

IMMUNISATION COALITION



ENHANCING ADULT VACCINATION COVERAGE RATES IN AUSTRALIA

Policy white paper



Executive summary

This white paper examines the challenges and barriers to achieving higher rates of vaccination among Australian adults eligible for the National Immunisation Program (NIP), identifies priority areas for action and suggests evidence-based strategies to improve vaccine coverage rates.

Vaccines are one of the greatest achievements of public health and have significantly reduced morbidity and mortality from a range of vaccine-preventable diseases. Vaccines not only provide protection for individuals, but also offer an important secondary benefit of “herd immunity”, through high community vaccination rates. The COVID-19 pandemic has emphasised the importance of vaccines to Australia and the world, and the roles of the community, healthcare professionals, researchers, biopharmaceutical companies, government and other stakeholders in safeguarding a return to normal life.

Australia’s NIP is a cornerstone of the National Preventive Health Strategy.¹ The NIP offers vaccines, free of charge, across the whole of life, for Australians at risk of vaccine-preventable diseases. All vaccines funded on the NIP are rigorously reviewed and recommended by Australian experts. It is one of our greatest public health successes.

Adult vaccination is relatively new to the NIP, and coverage rates are low compared with rates of childhood vaccination. The most recent data collected in the *2009 Adult Immunisation Survey* estimated that 54.4% of eligible adults had been vaccinated against pneumococcal, 74.6% against influenza and 51.1% against both. Rates were particularly low for medically at-risk populations (estimated at 36.2% for influenza in the *2009 Survey*), compared with age-based cohorts.⁷ By comparison, more than 95% of 5-year old Australian children were fully vaccinated in December 2020.⁸⁰

High rates of childhood vaccination coverage may be attributed to years of sustained investments in public health educational programs, financial incentives for healthcare professionals and parents, benchmarking and developing KPIs and targets for childhood vaccination rates and other determinants. Similar attention to adult vaccination coverage is required to provide protection against vaccine-preventable diseases such as influenza, pneumococcal disease and shingles, which continue to be prevalent in Australia and are still responsible for hospitalisations and deaths each year.² Low vaccination coverage rates among adults eligible for NIP-funded vaccines, which lag behind rates of childhood vaccination, contribute to this burden.⁷ The *National Immunisation Strategy 2019-2024* identifies targeting population groups at higher risk from vaccine-preventable diseases as a priority.³⁷

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Biointellect

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Lack of reliable and current data to monitor adult vaccination coverage is a key issue. Adult coverage rates are estimated from a survey that is more than 10 years old. The Australian Immunisation Register (AIR) collects data reported by immunisation providers to record vaccinations for all Australians. Reporting is mandatory for children, but it is voluntary for adults, which has led to under-reporting by approximately 50%.¹⁸

Mandatory reporting for all NIP-funded vaccinations in AIR is scheduled to begin from July 2021. Better monitoring and reporting will cast light on true coverage rates across Australia and among specific NIP-eligible groups, helping to inform strategies, set targets for vaccination rates and evaluate the effectiveness of new initiatives.

Australians, in general, trust and support the use of vaccines.² Recommendation from a healthcare professional, education and awareness of vaccines (and the threat of the diseases they protect against), access to vaccination, social responsibility and norms have been identified as key factors that lead to adults being vaccinated.³⁰

Australia is not alone in facing these issues and, in fact, ranks highly among developed nations in adult vaccination coverage rates.¹² Due to the COVID-19 pandemic, society has a heightened awareness of the benefit of vaccines, and this could be leveraged to promote adult vaccination more broadly. The seven evidence-based recommendations aim to build on the successes of the NIP to better protect vulnerable Australians and further reduce the burden of vaccine-preventable diseases.

Recommendations

<p>Strengthen vaccination monitoring and accountability</p>	<ol style="list-style-type: none"> 1. Monitor adult vaccination coverage rates reported to AIR following the introduction of mandatory reporting in July 2021, to inform potential policy options to improve coverage 2. Step-wise introduction of targets for adult vaccination coverage as key performance indicators in the <i>National Partnership Agreement on Essential Vaccines</i> and the next <i>National Immunisation Strategy</i>, with appropriate support to providers to address barriers in vaccination 3. Introduce benchmarking of adult vaccination coverage rates across Primary Health Networks, with appropriate support to providers to address barriers in vaccination
<p>Improve access to vaccination</p>	<ol style="list-style-type: none"> 4. Promote the use by healthcare professionals of systems that provide notifications via <i>MyHealthRecord</i> and other digital health platforms, and assessment tools, such as <i>PneumoSmart</i>, to take advantage of opportunities (during visits) to offer appropriate vaccines to patients, as part of a whole-of-life approach to preventative health 5. Expand the range of services that offer routine vaccinations, particularly for medically at-risk populations 6. Continue to provide flexible funding to State and Territory Governments and Primary Health Networks to design local programs to optimise access to vaccinations, with an emphasis on adult vaccination
<p>Enhance public awareness and understanding</p>	<ol style="list-style-type: none"> 7. Design a nationally coordinated public health campaign that emphasises a whole-of-life approach to preventive health, including: <ol style="list-style-type: none"> a. Educational campaigns focusing on the role of vaccination in preventive health and raising awareness of the availability of vaccines for eligible adults on the NIP, including specific campaigns targeting each group (age-based, medically at-risk and indigenous and remote communities) b. Campaigns should target both the general public and immunisation providers c. Tools for self-assessment of vaccine eligibility and other preventive health initiatives, similar to the Victorian Government's HALO campaign d. Reminder letters (or smartphone app notifications) to provide advice to adults who are due to be vaccinated and access other preventative health services

1 | Introduction

This white paper examines the challenges and barriers to achieving higher rates of vaccination among Australian adults eligible for the vaccines funded by the National Immunisation Program (NIP), identifies priority areas for action and evidence-based strategies to improve vaccination coverage rates.

Vaccines are one the greatest achievements of public health and have significantly reduced morbidity and mortality from a range of vaccine-preventable diseases. The emergence of COVID-19 has emphasised the importance of vaccines to Australia and the world; and the roles of the community, healthcare professionals, researchers, biopharmaceutical companies, government and other stakeholders in safeguarding a return to normal life.

The NIP is one of Australia's greatest public health successes

Australia's NIP was established by the Australian, State and Territory governments in 1997 and offers vaccinations, free of charge, across the whole of life, for Australians at risk of vaccine-preventable diseases. Adult vaccinations that are currently funded under the NIP are listed in Table 1.

There are a range of adult vaccines recommended for certain risk groups in the Immunisation handbook but not funded under the NIP as well as some State and Territory funded programs. Examples include pertussis boosters for adults aged ≥ 65 years who have not had one in the past 10 years, and Q fever in people aged ≥ 15 years who are at risk of infection with *C. burnetii* (e.g., farmers, veterinarians, laboratory workers handling risk samples).⁸⁷ Examples of additional state funded vaccines include the free hepatitis B vaccine for Aboriginal and Torres Strait Islander people, immunosuppressed people, or people with HIV or hepatitis C and other at-risk populations across NSW and Victoria or free HPV vaccine for refugees (females and males) 20-26 years of age living in NSW.^{88,89}

The *National Immunisation Strategy 2019-2024* identifies targeting population groups at higher risk from vaccine-preventable diseases as a priority, including to:

- “Maintain or improve immunisation coverage in accordance with the NIP Schedule;
- Improve immunisation coverage for population groups at higher risk;
- Continue implementing strategies to improve immunisation coverage in areas where coverage is low;
- Facilitate access to immunisation services for all Australians, regardless of financial or geographical barriers;
- Implement strategies to improve and better understand adolescent immunisation coverage; and
- Improve monitoring and uptake of influenza, pneumococcal and herpes zoster vaccination.”³⁷

Vaccination is also central to the forthcoming *National Preventive Health Strategy*¹ and aims to ensure that upcoming generations continue to be protected from vaccine-preventable diseases.

Table 1: National Immunisation Program Schedule 1 July 2020 (adults)

Age cohort	Vaccine eligibility
All ages	Influenza (indigenous adults)
50 years and over	Pneumococcal (indigenous adults)
65 years and over	Influenza (non-indigenous adults)
70 years and over	Pneumococcal (non-indigenous adults)
70-79 years	Shingles (herpes zoster)
Pregnant women	Pertussis (whooping cough) Influenza
Adults with risk conditions (various)	May be eligible for: <ul style="list-style-type: none"> ▪ Meningococcal ACWY ▪ Meningococcal B ▪ Haemophilus influenzae type b (Hib) ▪ Pneumococcal

Source: Department of Health 2020, National Immunisation Program Schedule

The continuing burden of vaccine-preventable diseases highlights the need to improve adult coverage rates

The burden of vaccine-preventable diseases in Australia fell by 31% over 2005 to 2015, in part due to the effectiveness of vaccines; however, diseases such as influenza and pneumococcal disease continue to be prevalent in Australia and are responsible for hospitalisations and deaths each year.²

- The burden of influenza in Australia more than quadrupled over 2005-2015.² - 337 deaths due to influenza were reported each year, on average, over 2014-2016; and there were more than 9,000 hospitalisations among people aged 65 and over in 2018-19.⁴ This increased burden could be attributed to increased influenza surveillance developed by the Communicable Disease Network Australia after the 2007 influenza season, and other improvements and expansions in influenza reporting across the states and territories.⁸³
- Invasive pneumococcal disease (IPD) caused an average 2,219 hospitalisations per year over 2014-2016, and 20 registered deaths (although surveillance data suggests that deaths may have been 5-6 times higher).² 33% of the 1,100 cases of IPD reported in Australia in 2017 were related to serotypes for which a vaccine was available, but no vaccine had been given.

Influenza and pneumococcal disease are major causes of morbidity and mortality in Aboriginal and Torres Strait Islander Australians, in part due to higher prevalence of comorbidities, such as chronic diseases. Reported rates for hospitalisation due to influenza are eight times higher for indigenous than for non-indigenous adults aged 25-49.⁷⁵ In 2014, reported cases of IPD were approximately six times higher in the indigenous compared to the non-indigenous population.⁷⁶

Low vaccination coverage rates among adults eligible for NIP-funded vaccines, compared with rates of childhood vaccination, contribute to this burden.⁷ As natural immune system functioning diminishes with ageing (immunosenescence), vaccinations may be of increased importance for the elderly to help prevent severe infections.⁸⁴ Additionally, some immunosuppressed elderly individuals are unable to receive all vaccinations, and so rely on high community vaccination rates and herd immunity to help protect them from vaccine-preventable diseases.⁸⁵

Structure of this white paper

This white paper aims to explore the issues associated with rates of adult vaccination in Australia, to identify priority areas for action and evidence-based strategies to improve vaccination coverage rates. The focus is primarily on adult vaccination coverage rates for pneumococcal and influenza, as two examples of vaccines with broad eligibility among adult cohorts and more than ten years of experience being used on the NIP.

- Section 2 provides an understanding of adult vaccination rates in Australia in international context
- Section 3 describes factors affecting adult vaccination rates
- Section 4 highlights priorities for action to improve adult vaccination rates

2 | Understanding adult vaccination rates

Adult vaccination is relatively new to the NIP and coverage rates, though comparable internationally, are lower than those that have been achieved for childhood cohorts through years of sustained investments in public health programs. Adult vaccination rates are low among Aboriginal and Torres Strait Islander Australians and migrant and refugee populations.

Adult coverage is estimated from a survey that is more than ten years old, compared with the high quality, up-to-date data from AIR used to monitor childhood vaccination rates for NIP-funded vaccines. AIR has limited utility for monitoring adult coverage currently, as it is estimated to under-report adult vaccinations by up to 50% (estimated from discrepancies between AIR reporting and doses distributed for the NIP). The introduction of mandatory reporting to AIR from July 2021 is an important step towards better monitoring of adult vaccination coverage.

Australia ranks highly among developed nations in adult vaccination rates

Adult vaccination coverage in Australia is among the highest in developed nations. Figure 1 compares the uptake of influenza vaccines among people aged 65 and over in Australia (data taken from the *2009 Adult Immunisation Survey*) against other OECD countries. Australia's coverage rate of 74.6% compares favourably, with only South Korea reporting a higher rate of 85.1%.¹²

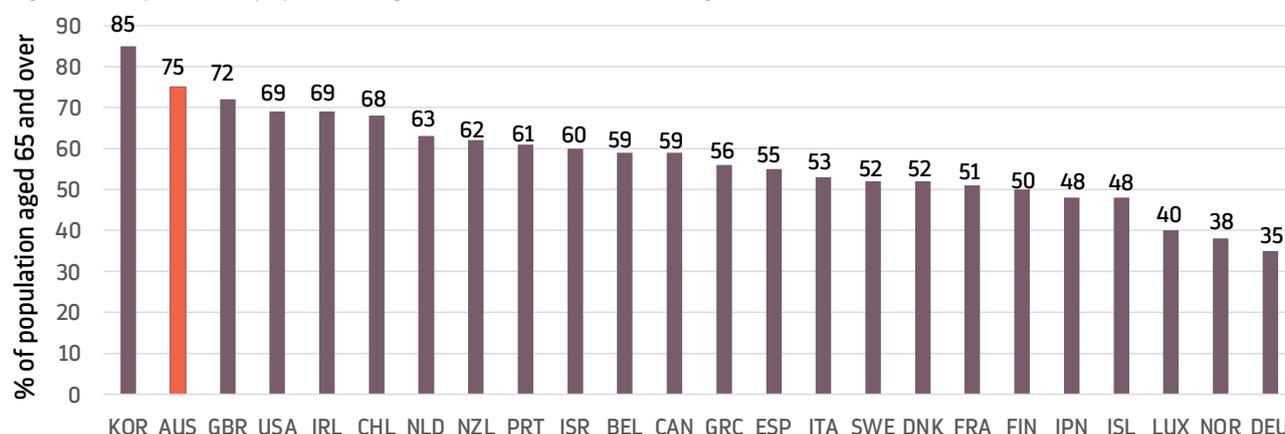
Australia's pneumococcal vaccination coverage rate for adults aged over 65, estimated at 54.4%,⁶ appears to be comparable to other countries:

- A study of German health insurance databases conducted over 2008-2009 (covering 867,683

adults aged 18 and over) estimated that 50.9% of individuals aged 60 and over had received a pneumococcal vaccination;¹³

- A Spanish study, including data for more than 2 million people in Catalonia aged 50 or over, estimated that 52.8% of eligible adults had received a publicly funded vaccination (63.1% of 65-79-year-olds and 81.2% of ≥ 80 year-olds);¹⁴ and
- In the United States (US), median state vaccination coverage among adults ≥65 years was estimated to be 69.5% in 2013, ranging from 61.9% to 75.6% between states, from data reported for 140,851 individuals to the *Behavioral Risk Factor Surveillance System*.¹⁵

Figure 1: Proportion of population aged 65 and over vaccinated against influenza in Australia and other OECD countries



Source: AIHW 2011 (for Australia); OECD (<https://data.oecd.org/healthcare/influenza-vaccination-rates.htm>). Latest data available is from 2017, 2018 or 2019 for comparator countries.

Adult vaccination coverage rates are lower than for childhood cohorts

Vaccination coverage rates for NIP-funded vaccines are lower for adult than for childhood cohorts. More than 95% of eligible Australian 5-year-old children were fully vaccinated in December 2020.⁸⁰ By comparison, only 51.1% of adults aged 65 and over reported receiving both pneumococcal and influenza vaccinations in the 2009 Adult Immunisation Survey; and only 36.2% of eligible medically at-risk individuals reported receiving an influenza vaccine.⁶ Adults are estimated to represent the vast majority (approximately 92%) of the 4.1 million unvaccinated NIP-eligible Australians.⁷

The discrepancies are stark when comparing child and adult age-based cohorts eligible for pneumococcal vaccinations. Estimates indicate that only around 54.4% of eligible adults had been vaccinated against pneumococcal in 2009, compared with almost 95% of 5-year olds (Figure 2).^{6,10,11} Adult coverage rates are estimated from a survey that is now more than 10 years old and subject to methodological issues associated with self-reporting, such as potential under-reporting and recall bias; while childhood rates may be reliably monitored from AIR data.

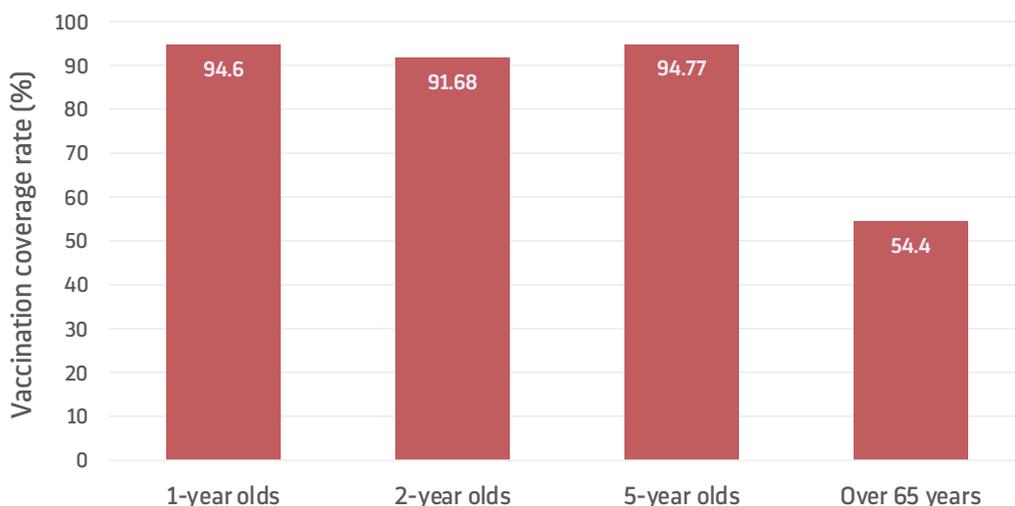
Adult vaccination rates are low among Aboriginal and Torres Strait Islander Australians and migrant and refugee populations

Data from the *National Aboriginal and Torres Strait Islander Social Survey* indicate a decline in influenza and pneumococcal vaccination coverage among adults over the period 2004-05 to 2012-13, particularly in remote areas.⁷⁷ Barriers to achieving higher vaccination rates were identified as challenges in reaching communities, due to remoteness or disability, and cultural factors.

Since September 2020, immunisation providers have been encouraged to record indigenous status on AIR, to enable better tracking of vaccination rates.⁷⁸ Data from AIR in December 2020 reported that more than 97% of Aboriginal and Torres Strait Islander 5-year old children had been fully vaccinated.⁸⁰ This suggests that the issues reaching communities are particular to adult vaccination.

Migrant and refugee populations in Australia are also more likely to be under-vaccinated. This may be due to differences in immunisation programs in other countries, cultural and language barriers and lack of awareness and education on the

Figure 2: Pneumococcal vaccination coverage rates for adult (aged 65 and over) and children in Australia



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 Survey⁶. 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.

importance of vaccination in these communities. A recent Australian study of refugee communities found that lower vaccination rates were associated with challenges accessing funding for vaccines and identifying unvaccinated individuals, lack of a national policy and unclear roles and responsibilities for catch-up vaccination and insufficient training among GPs.⁷⁹

The Australian Immunisation Register (AIR) is estimated to under-report adult vaccination coverage for NIP-funded vaccines by 40-49%

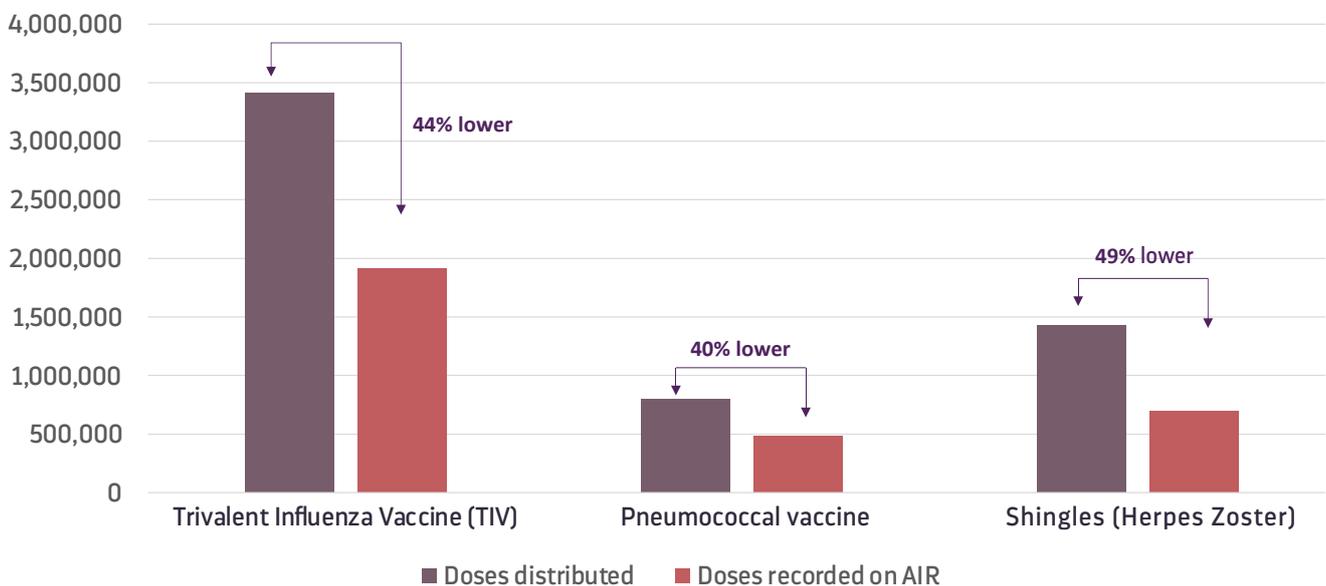
Monitoring coverage rates is crucial to evaluating the effectiveness of the NIP. Coverage rates not only indicate the proportion of the community that has been vaccinated, but also the extent of the "herd immunity" effect of vaccinations and, hence, protection of the wider population. Increasing vaccination coverage rates for childhood cohorts is a key performance indicator (KPI) in the *National Partnership Agreement on Essential Vaccines*¹⁶; however, there are no such KPIs for adult vaccination coverage rates.

AIR records data for vaccinations given to all Australians across the "whole of life". AIR was implemented in 2016 as an expansion of the Australian Childhood Immunisation Register (ACIR), which has recorded childhood vaccinations since 1996.¹⁷

Reporting to AIR is voluntary and reporting rates for adult vaccinations by immunisation providers (which include pharmacies, general practices and other providers) remain low. Analysis by the National Centre for Immunisation Research and Surveillance (NCIRS) of data recorded on AIR between 2016-2018 for shingles (zoster), flu and pneumococcal disease vaccinations indicates considerable disparities between the number of vaccine doses distributed for adults under the NIP and those recorded on AIR (Figure 3).¹⁸ This under-reporting creates challenges in monitoring adult vaccination rates, identifying potential issues and examining their causes.

By comparison, over 90% of childhood vaccinations are recorded on AIR.¹⁰ These higher reporting rates may be attributed to other policies and strategies. For example, *No Jab No Pay* and *No*

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

Jab No Play policies exclude children and families from participating in government programs and educational opportunities. As a result, parents are likely to put pressure on their immunisation provider to report the vaccination to AIR. Differences in reporting practices between settings where vaccines are administered may also contribute to variation; for example, influenza vaccines (primarily for adults) may be given in pharmacies, where reporting rates are lower¹⁹, compared with GP offices and specialised vaccination clinics where childhood vaccinations are typically administered. Immunisation providers may also receive an information payment (\$6 per completed vaccination schedule or catch-up schedule) to report vaccination data to AIR for children under 7 years of age.²⁰

The introduction of mandatory reporting from July 2021 is an important step towards better monitoring

The Australian Government has announced enhancements to AIR, including mandatory reporting of NIP vaccinations for all eligible cohorts from July 2021.²¹ This will assist in monitoring of vaccination coverage rates during Australia's transition out of the COVID-19 pandemic, and is expected to have a lasting legacy across all vaccines. While this represents an important step forward, precise implementation and compliance measures are yet to be determined, in consultation with stakeholders.



3 | Factors affecting adult vaccination rates

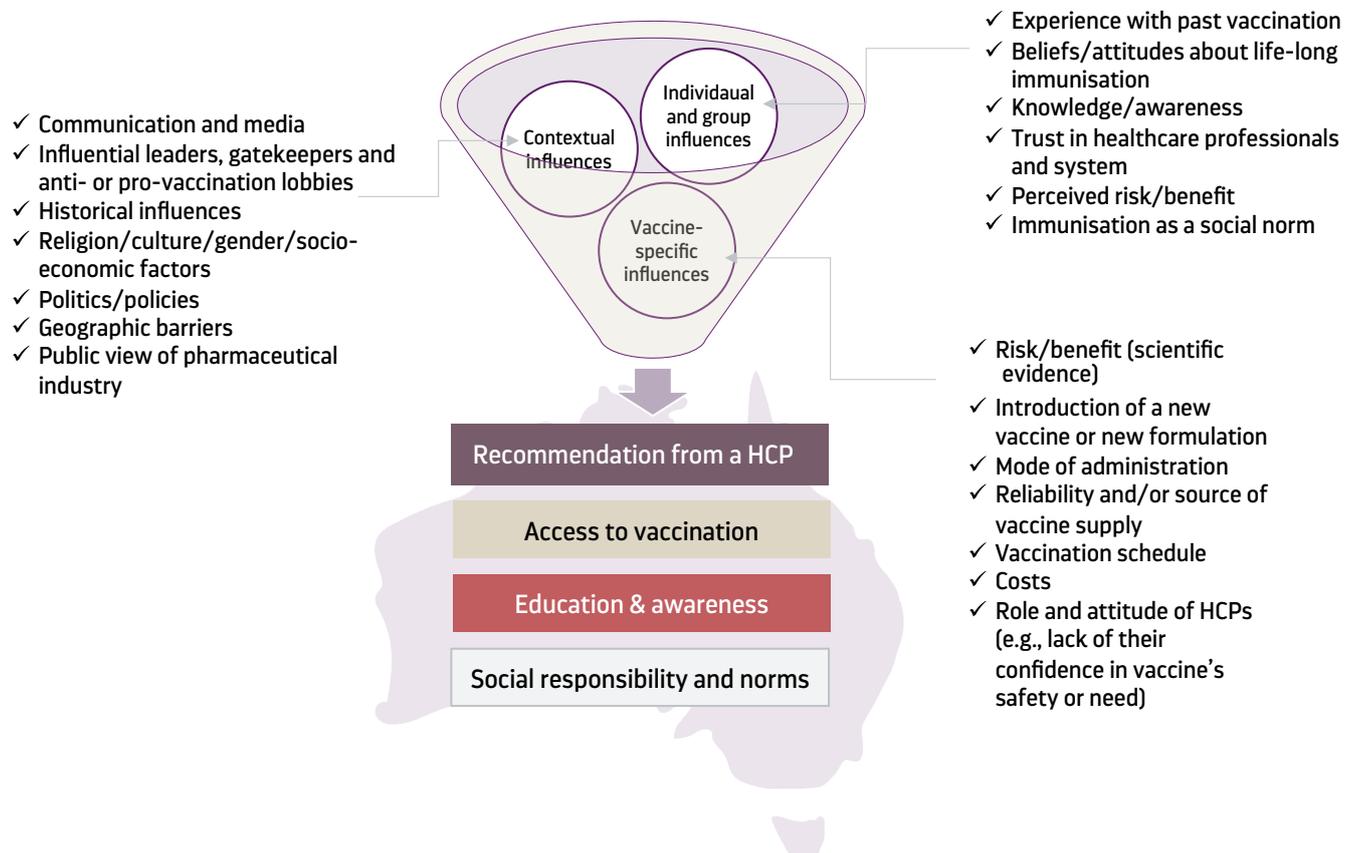
Both push and pull factors influence vaccination coverage rates.

- *Pull factors* are those that affect *accessibility* of the vaccine and the ability of healthcare services to facilitate access for eligible individuals; and
- *Push factors* are those that influence individuals to seek to be vaccinated, including their *awareness* and *understanding* of disease risk, the vaccine and their eligibility for vaccination, as well as potential concerns regarding the safety and efficacy of the vaccine.

Australians, in general, trust and support the use of vaccines.² An international survey²⁸ conducted in 2018 found that 80-89% of Australians strongly agreed that vaccines are important, 70-79% strongly agreed they are effective and 50-59% strongly agreed they are safe. These results align Australia to countries that support the use of vaccines.

The factors that may influence attitudes to vaccination are not unique to Australia. The World Health Organisation (WHO) defined vaccine hesitancy as one of the top ten leading threats to global health in 2019²⁹. Figure 4 provides an overview of factors associated with vaccine hesitancy, identified by the WHO Sage Working Group.³⁰

Figure 4: Factors affecting vaccine hesitancy in adults (adapted from WHO SAGE 2015³⁰)



Which factors affect access to vaccination (pull factors)?

Recommendation from a healthcare professional (HCP) to be vaccinated ("my doctor advised me to") was the most important factor affecting vaccine uptake in Australian adults aged over 65 in the *2009 Adult Immunisation Survey*^{6,7,32}. A commonly reported reason for adults not being vaccinated was that, "my doctor has never offered it to me".⁶ Most adults will either need a reminder or wait to be offered a vaccine, rather than requesting it.³¹

Access to vaccination, and removing any barriers to access, may also determine whether an individual seeks out or takes up an offer to be vaccinated.

This suggests two key pull factors: (i) identification and engagement of eligible individuals with immunisation providers (e.g. general practice); and (ii) taking advantage of opportunities to recommend vaccination during routine healthcare or other immunisation encounters.⁷ There are also challenges, however, as routine healthcare encounters often have a time limit and are focused on managing existing conditions, rather than preventive health.

Identification of eligible individuals is made simpler through clear eligibility rules. Age-based rules (e.g. all individuals aged over 70 are eligible for pneumococcal vaccination) are simple for healthcare professionals to recall. More complex rules, such as those related to risk factors are more difficult to follow.²² For example, pneumococcal eligibility rules include, for indigenous adults aged 50 years and over, administer a dose of one pneumococcal vaccine, 13vPCV, followed by first dose of another vaccine, 23vPPV, 12 months later, then second dose of 23vPPV at least 5 years later. These rules are also updated from time to time in the Australian Immunisation Handbook.

Information systems and clinical decision tools may assist healthcare professionals to identify eligible individuals who have not yet been vaccinated, and to make appropriate recommendations.

- AIR records vaccinations across the whole-of-life for all NIP-eligible Australians and may be integrated with *MyHealthRecord* to provide a full picture of a patient's vaccination and medical history.²³
- The *PneumoSmart* Tool provides information (based on the recommendations in the Australian Vaccination Handbook) for clinicians to administer an appropriate pneumococcal vaccine, based on a patient's individual characteristics.²⁴

Opportunities to offer vaccines during a routine healthcare encounter are more frequent and structured for children than adults. A well-established healthcare management plan for children in their early years (e.g. NSW *My Personal Health Record* or the *Blue Book*²⁵) ensures routine assessment of physical and mental health and development, including vaccination status and schedule. Parents are recommended and reminded (e.g. by smartphone applications) to take their child to their GP or Child and Family Health Centre for routine health checks at certain time intervals, generally coinciding with the NIP vaccination schedule. No such routine healthcare plan exists for adults, leading to fewer opportunities to advise on vaccinations.

Other barriers to accessing healthcare services, in general, also apply to vaccination. For example, transportation for individuals with disabilities or challenges in moving around, availability of convenient services people living in rural and remote areas, inconvenient GP clinic hours or long waits²⁶ and language or cultural barriers.²⁷

Which factors influence adults to seek vaccinations (push factors)?

Education and awareness are related to individual perceptions of disease risk and attitudes towards vaccination. An Australian study considering intention to vaccinate against COVID-19 reported fluctuations of vaccine acceptance with individual perception of disease risk. Population willingness to accept a vaccine was significantly higher during the first lockdown compared to period after the lockdown, when the perceived disease risk had fallen.³³



BOX 1

Emergency nurses working across a Local Health District in Sydney were surveyed to determine their knowledge, behaviour and attitudes towards vaccination status screening in the elderly who present to the emergency department with pneumonia.

Checking vaccination status of the elderly patients was not routine, compared to children, as nurses typically associated vaccines with children, but not necessarily with adults.³⁴

In March and April 2020, the number of Australians receiving influenza vaccinations was more than three times that in the same period in 2019 (over 2.1 million vs. 624,000) and 2018 (235,000).⁸¹ The total number of distributed doses of flu vaccine was 17 million in 2020, which was a substantial increase from just over 12 million doses distributed in 2019.⁸⁶ Higher demand was predominantly driven by public health campaigns (advertising) encouraging people to get vaccinated to maintain good general health during the COVID-19 pandemic. This highlights the efficacy of a targeted approach.

Lack of published data on vaccination rates in adults can lead to inadequate appreciation of the burden of vaccine-preventable diseases. The general community and healthcare professionals may not fully realise the value of vaccinations (see Box 1).³⁴

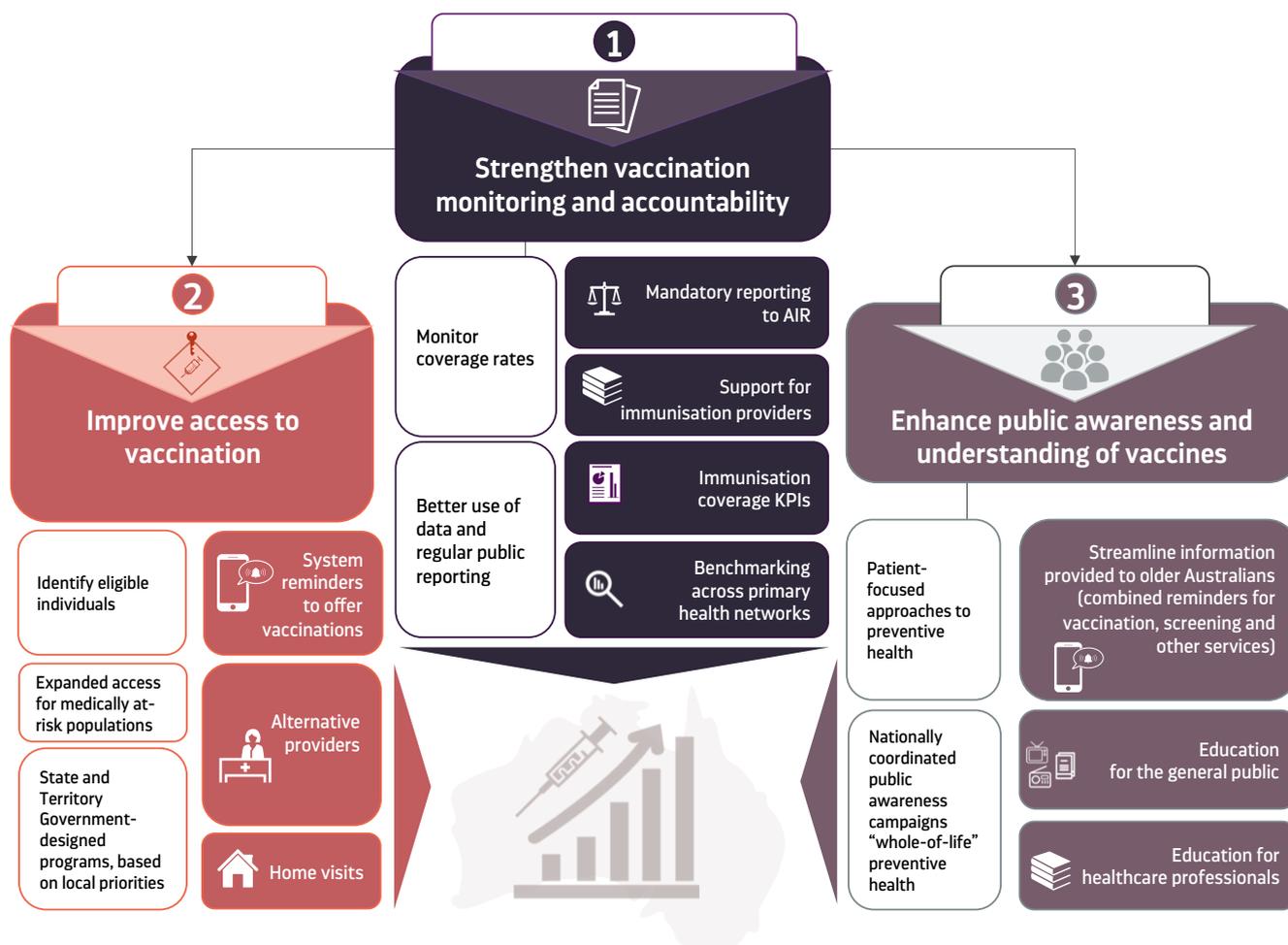
Social responsibility and norms. A recent Australian study of perceptions of influenza and pneumococcal vaccine uptake among people aged 65-84 found a strong connection between feelings of social responsibility to not pass on infectious (and preventable) diseases to others, and willingness to be vaccinated. This was particularly true for individuals with grandchildren.²⁷ Lower uptake of vaccination has been observed in people with limited family connections; or living in remote/less densely populated areas.¹¹

The decision whether to be vaccinated is influenced by social norms. Behavioural science suggests that people are biased towards selecting the "default" option, or norm. In Australia, childhood vaccination is considered a norm (and may even be required to participate in activities of daily life such as enrolling children in the education system). Parents must actively opt out for their child to not receive recommended vaccines. By contrast, adults must typically *opt in* to be vaccinated, by attending a healthcare service and either requesting a vaccine or, more commonly, accepting an offer to be vaccinated from a healthcare professional.³⁵

4 | Priorities for action

Priorities for action focus on: (1) Strengthening vaccination monitoring and accountability (2) Improving access to vaccination; and (3) Enhancing public awareness and understanding of vaccines (Figure 5).

Figure 5: Priorities for action to increase adult vaccination rates in Australia



The international evidence discussed in this section draws on individual studies and systematic reviews conducted by the Community Preventive Services Task Force (US). These reviews include studies conducted over the period January 1980 to February 2012, to identify economic evaluations of different interventions to increase vaccination coverage across different countries and age cohorts. The review was conducted by a coordination team of vaccine experts, systematic review experts and health economists from the Community Guide Branch at CDC and the findings were used to develop Community guidelines to improve vaccination uptake in the US.⁷³

Table 2: Review of potential strategies to increase adult vaccination coverage rates and applicability to Australia

Strategy	Countries	Evidence	Australian adult context
Vaccination coverage surveillance and better use of data			
<p>Strengthen surveillance system</p> 	<p>Various, including Australia and US</p>	<p>A large body of evidence demonstrates the effectiveness of surveillance and reporting systems to generate or support interventions aiming to increase vaccination rates⁶⁸</p>	<p>Mandatory reporting of all vaccinations to AIR from July 2021 is expected to improve the completeness of data.²¹</p>
<p>KPIs for adult vaccination coverage rates</p> 	<p>Australia, US, Canada, UK, Switzerland</p>	<p>Median increase of 9 percentage points in vaccination rates (total of 20 studies across different age groups and countries)⁶⁹</p>	<p>State and territory performance benchmarks are outlined in the National Partnership on Essential Vaccines and National Immunisation Strategy 2019-2024, but only for childhood vaccination^{16,37,38}</p> <p>These may be expanded to include adult vaccinations when more data is available to inform target-setting.</p> <p>Successful implementation would require support for immunisation providers and addressing barriers to vaccinations.</p>
<p>Public reporting and benchmarking vaccination coverage rates</p> 	<p>Various, including Australia and UK</p>	<p>Australian Primary Health Networks (PHNs) report data on childhood vaccination coverage rates (from AIR), which may be used to compare and benchmark areas.³⁹</p> <p>There are various examples from Australia and other countries across the healthcare sector where benchmarking is used for performance improvement.^{40,41}</p>	<p>Public reporting and benchmarking of PHNs may be utilised to drive performance improvement in adult vaccination rates.</p> <p>Successful implementation would require support for immunisation providers and addressing barriers to vaccinations.</p>

Strategy	Countries	Evidence	Australian adult context
Access to vaccination			
<p>Reminders during routine health assessment</p> 	<p>Australia US, Canada, UK, Switzerland</p>	<p>Median increase of 10% points in vaccination rates (total of 22 studies across different age groups and various countries)⁴²</p> <p>A Melbourne study reported 67% and 55% uptake in pneumococcal vaccines in hospital and GP settings, respectively (from 41% base case – increases of 26 and 15 percentage points), following the establishment of an alert system for hospital staff and GPs at a follow-up appointment⁴⁵</p>	<p>Systems such as AIR and <i>MyHealthRecord</i> are in place to track vaccination history, enable follow-up and reminders when vaccines are due.</p>
<p>Home visits to increase vaccination rates</p> 	<p>US, UK, Australia, Canada</p>	<p>Median increase of 11% points in vaccination rates (total of 23 studies across different age groups and various countries)⁴⁶</p> <p>Additional opportunities to assess patients undetected health risks or medical problems however, there could be difficulties managing clients with adverse reactions to vaccinations.</p>	<p>Strategy particularly applicable to selected targeted populations e.g. living in remote areas; or as a general strategy for elderly population with disabilities in urban/remote areas (e.g. 2012 Vaccine outreach Program in Logan, QLD⁴⁷</p>
<p>Vaccination programs at schools and childcare centres</p> 	<p>Australia, US, UK, Canada, Japan</p>	<p>Median increase of 47 percentage points in vaccination rates (total of 27 studies across different age groups and various countries). These findings were attributed to a reduction in barriers to obtaining a recommended vaccination (time, service access)⁷⁰</p>	<p>May be adapted to offer convenient services for adults; for example, vaccinations at community centres (such as the current community vaccination services offered for children and families by Special Vaccination Clinics in WA)</p>
<p>Leveraging other community-based providers, such as pharmacies</p> 	<p>US, UK, Australia, Portugal</p>	<p>A US study reported an increase of 1.5 to 2.5% points in the pneumococcal vaccination rate, attributable to pharmacy-based vaccinations and annual increase in 3.5 million additional vaccinations in pharmacies⁴⁸</p>	<p>Pharmacy vaccination may offer a cost-effective option for patients and reduce pressure on primary care.</p> <p>There is variation between states and territories in the scope of pharmacists' authority to vaccinate. A national approach to expand access to pharmacist-administered vaccines could help to boost adult vaccination coverage rates.</p>
<p>Vaccination programs at workplaces (non-healthcare)</p> 	<p>US</p>	<p>A US study evaluating the effectiveness of promoting influenza vaccination in general worksites estimated a relatively modest increase of 0.8% points in adult vaccination rates. The main challenge identified was the motivation of employers to provide this type of service to their employees.⁷¹</p>	<p>Given the age- and risk-based recommendations for adult vaccinations on the NIP, workplace-based strategies may be expected to have limited utility.</p>

Strategy	Countries	Evidence	Australian adult context
Public awareness and understanding			
Patient reminder systems 	Australia, US, Canada, UK, Finland, Switzerland	<p>Median increase of 11 percentage points in vaccination rates (total of 29 studies across different age groups and countries)⁵⁹</p> <p>More opportunities to assess patients undetected health risks or medical problems⁵⁹, however, there is a question about applicability of new technologies to certain populations.</p> <p>A 1996 NSW study reported a significant increase in influenza vaccination rates among men over 65 following a postcard remainder from their GP⁶⁰</p>	<p>The Australian Government introduced reminder letters for eligible adults to receive pneumococcal and herpes zoster vaccinations from July 2020.</p> <p>Initiatives targeting parents to vaccinate their children include notifications via smartphone applications in NSW, Victoria and Queensland.⁶¹ These may be considered for older adults as part of a whole of life vaccination strategy.</p>
Awareness campaigns targeted at the general public on the benefits of life-long vaccination 	Australia, US, Switzerland, Finland	<p>Median increase of 6 percentage points in vaccination rates (total of 7 studies across different age groups and countries)⁵²</p> <p>An Australian study conducted in 2006 found a 33% increase in pneumococcal vaccine orders following a 7-week television advertising campaign to raise community awareness of pneumococcal disease and vaccine availability for people aged over 50⁵³</p>	Australia has a history of successful public health awareness campaigns that may be built upon to develop public awareness of a “whole of life” vaccination approach.
Education for healthcare professionals 	Australia, US, UK	<p>Median increase of 4 percentage points in vaccination rates (total of 6 studies across different age groups and countries)⁵⁶</p>	General practice toolkits are available for childhood immunisation providers across states and territories. Similar materials may be developed for adult vaccinations to improve practice, awareness and vaccine uptake.
Legal requirements for childcare, school and college attendance 	US, Italy, Japan, Australia	<p>Median increase of 18% points in vaccination rates (total of 17 studies across different age groups and countries)⁶³</p> <p>Straightforward solution to increase rates in vaccination, especially among racial and ethnic minorities and children in low-income communities, however, planning and implementation could be challenging</p>	Similar incentives may be designed to target services to eligible adults. For example, a new rule was introduced in 2020 requiring visitors to aged care facilities to be vaccinated. ⁶⁷ This could potentially be expanded to require residents of facilities to be vaccinated.
Patient/ Family or HCP incentives 	Australia, US, Germany	<p>Median increase of 8% points in vaccination rates (total of 8 studies across different age groups and countries)⁷²</p> <p>Improvements were attributed to creating more opportunities to assess patients’ undetected health risks or medical problems⁷²</p>	Appropriate incentives may be considered for eligible adults and immunisation providers to increase motivation to be vaccinated. Incentives would need careful consideration of the potential to influence informed decision making and evaluation of effectiveness.

Priority 1: Strengthen vaccination coverage monitoring and accountability

1. Monitor adult vaccination coverage rates reported to AIR following the introduction of mandatory reporting in July 2021, to inform potential policy options to improve coverage
2. Stepwise introduction of targets for adult vaccination coverage as key performance indicators in the *National Partnership Agreement on Essential Vaccines* and the next *National Immunisation Strategy*, with appropriate support to providers to address barriers in vaccination
3. Introduce benchmarking of adult vaccination coverage rates across Primary Health Networks, with appropriate support to providers to address barriers in vaccination

Monitor adult vaccination coverage rates reported to AIR

Mandatory reporting for all vaccinations in AIR is scheduled to begin from July 2021, which is expected to increase the completeness of the register.³⁶ As highlighted previously, fewer than 50% of adult vaccinations are currently reported.¹⁸ A more complete register will cast light on true coverage rates across Australia (Figure 6). Analyses of these additional data may then inform policy setting, potentially including a national target coverage rate, and be used to monitor and evaluate the impacts of policies and initiatives on coverage.

Challenges remain in understanding coverage rates among at-risk groups, due to medical or other reasons (behavioural, environmental or occupational). It is not clear from AIR data how many Australians would be *eligible* for vaccines due to these risk factors, so it is not possible to calculate a coverage rate.¹⁸ Additional studies, such as the *2009 Adult Immunisation Survey*, are required to understand coverage trends in these groups.

Consider the introduction of key performance indicators for adult vaccination coverage rates

Key performance indicators (KPIs) under the *National Partnership Agreement on Essential Vaccines* have played an important role in increasing childhood vaccination coverage rates

up to 95%. State and territory governments receive payments based on the achievement of performance targets, i.e. to increase the rate of vaccination coverage, compared with the previous period, up to 95% (once 95% coverage is reached, the target is deemed to be met).¹⁶ Outcomes are reported annually by the AIHW and are publicly available, which enhances accountability for their achievement. Similar KPIs could be introduced, for example, to the *National Partnership Agreement* and the next *National Immunisation Strategy*, to encourage actions to improve rates of adult vaccination coverage.^{37,38}

Consider benchmarking adult vaccination coverage rates across Primary Health Networks

Primary and community care providers deliver the majority of adult vaccination services in Australia. Primary Health Networks (PHNs) were established to improve coordination of primary care and related services. PHNs regularly report population rates for vaccine coverage by State/Territory, PHN, postcode and local statistical area to immunisation providers. Currently, this reporting only covers Australian childhood vaccination rates from AIR.³⁹ There are various other international and Australian examples^{40,41} of benchmarking initiatives that aim to improve the quality and productivity of healthcare services. Public reporting of adult vaccination coverage would improve surveillance and enhance accountability across PHNs for working towards a national target.

Figure 6: Implementation roadmap



Priority 2: Improve access to vaccination

4. Promote the use by healthcare professionals of notifications via *MyHealthRecord* and other digital health platforms, and assessment tools, such as *PneumoSmart*, to remind providers to take advantage of opportunities (during visits) to offer appropriate vaccines to patients, as part of a whole-of-life approach to preventive health
5. Expand the range of services that offer routine vaccinations, particularly for medically at-risk population
6. Continue to provide flexible funding to State and Territory Governments and Primary Health Networks to design local programs to optimise access to vaccinations, with an emphasis on adult vaccination

Opportunity to vaccinate at any touchpoint with a healthcare professional/immunisation provider

Taking advantage of opportunities during routine healthcare encounters to offer vaccinations is a key pull factor (see section 3). This may be particularly useful for medically at-risk populations eligible for NIP vaccines, who are less likely to be vaccinated than people who meet age-based criteria.⁶ A study of pneumococcal vaccination in Australian general practices found that patients aged over 65 who visited a practice at least once a year were more likely to be vaccinated.¹¹ This regular engagement with an immunisation provider is an opportunity to offer the vaccine.

The same study found that approximately half of patients were vaccinated against influenza and pneumococcal on the same day.¹¹ Given that influenza vaccination rates are estimated to be higher than for pneumococcal⁶, annual influenza vaccinations may be opportunities to offer patients other vaccines.

Influenza vaccines are, however, increasingly given in pharmacies, where other vaccines such as pneumococcal are not available; and routinely accessed healthcare services may not always be immunisation providers. For example, a HIV patient may regularly attend a sexual health clinic, but see their GP less frequently. If the reminder is given at the sexual health clinic, but then the patient must attend a primary care practice to request a vaccination, this may result in a missed opportunity to vaccinate. Expanding the range of services that offer routine vaccinations such as pneumococcal may therefore result in higher vaccination rates, particularly for medically at-risk populations.

“Whole of life” vaccination reminders and assessment tools for immunisation providers

Prompts and tools to identify and recommend appropriate vaccination to eligible individuals is expected to increase the uptake of vaccines.³⁵ Data from AIR may be integrated with *MyHealthRecord*²³ and other digital health platforms, to provide a full picture of a patient’s immunisation and medical history. This may then be used to alert an individual or a healthcare professional that a vaccination is due (or overdue).

Checking vaccination status and offering vaccines may be integrated with preventative healthcare consultations offered under Medicare.⁵⁸ These support patient access to preventative based clinical activities, although vaccination services are not currently covered.⁵⁸

BOX 2: Reminders for immunisation providers

Two pilot programs in Australia have demonstrated significant improvements in vaccination rates when healthcare professionals were prompted to integrate vaccination status checks into routine health assessments:

Comprehensive Health Assessment Program (CHAP), for tetanus/diphtheria, in adults with intellectual disabilities⁴³

Hepatitis B in female prisoners⁴⁴

A randomised controlled trial conducted in Melbourne in hospitalised patients aged 65 or older tested two strategies to increase vaccine uptake via an alert system for: (i) hospital staff; and (ii) GPs at the follow-up visit. The study reported 67% and 55% uptake of pneumococcal vaccines in hospital and GP setting respectively – a substantial increase from a baseline vaccination rate of 41%.⁴⁵

International evidence supports the effectiveness of alerts to GPs and other immunisation providers to check the vaccination status of their patient.⁴² Box 2 describes several pilot studies conducted in Australia that have demonstrated significant improvements in vaccine uptake when healthcare professionals were prompted to integrate vaccination status checks into routine health assessments, with tools such as hospital alert systems.^{43,44,45}

Additional tools may be utilised to assist clinical decision making with regard to offering vaccines. Box 3 describes the *PneumoSmart* tool, which has been developed by the Immunisation Coalition, and NSW Health's Toolkit for General Practices.

BOX 3: Assessment tools

PneumoSmart is a tool to assist immunisation providers to assess patients and deliver appropriate pneumococcal vaccines, based on the recommendations in the Australian Vaccination Handbook. The tool is regularly updated to comply with current pneumococcal disease vaccination recommendations.

NSW Health has published "Influenza immunisation provider Toolkit for General Practices" to support the implementation of appropriate influenza vaccination practice.⁵⁷

Continued flexibility to design local programs to optimise access

Roll-out plans for the COVID-19 vaccine provide examples of the potential for focused, best practice approaches to optimising access to vaccination. Full plans are yet to be announced and will be tailored to vaccine requirements. Initial vaccinations will be given in hospital hubs and residential aged care facilities.⁸²

Immunisation programs led by State and Territory Governments, Primary Health Networks and other agencies require flexibility to design programs based on local priorities. This may include options such as expanding access to vaccination beyond existing providers, to increase convenience to get vaccinated and improve uptake. Box 4 describes the Vaccine Outreach Program offered in Queensland to address transportation issues in accessing childhood vaccinations. Other case studies include: home vaccination services; pharmacy vaccinations; and options tailored to local circumstances.

BOX 4: Home vaccination

The *Vaccine Outreach Program* was run from 2012-2014 in Logan, Queensland, to offer home vaccination to children. A lack of transportation options had been identified as the key reason for their lower vaccination coverage rates (below 80%), compared to more urban areas.

The program was run on a referral basis, costing the local Council \$AUD20,000 per year. From 2012-2014, a total of 2,500 patients were successfully vaccinated at home.⁴⁷

Home vaccination services have been offered across multiple countries to improve vaccination rates in children. The immunisation provider (e.g., nurse) visits a family home, providing a complete health assessment: assessing the patient's vaccination history; providing advice on recommended vaccinations, including catch up doses; and may offer vaccination on the spot or a referral to another immunisation provider. Studies conducted in the US, UK and Canada found that home vaccinations were associated with an increase in vaccination rates and led to additional opportunities to identify undetected health risks or underlying medical problems.⁴⁶

Pharmacies have been authorised to deliver vaccines in many countries since the early 1990s. Potential benefits include convenience, cost-effectiveness, better access and reduced pressure on GP clinics⁴⁹ (see Box 5). While all jurisdictions in Australia have introduced legislation allowing some vaccines to be delivered in pharmacies, there remain differences in the scope and requirements of authorisation. For example, since March 2020, pharmacists across all states and territories

BOX 5: Pharmacy-delivered vaccination

A US study over the period 2006-2010 reported an increase in adult vaccination rates of approximately 10 percentage points for influenza and 7 percentage points for pneumococcal vaccination. Of this, 1.5 to 2.5 percentage points were attributable to pharmacy-based vaccination services.

More importantly, the study estimated that, since implementation of the strategy, 3.5 million additional pneumococcal vaccinations were attributed to pharmacy-delivered vaccination services annually.⁴⁸

have been authorised to administer influenza and dTpa vaccines to people aged over 16 years. MMR vaccine may be administered to those aged over 16 years in pharmacies across all jurisdictions except the Australian Capital Territory. In Queensland, pharmacists may administer dTpa-polio, Haemophilus influenzae type b, hepatitis A, meningococcal ACWY and monovalent polio vaccines to people aged ≥16 years.¹⁹ A nationally consistent approach would enable consistent access.

BOX 6: Monash Health's drive-in vaccination service

In April 2020, Monash Health launched a new drive-in immunisation service in Clayton Hall to increase convenience for people to get access influenza vaccinations, while minimising contact during the COVID-19 pandemic. Similar to drive-in COVID-19 testing clinics established around the country, people receive their vaccine while in the car, and are required to wait in the car for 15 minutes following administration before departing. All data is recorded electronically, using QR codes on mobile phones, which further limits the spread of infections. This strategy has been particularly successful in delivering vaccines to high risk and vulnerable populations.⁵⁰

Across the world, clinics and hospitals have reinvented the way they deliver vaccination to limit physical contact during the COVID-19 pandemic, particularly when vaccinating high-risk patients. Drive-in vaccination clinics deliver vaccines with minimal contact and are already set up to deliver NIP vaccines across some states and territories in Australia. Box 6 describes newly established Monash Health's drive-in vaccination service in Victoria.⁵⁰ These clinics aim to improve convenience and broaden the reach of traditional services.

Vaccines must be available when they are sought. This requires careful alignment of government communications, distribution processes and the capacity of immunisation providers to store vaccines. Serialisation enables full, real-time tracking of vaccine stocks throughout distribution. Providers such as GP clinics may require support to maintain refrigerator capacity for optimal stocks of NIP vaccines. Being turned away may undermine public confidence in the NIP and lead to missed opportunities to vaccinate.

Finally, vaccine manufacturers have an important role to play in ensuring the quality and sufficient availability of vaccines to meet community demand. This includes taking measures to protect against counterfeiting, provide full traceability of vaccines throughout the supply chain and pharmacovigilance. Sufficient supplies are critical to ensuring that vaccines are available when requested and that individuals are not deterred from being vaccinated.^{51,74}

Priority 3: Enhance public awareness and understanding of vaccines

7. Design a nationally coordinated public health campaign that emphasises a whole-of-life approach to preventive health, including:
 - a. Educational campaigns focusing on the role of immunisation in preventive health and raising awareness of the availability of vaccines for eligible adults on the NIP, including specific campaigns targeting each group (age-based, medically at-risk and indigenous and remote communities)
 - b. Campaigns should target both the general public and immunisation providers
 - c. Tools for self-assessment of vaccine eligibility and other preventive health initiatives, similar to the Victorian Government's HALO campaign
 - d. Reminder letters (or smartphone app notifications) to provide advice to adults who are due to be vaccinated and access other preventive health services

Public health education and awareness programs and self-assessment tools

Public health awareness programs may be utilised to drive a shift in mindset towards whole-of-life vaccination, as part of a healthy lifestyle.⁵⁴ The Victorian Government's HALO program is an example of such an approach that may be expanded to include preventive health measures more broadly and rolled out nationally (Box 7). Streamlining of approaches across states and territories would reduce duplication.

A public education campaign may promote the use of vaccines, increase awareness of safety and effectiveness and of any changes to the NIP and other programs among the general public.³⁵ Such campaigns have successfully led to increased vaccination coverage rates in Australia and other countries.⁵²

BOX 7: HALO program (Victoria)

HALO, from Victoria's Better Health Channel, emphasises the importance of life-long vaccination, and offers assessment of Health, Age, Lifestyle and Occupation (HALO) to Victorians, to assist in identifying risk factors for vaccine-preventable disease and determine which vaccination would be beneficial for an individual person. As part of the campaign, an infographic and check list "Vaccination for Life" is available for individual assessment and can be used as a reminder and a conversation starter with an immunisation provider.⁵⁵

A campaign may include television and radio campaigns, posters displayed in GP clinics, aged care facilities and Aboriginal Medical Services. Box 8 describes an example campaign in NSW. Culturally and linguistically appropriate resources are required to assist information dissemination across the community.

BOX 8: North Coast advertising campaign

In 2006, in attempt to improve vaccination coverage, the North Coast Area Health Service (NCAHS) in NSW conducted a seven-week television advertising campaign to raise community awareness of pneumococcal disease and availability of the vaccine to the population eligible for NIP-funded vaccines. The area experienced a 33% increase in vaccine orders in the four months following the campaign compared to the previous year, while, in the rest of NSW, vaccine orders decreased by 28%.⁵³

Educational campaigns are especially powerful when they target behaviours linked to social responsibility and norms in the community; i.e. how being vaccinated may affect and influence their community. Campaign messaging could, for example, be designed to encourage vaccination by emphasising³⁵: (i) that a high number of people have been vaccinated in their area; or (ii) that the risk of infection transmission is heightened, due to a high number of unvaccinated people in their area.

Patient reminders

Patient reminder systems such as smartphone applications, text messages, phone calls, postcards/letters and emails have demonstrated success in increasing vaccination coverage rates, internationally and in Australia (see Table 2).⁵⁹ Recently, several state health departments in Australia have developed smartphone applications to remind parents to vaccinate their children (e.g. Save the Date to Vaccinate, NSW; Maternal and Child Health, Victoria; Vaccidat, Queensland⁶¹).

The solution should be designed appropriately for the target population (see Box 9). In 2020, the Australian Government initiated letters to be sent to people when they reach age 70 to remind them that they are eligible for pneumococcal vaccination. Another option currently used in Australia is a phone call from a GP clinic, although this is not consistent across practices.

BOX 9: Postcard reminder

A 1996 study conducted in a Sydney GP clinic tested the effectiveness of a single postcard reminder to encourage influenza vaccination among older adults. The study reported a significant increase in vaccination rates among men aged over 65.⁶⁰

A whole-of-life approach to preventive health would, for example, streamline information provided to patients at specific ages where they become eligible for services. This might include combined reminders for screening, zoster and pneumococcal vaccines at age 70.

Other options: legislation to require vaccination to access public services

Legislation requiring vaccination as a condition for attending childcare, schools and colleges has led to increases in vaccination rates for children in the US, Italy, Japan and Australia (see Table 2).⁶⁴

Mandatory vaccination raises conflicting issues for society and may be unlikely to positively change behavior towards vaccination, particularly for the vaccine hesitant populations (Box 10). Further challenges relate to the planning and

BOX 10: No Jab, No Pay

In 2016, new requirements for vaccination in order to access family assistance payments were introduced by the Australian Government. Known as the *No Jab, No Pay* measure, this imposed mandatory vaccination for individuals aged under 20 years, as a condition for parents to access Child Care Benefit, the Child Care Rebate and, Family Tax Benefit Part A end of year supplement.⁶⁵

Recently, four states (NSW, Victoria, South Australia, and Western Australia) have implemented new and expanded national requirement for children to be vaccinated in order to access childcare. Fines are also imposed on childcare centres that admit unvaccinated children.⁶⁵

The success of these policies is yet to be determined. A recent study examined the impact of *No Jab No Pay*, using data from AIR for children aged 5-7 and young people aged 10-20, in the two years before and after implementation of the policy. The study found a slight drop in the number of children catching up on their first dose of MMR, while there was an increase in catch up on second MMR dose and on dTpa dose. This suggested that the overall policy may have served as a reminder for people already willing to vaccinate their children for a catch-up vaccination, although it did not appear to influence the vaccine-hesitant population.⁶⁶

implementation of a mandatory program. Government must consider the costs of the program and its ability to ensure uninterrupted supply and access to all populations for whom vaccination is mandatory.

Box 11 describes a policy recently implemented in Australia requiring all visitors to aged care facilities to be vaccinated against influenza. Such a policy could be extended to residents of aged care facilities who are eligible for NIP vaccines.⁶⁷

Any policy changes embedded in legislation would require appropriate support to address barriers to vaccination uptake prior to implementation, as well as careful consideration of potential unintended consequences, to ensure their success.

BOX 11

New rules have commenced in all States and Territories in April 2020, which require anyone entering an aged care facility to have a flu vaccination – employees, contractors, and visitors. However, this rule does not apply to the residents.⁶⁷

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