been rowed to age 3/D years than 30 bookaan presurrococcal disease in and more common in properties does 70 years of a the ten in properties paced 5-20 years. Vaccination from 70 years of age will provide better protection as people rowe into other age groups with increasing pre-deman risk.

Pneumococcal vaccination

From 1 July 2020, the NIP funded pneumococcal veccination schedule will change to reflect the current best clinical evidence in preventing pneumococcal disease in dubts and in people with conditions that increase their risks of disease.

In people with calculates that increase their rais of basease. The changes seek to simplify exclusion advice by meking it easier to understand who should get vectorated, when and which vacches they should get. There are no changes to the routiles initial schedule for 13-water conjugate presentaciccal vacches (Ta-PCV)

These changes are further represented in the ABP presenceccol vecchetion schedule decision tree from 1 July 2020.

Children and adults with risk of pneumococcal disease

The NP funded preumococcal vaccine eligibility from 1 July 2020 is set out in more detail in Table 1.



In addition to changes to the recommendations for the pre-smoothed vectors, the lat of conditions that increase the risk of pre-smoothed disease has also been revised and simplified to a single lat of risk conditions. Interplane to regard that the controls.

The list of conditions associated with an increased risk of preumococcool deases has been updated. There is now a single bit of risk conditions, as supported by current climital endence, that replaces the previous Category A' and Category B'

2020

Key points

medical or illestate conditions.

Inc. Description of a core in a long short part of the second second

Children and adults with conditions that increase the risk of pneumococcal disease

are no changes to the NP schedule and recommendations for pre-

Page 1 of 2

AUSTRALIAN TECHNICAL ADVISORY GROUP

Issue date: 1 July 2020

. Ical inaccipation in children aged ±12

ON IMMUNISATION (ATAGI) | CLINICAL ADVICE

ATAGI CLINICAL ADVICE ON CHANGES TO RECOMMENDATIONS FOR

THE USE AND FUNDING OF PNEUMOCOCCAL VACCINES FROM 1 JULY

It is important to read this statement in conjunction with The Australian Immunisation Mandbook available at immunisation/randbook health gov.au and other related ATAGI statements on NIP schedule changes from 1

c) proma The preservation of ALKD incommendations on presumecostal vaccination and axe in the National Innounsation Program (MP) is to prever prevencessorial disease in prepile with horseword field of disease. Prevencescard disease indexin to hydrox in refersion of coldebar pupel's with centern underlying medical at Instance ontation is hydrox prevences that disease prevences and prevences of the prevences of the set of prevences of the set of the refersion of coldebar prevences and prevences of the set of prevences of the set of the refersion of the set of the s

From 1 July 2020, recommendations for preumococcul vaccine saw are changing to make preumococcul vaccines more readily analytic and give only protection to propile who are more at lisk of disease. They also seek to smallly anoination

The population groups that thesis changes apply to see: - Othere and adult will condition their screams their rule from persurfaceaccel disease (wher to ATAC) concert aduces or changes to change recommissions and fraction for perspire with the positions. How Tube 2020

Aborgmal and Torres Strat Islander children in Northern Territory (N7), Queensiand (Q4), South Australia (SA) or

by making it easier to understand who should be vaccinated, when and which vaccine they should ge

NCIRS

Pneumococcal vaccines for Australians

This fact sheet provides information for immunisation providers on pneumococcal disease and the use of pneumococcal vaccines in Australia. For frequently asked questions, refer to NCIRS Pneumococcal vaccines for Australians - FAQs.

- Disease and epidemiology Phenemicodo Bisses a me collection of circial conditions caused by the bacterium Silvepticocous presumonies (also called presumococos). Conditions where presumococos al bactor is normally shrife body also are called "Imasive previncenced all bacterial", memorgas, septicamina and bacteriamic presumona are how most EP prevince.
- Non-imasive presents in the present of the second are bold Non-imasive pneumococcal disease, where there is localised mucosal infection that leads to clinical presentation than PD. Owned noncommon than IPD. Overall pneumococcal disease predominantly affects the very young and the elderly. Abargana and Torres Stati Islander people have a higher risk of pneumococcal disease than non-indigenous Australian.
- Indigenous Australians. People who have certain underlying medical conditions, including those that cause immunocompromise, as well as people who smoke tobacco and consume alcohol excessively are more vulnerable to pneumococcal disease.

Who should be vaccinated

- Weight end under an einer an einer an einer eine cination to prevent preumocoocal disease is recommended and funded for:
 - all Australian infants older adults from age 50 years if they are Aboriginal and Torres Strait Islander and from age 70 years if they are non-indigenous.
 - · There are also specific pneumococcal vaccination recommendations for those who are at high risk of occal disease because of underlying medical and behavioural conditions or the state/territory
 - prioritholoccal disease termine or environment where they live. The docage schedule and the type of pneurococcal vaccine to use depend on the individual's age and the number and the type of pneurococcal vaccines they have already received.

Vaccines

- Excites There are two major types of pneumococcal vaccines: a pure polyascharide vaccine (PPV) and a polyascharide conjugate vaccine (PCV), Vaccine vivi) in the number of pneumococcal setuppes to the two scores exercisives and in the National Improvision (Porgent NR2) are 1-vacient polyascharide conjugate vaccine (13+PCV) and 23-valient pure polyascharide vaccine (23+PPV) studies in Autainas and that and the numcures is effective in preventing PTV calculated vaccines sensitives they cover around R01+ effectivemes that "JaPCV" in young chatters and over 60% for SPVPV in on-independence solutions.

- serotypes they cover around Britk effectiveness for T3MPCV in young children and over 60% for 29/PV in no-indigenous adults. Both T3MPCV and 23/PPV are safe and well tolerated, with most commonly reported side effects being mid and trainistic injection safe reactions. Revaccination with 23/PPV is seen to cause more local side effects than the initial vaccination.

July 1, 2020

ONCIRS

FactSheet

Pneumococcal vaccines – Frequently Asked Questions

This fact sheet provides responses to common questions about pneumococcal vaccines. More detailed information about pneumococcal disease and the available pneumococcal vaccines can be found in the NCIRS fact sheet Pneumococcal vaccines for Australians.

Questions about pneumococcal vaccines and vaccination schedules

Q1. What changes have been made to pneumocoocial vaccine recommendations and funded doses under the

- National Immunisation Program from 1 July 2020? Q2. What is the new recommendation for older non-Indigenous adults without any risk condition? Why has the
- lation changed?
- Q3.What are the new recommendations for people with risk conditions for pneumococcal disease? Why have the recommendations changed?
- Q4. What are the new recommendations for Aboriginal and Torres Strait Islander people? Q5. Why are pneumococcal vaccinations recommended for people with some risk factors funded under the NIP
- and others not? Q6. How many lifetime doses of 23vPPV are recommended and why is there an upper limit for the number of
- 23vPPV doses given? Q7. Which pneumocooccal vaccines are available in Australia and what are the key differences between them?

Search Q

- Q8. Why is it important to give 13vPCV before 23vPPV?
- Q9. What is the recommended interval between doses of 23vPPV and 13vPCV?
- Q10. Can pneumococcal vaccines be co-administered with other vaccines?
- Q11. Will getting pneumococcal vaccines protect me against COVID-19 associated pneumonia? Q12. My patient has been in close contact with someone who has been diagnosed with pneumococcal disease.
- Do they need pneumococcal vaccination?
- Q13. Are there any contraindications to pneumococcal vaccines?

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Q14. Are pneumococcal vaccines safe?

Questions about pneumococcal disease

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Upcoming changes to the NIP from

On July 1, 2020, there will be several changes to the National Immunisation Program (NIP):

- Ceasing Pneumovax 23^a for healthy non-Indigenous adults at 65 years of age · Commoncing Prevenar 13^e for healthy non-indigenous adults #70 years of age

 Commercine Prevenar 10^a for >12 months of any fincluding advisorants and adults. Unimentally related to the fig method of approximations and approximations with newly diagnosed risk conditions plus Preventiona 23* # 2 doses in a lifetime Now eligibility riteria for risk conditions

+ Aboriginal and Torres Strait Islander Infants receive 2 primary doses of Bessero® and

Besserer - 2, + and 2 months of age
 Besserer - catchup is available for all Aboriginal and Torres Strat lidander children -2 years of age for 3 years until 30 June 2023

Clinical update: National Immunisation Program (NPI schedule changes from 1.July 2020 -

Commoncing Prevenue 13th for Indigenous adults at 250 years of age plus.

Eligibility for free NIP pneumococcal vaccines (Provenar 13*, Pneumovax 23*)

Pneumovex 23* x 2 doses in a litetime

Eligibility for free NP meningococcal B (Bessero*) vaccine

1 booster dose - 2, 4 and 12 months of age

Read more about the changes here:

advice for vaccination providers

🖨 Print

f У 🖸

Some nanotic with risk coorditions will be alloible for Demand*

- Q15. What is pneumococcal disease?
- Q16. Why are some people more susceptible to pneumococcal disease than others?
- Q17. How common is pneumococcal disease among Australians?



Clinical decision tree for vaccination providers

From 1 July 2020, there are changes to the National Immunisation Program (NIP) oneumococcal vaccination schedule.

This decision tree should be read in conjunction with the NP pneumococcol voccination schedule from 1 July 2020 clinical advice for voccination providers and the Australian Immunisation Handbook.

Figure 1 NIP funded oneumococcal 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 slightle for NP funded doler







Implications of Pneumococcal NIP

- Background to Pneumo NIP changes 1 July 2020
- Overview of Pneumo NIP recommendations
- Impact of NIP recommendations
- Implications for at-risk individuals, vaccine providers & the community



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Impact of NIP recommendations

- Expected impacts
 - Improved protection from the addition of 13vPCV where not previously included
 - Small delay of routine Pn vacc protection from age 65yrs to age 70yrs
 - NIP is not a cost burden for healthy Indigenous ≥50yrs; healthy non-Indigenous ≥70yrs; & cohort with highest 'at-risk' conditions
 - Individuals with underlying medical conditions who need Pn vacc the most are eligible under NIP at no out-of-pocket cost
 - Prior to 1/7/20 cost on PBS ~\$21 (for 3 x 23vPPV) + \$180 (if given 13vPCV)



Impact of NIP recommendations

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 - Individuals with underlying medical conditions who need Pn vacc the most are eligible under NIP at no out-of-pocket cost
 - Prior to 1/7/20 cost on PBS ~\$21 (for 3 x 23vPPV) + \$180 (if given 13vPCV)
- Unexpected impacts
 - Burden for vaccine providers to implement adult Pn NIP
 - Complexity remains a very significant barrier to implementation
 - Pn NIP recommendations <u>not</u> any simpler nor easier to implement
 - Removal of PBS listing for 23vPPV



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- Unexpected impacts
 - Burden for vaccine providers to implement adult Pn NIP
 - Complexity remains a very significant barrier to implementation
 - Pn NIP recommendations <u>not</u> any simpler nor easier to implement
 - Removal of PBS listing for 23vPPV
 - Cost is a significant burden for most of the 'at-risk' adults who have underlying medical conditions that do not meet criteria for 'highest at-risk' group
 - Most individuals with underlying medical conditions who need Pn vacc according to NIP have out-of-pocket cost around \$300 (for 1x 13vPCV + 2x 23vPPV)
 - Includes smokers, Diabetes, Asthma (all severity), COAD, immuno-suppressive Rx, non-haematol malignancies receiving chemo/radio therapy, cardiac, liver or renal disease (unless eGFR <15m/min, Stg 4-5)
 - Prior to 1/7/20 cost on PBS \$14 or \$21 (2 or 3 doses 23vPPV required)



Case studies: Pneumococcal

- Age 68 yrs, female, non-Indigenous, no previous Pneumococcal vaccination, <u>multiple medical risk conditions</u>, including: Diabetes, HT, AF, CAD with 2 stents, CF, CRF (stage 3, eGFR 35), RA on long-term oral steroids, severe Asthma, Bowel cancer (requiring surgery, chemo & radiotherapy),and she smokes.
 - Q1 What NIP Pneumococcal vaccination schedule is recommended?

• Q2 Are the recommended vaccine/s NIP-funded?

Case studies: Pneumococcal

 Age 68 yrs, female, non-Indigenous, no previous Pneumococcal vaccination, <u>multiple medical risk conditions</u>, including: Diabetes, HT, AF, CAD with 2 stents, CF, CRF (stage 3, eGFR 35), RA on long-term oral steroids, severe Asthma, Bowel cancer (requiring surgery, chemo & radiotherapy),and she smokes.

• Q1 What NIP Pneumococcal vaccination schedule is recommended?

- 13vPCV 'Prevenar' x1 dose, due now, followed by 23vPPV x2 doses.
- 23vPPV 'Pneumovax' dose 1 due after interval of 2 months following 13vPPV.
- 23v PPV 'Pneumovax' dose 2 due after interval of 5 yrs following 23vPPV dose 1.
- Q2 Are the recommended vaccine/s NIP-funded?

Case studies: Pneumococcal

 Age 68 yrs, female, non-Indigenous, no previous Pneumococcal vaccination, <u>multiple medical risk conditions</u>, including: Diabetes, HT, AF, CAD with 2 stents, CF, CRF (stage 3, eGFR 35), RA on long-term oral steroids, severe Asthma, Bowel cancer (requiring surgery, chemo & radiotherapy),and she smokes.

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- 23vPPV 'Pneumovax' dose 1 due after interval of 2 months following 13vPPV.
- 23v PPV 'Pneumovax' dose 2 due after interval of 5 yrs following 23vPPV dose 1.

• Q2 Are the recommended vaccine/s NIP-funded?

- No, not under the current NIP guidelines that commenced 1 July 2020.
- Whilst Pneumococcal vaccination with 13vPCV (x1 dose) & 23vPPV (x2 doses) is recommended for people with any 1 of the above medical risk conditions, none of her listed conditions are eligible for NIP-funded vaccines.





MMUNISATION

PneumoSmart Vaccination Tool

THE PNEUMOSMART VACCINATION TOOL

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.

The tool does not accommodate catch-up pneumococcal disease immunisations for children less than 5 years of age. Appropriate catch-up vaccines should be offered as recommended:

- in the online Australian Immunisation Handbook. (Handbook link)
- as per the Immunisation Calculator (Calculator link)

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.

I have read and agree to the Terms and Conditions of use for the PneumoSmart Vaccination Tool.

PROCEED



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.

I have read and agree to the Terms and Conditions of use for the PneumoSmart Vaccination Tool.

Proceed



IMMUNISATION C O A L I T I O N

PneumoSmart

Patient's Details

Details below are for Clinician reference only and will not be kept in our database records

Mary Test

07/01/1955

Next



PneumoSmart

Review Details

Patient Name:

Mary Test

Patient Age:

07/01/1955

Does the patient identify as an Aboriginal and/or Torres Strait Islander Person: **No** Conditions:

Coronary Artery Disease

Heart Failure

Diabetes

Smoking (current or in the immediate past)

Non-haematological malignancies receiving chemotherapy or radiotherapy (currently or anticipated)

Immunosuppressive therapy – where sufficient vaccine response is expected

Chronic obstructive pulmonary disease (COPD and chronic emphysema)

Was risk condition diagnosed on or before 12 months of age:

No

Previously Vaccinated:

No



PneumoSmart

Vaccination Report

Patient Name: Date of Birth: Mary Test 07/01/1955 Does the patient identify as an Aboriginal and/or Torres Strait Islander person: No Conditions: - Coronary Artery Disease - Heart Failure - Diabetes - Smoking (current or in the immediate past) - Non-haematological malignancies receiving chemotherapy or radiotherapy - Immunosuppressive therapy - where sufficient vaccine response is expected - Chronic obstructive pulmonary disease (COPD and chronic emphysema) Was risk condition diagnosed at aged 12 months or younger: No Has the patient received the pneumococcal vaccine before: No

Vaccination Summary

If the patient has **no** written record of receiving 13vPCV or 23vPPV they are recommended to receive:

When Due	Give	Comment	Funding
Now	13vPCV		Self-funded
12 months later	23vPPV (Dose 1)	Recommended interval of 12 months (although 2-month interval is acceptable) after the last dose of 13vPCV.	Self-funded
5 years later	23vPPV (Dose 2)	Minimum interval of 5 years since last 23vPPV dose	Self-funded

Vaccination Summary

If the patient has **no** written record of receiving 13vPCV or 23vPPV they are recommended to receive:

When Due	Give	Comment	Funding
Now	13vPCV		Self-funded
12 months later	23vPPV (Dose 1)	Recommended interval of 12 months (although 2-month interval is acceptable) after the last dose of 13vPCV.	Self-funded
5 years later	23vPPV (Dose 2)	Minimum interval of 5 years since last 23vPPV dose	Self-funded

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- At-risk individuals
 - Under-protected OR significant out-of-pocket cost
 - Special neglected cohort of those with multiple at-risk conditions



- At-risk individuals
 - Under-protected OR significant out-of-pocket cost
 - Special neglected cohort of those with multiple at-risk conditions
- Providers
 - Are expected to implement the Pn NIP
 - Confused, overwhelmed, unable to implement effectively
 - · Contributes to provider 'emotional exhaustion'



- At-risk individuals
 - Under-protected OR significant out-of-pocket cost
 - Special neglected cohort of those with multiple at-risk conditions
- Providers
 - Are expected to implement the Pn NIP
 - Confused, overwhelmed, unable to implement effectively
 - · Contributes to provider 'emotional exhaustion'
- Community
 - Disappointing low Pn vacc coverage rates
 - Especially for neglected cohorts of at-risk adults





• NIP Pn Scorecard



- NIP Pn Scorecard
 - Reflecting current best clinical evidence $\checkmark\checkmark$



- NIP Pn Scorecard
 - Reflecting current best clinical evidence $\sqrt{\sqrt{}}$
 - Simplified & easier to understand
 X



- NIP Pn Scorecard
 - Reflecting current best clinical evidence $\sqrt{\sqrt{}}$
 - Simplified & easier to understand
 - Cost to consumers
 - For those at 'highest-most risk' $\sqrt{\sqrt{4}}$
 - For most of those 'at-risk' XXX

xxx

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- NIP Pn Scorecard
 - Reflecting current best clinical evidence $\sqrt{\sqrt{}}$
 - Simplified & easier to understand
 - Cost to consumers
 - For those at 'highest-most risk' $\sqrt{\sqrt{4}}$
 - For most of those 'at-risk' XXX
 - Provider perspective
 - Compliance with NIP guidelines X
 - Contribution to provider burn-out
 XX



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- NIP Pn Scorecard
 - Reflecting current best clinical evidence $\sqrt{\sqrt{}}$
 - Simplified & easier to understand
 - Cost to consumers
 - For those at 'highest-most risk'
 - For most of those 'at-risk' XXX
 - Provider perspective
 - Compliance with NIP guidelines X
 - Contribution to provider burn-out
 XX
 - NIP Pn vaccine coverage rates
 - Age-based cohorts X
 - Highest 'at-risk (i.e. NIP funded) XX
 - Most adults 'at-risk' (i.e. unfunded) XXX





Implications of Pneumococcal NIP

- Background to Pneumo NIP changes 1 July 2020
- Overview of Pneumo NIP recommendations
- Impact of NIP recommendations
- Implications for at-risk individuals, vaccine providers & the community

