



Advisory Group Recommendations for Addressing Undervaccination in NIP-Eligible Populations

**Recommendations Supporting Implementation of the
National Immunisation Strategy (NIS) for Australia 2025–2030**

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Executive Summary

The Immunisation Coalition (IC) advocates practical, evidence-aligned approaches to raise vaccine coverage across Australia. As the only organisation dedicated to infectious disease prevention through both vaccination and non-pharmaceutical measures, the IC supports Australian Technical Advisory Group on Immunisation (ATAGI) guidance and partners with government and health professionals to protect all Australians against preventable infectious diseases through the use of safe and effective vaccines. This submission provides priority, implementable initiatives that address persistent undervaccination and set out clear steps to increase uptake.

Scope and purpose

This submission provides expert implementation guidance for four disease areas where undervaccination persists despite National Immunisation Program (NIP) eligibility and/or there is a lack of data on vaccination rates: (1) COVID-19, (2) influenza, (3) pneumococcal disease, and (4) pertussis. Priority was given to specific age groups aligned with the NIP. For each disease area we propose targeted, scalable actions mapped to the Priority Areas of the National Immunisation Strategy (NIS) for Australia 2025–2030 to support effective, equitable delivery.

Approach and consensus

Recommendations reflect the consensus of approximately 26 clinical, public health and industry experts convened to focus on the four priority disease areas. These four areas were prioritised as outlined in the IC Advisory Group Charter. Proposals are pragmatic and ready for consideration or implementation, with options that can be adopted with or without additional consultation to support long-term sustainability.

Advisory Group

The Advisory Group includes representatives from the Immunisation Coalition, Medicines Australia, Royal Australian College of General Practitioners (RACGP), Pharmacy Guild of Australia, Pharmaceutical Society of Australia (PSA), Australian Primary Health Care Nurses Association (APNA), Collaboration on Social Science and Immunisation (COSSI), general practitioners, nurse immunisers and vaccine manufacturers (see Appendix 1).

Call to action

The IC recommends prioritising the proposed recommendations through next step consultation and investment in the development of Key Performance Indicator (KPI) driven scalable models and programs that cut through system complexity, improve transparency and accountability, and strengthen vaccination delivery across settings to close persistent coverage gaps and protect Australians from communicable diseases.

1. COVID-19

Key Factors Responsible for COVID-19 Undervaccination or Declining Vaccination Rates

Public involvement in vaccination efforts has notably declined following the conclusion of the COVID-19 pandemic, coinciding with a growing distrust of vaccines.¹ A significant proportion of the population no longer perceive COVID-19 as a serious personal health risk, leading many to decline booster doses or neglect to discuss vaccination during routine healthcare visits.² While the Omicron variants are less severe than previous variants and death rates have fallen, cases still abound particularly in closed community settings and among immunocompromised individuals.³

This decline in engagement is particularly relevant among individuals aged ≥ 50 years and immunocompromised patients aged ≥ 18 years, many of whom are unaware of current booster recommendations and do not seek clarification from their healthcare provider.^{1,4} Not all GPs and community pharmacists consistently use consultations as an opportunity to recommend COVID-19 vaccination to these high-risk cohorts or those who ATAGI recommend should consider vaccination every 6–12 months (age 18–64 years). Furthermore, in residential aged care settings, uptake remains especially low and declining.¹ Only a limited number of facilities have appointed a dedicated coordinator to manage consent, liaise with immunisation providers, and organise on-site vaccinations.⁵

NIS Implementation Recommendations

We are aligned with ATAGI guideline recommendations across two priority cohorts as follows:⁶

- Adults aged ≥ 75 years should receive a COVID-19 vaccine dose every six months.
- Immunocompromised adults aged 18–64 years should receive an annual COVID-19 vaccine dose and can consider a dose every six months.

For adults aged 65–74 years, we recommend that they should also receive a COVID-19 vaccine dose every six months to ensure they are protected and to minimise any confusion regarding vaccine frequency.

The proposed recommendations below focus on these key target groups.

Overarching recommendations

- **Proactively recall people aged ≥ 65 years:** General practices and community pharmacies should proactively recommend COVID-19 vaccination to everyone aged ≥ 65 years and use their patient databases to recall individuals (using SMS, phone, email or other) as soon as they become due. If recommendations change, HCPs should be quickly informed.
- **Provide government-funded immunisation coordinators in all aged care facilities:** Appoint dedicated vaccine coordinators in each facility to liaise with immunisation providers for on-site resident vaccination. Streamline consent procedures and embed both roles into aged-care accreditation standards.
- **Fund pilot programs:** Allocate sufficient funding to pilot cost-effective, efficiency-driven models for vaccinating adults aged ≥ 65 years, particularly older adults in aged care, and immunocompromised individuals.
- **Optimise AIR usage:** Leverage AIR to identify unvaccinated individuals and trigger provider alerts for follow-up. Implement necessary software enhancements to support real-time recall, targeting and flagging. Explore more integration of AIR with practice software systems and explore ways that aged care facilities are alerted to an unvaccinated resident.

- **Support co-administration via a provider-facing App:** Develop a provider-facing App that recommends a combination of vaccines in line with ATAGI guidelines and Government Recommendations. Use in-App decision support to highlight co-administration opportunities.

Recommendations specific to residential aged care

- **Provide government-funded immunisation coordinators in all aged care facilities:** Each aged care facility should be required to designate a qualified immunisation coordinator, trained and equipped with the necessary tools to increase vaccination rates.
- **Implement comprehensive tracking of resident vaccination status:** The coordinator is responsible for maintaining up-to-date records of every current and incoming standardised resident's vaccination status and vaccination due dates. AIR should be the centralised system for resident vaccination records and this should mirror the information contained within each resident's eHealth record. The vaccination history of every resident should highlight age group and/or risk conditions present, as a quick reference guide for determining if eligible for vaccination under the NIP.
- **Employ a streamlined, best practice model for gaining consent:** The process of gaining consent should follow a best practice model that includes a standardised consent form and ensures that the responsible person is trained and equipped to handle objections. This includes being sufficiently upskilled with infectious disease knowledge to answer resident and family members questions.
- **Ensure proactive provider liaison and scheduling:** The coordinator should liaise with immunisation providers to organise on-site vaccination clinics before the winter season in the most time- and cost-efficient manner. The complexity of scheduling provider visits should be investigated to simplify wherever possible.
- **Provide tailored, fit-for-purpose online education (for carers, aged care staff and resident family members):** Provide 24/7 access to basic disease-specific and vaccine-focused training modules that provide information to assist people in weighing up the risks versus benefits of vaccination, and meet accreditation requirements for staff competence.

Recommendations specific to immunocompromised individuals and adults aged 65–74 years

- **Ensure patients are reviewed at every healthcare appointment:** Practice management systems must flag immunocompromised patients and those aged 65–74 years to ensure clinicians review COVID-19 vaccination status at each visit.
- **Strengthen specialist-to-GP referral pathways:** Specialists treating individuals with acute or chronic immunocompromising conditions should refer all patients back to their GP to ensure vaccination follow-up.
- **Commission an educational white paper for HCPs:** Develop a white paper that describes who is medically at risk of severe COVID-19 disease, which new monoclonal antibodies alter immune function, and how vaccine providers could interpret and apply this information in practice.
- **Deliver tailored, fit-for-purpose online patient and carer education:** Develop a dedicated 24/7 accessible online program for patients with medical risk conditions, featuring clear guidance on recommended vaccines, potential consequences of remaining unvaccinated, and information to assist people in weighing up the risks versus benefits of vaccination.
- **Leverage AIR for provider alerts:** Configure AIR to flag vaccination status in GP/HCP practice systems, triggering timely provider follow-up for due or overdue immunisations.

2. Influenza

Key Factors Responsible for Influenza Undervaccination or Declining Vaccination Rates

Since the onset of the COVID-19 pandemic, public awareness of vaccines has increased significantly, particularly regarding their effectiveness and potential side effects.⁷ However, this heightened visibility has also coincided with a surge in misinformation and disinformation, which has amplified fear and deepened public suspicion.⁷ As a result, vaccine hesitancy has grown, driven by concerns about safety, efficacy and long-term health implications.⁷

Many individuals may now perceive vaccines – particularly new or substitute vaccines – as potentially harmful, with lingering doubts about their long-term effects.⁷ This sentiment extends to influenza vaccines, which a proportion of the public regard as only partially effective.⁸ Such perceptions influence personal decisions around vaccination, particularly when the disease itself is viewed by many as not sufficiently harmful to warrant immunisation, as is the case with influenza.^{8,9} Among younger populations in particular, there is a growing tendency to question the tangible health benefits of being vaccinated and being asked to vaccinate at regular intervals, especially when the perceived risk of illness is low.⁸

With respect to at-risk populations, influenza vaccination rates remain low among children aged <5 years, older adults – particularly those aged 75 years and older and those in residential aged care – and individuals with medical risk conditions.^{10–12} Key contributors to these low vaccination rates for influenza include low perceived severity of influenza, misinformation and vaccine fatigue.^{13,14} Influenza is often deprioritised due to its seasonal nature and perceived mildness, despite high hospitalisation rates among children and older adults.^{8,13,14} Furthermore, influenza is not included in “No Jab No Play” legislation, which limits early childhood coverage and reduces opportunities for protection.¹⁵

While there are increased numbers of healthcare providers who provide influenza vaccines, i.e. pharmacies and nurse immunisers in different settings and locations nationally, influenza vaccine scepticism is compounded by a range of longstanding barriers to vaccination. These include logistical and financial obstacles such as out-of-pocket costs (even for publicly funded vaccines), and time constraints.^{14,16} Additionally, many individuals cite a lack of perceived benefit, concerns about side effects (particularly long-term ones), needle phobia, cultural and linguistic barriers, limited understanding of vaccine science, and general mistrust – whether directed at pharmaceutical companies, government institutions, or broader health establishments.^{8,14,16}

Co-administration opportunities are frequently missed, and the Australian Immunisation Register (AIR) remains underutilised for recall and targeted outreach.⁷ Beyond these highlighted barriers, there are more than fifty additional documented barriers that continue to impede uptake across diverse population groups.

Overall, the reason for the decline in influenza vaccination is not based on one single factor. However, in younger populations (including parents with young children), a key driver is that they do not see sufficient benefit. In older individuals, they do see benefit but that benefit is seen differently by younger individuals. Given the complexity of vaccine hesitancy, focus should be on addressing priority areas that directly improve vaccination rates as opposed to trying to address every challenge and barrier identified.

NIS Implementation Recommendations

We are advocating that high-risk individuals eligible under the NIP are the focus for primary care healthcare professionals (HCPs) involved in immunisation, and that understanding of the benefits of vaccination amongst these groups is increased such that they either actively seek vaccination or accept advice to be vaccinated.

The proposed recommendations below focus on three key at-risk groups: children aged <5 years; adults aged ≥60 years (particularly those aged ≥75 years); and individuals with medical conditions that place them at increased risk of severe disease.

Note that we are not advocating to vaccinate all Australians against influenza each year as this is not feasible. However, we do support free influenza vaccination for Australians not eligible under the NIP. For example, modelling performed on the West Australian population suggests that there would be substantially greater reduction in influenza cases and associated costs across Australia by providing immunisation to children aged 5–11 years.¹⁷

Overarching recommendations

- **Annual flu season launch:** Issue a government media announcement each year from mid-April to mark the start of flu season. Run a minimum 8-week, multi-channel public awareness campaign, then assess the impact to determine if further tailored communications are needed over the next 4 or more weeks.
- **Vaccine distribution and supply:** Release NIP stock in March for provider distribution by mid-April. Explore a cost-effective wholesaler model to streamline delivery to immunisation providers with consistency in the ordering and delivery arrangements across states and territories.
- **Enhance reimbursement and access:** Review and adjust primary care immunisation fees to ensure they are fair, equitable and sustainable. Reduce financial barriers and expand service availability.
- **Empower primary care and other HCP immunisers:** Encourage providers to promote flu vaccination using private stock from February/March and NIP stock from April. Equip all immunisers with up-to-date resources and tools to have confident, evidence-based conversations with patients about vaccine/vaccination benefits.
- **Fund pilot programs:** Invest in pilot initiatives that demonstrate scalable, cost-effective approaches to boost vaccination rates across diverse settings. Capture the learnings and integrate these into other areas where they are likely to work. Scale up successful models and continue to measure effectiveness.
- **Optimise AIR usage:** Leverage AIR to identify unvaccinated individuals and trigger provider alerts for follow-up. Implement necessary software enhancements to support real-time recall and targeting. Explore more integration of AIR with practice software systems.
- **Support co-administration via a provider-facing App:** Develop a provider-facing App that recommends a combination of vaccines in line with ATAGI guidelines and Government Recommendations. Use in-App decision support to highlight co-administration opportunities.
- **Review of new technologies:** New technologies involving a significant improvement in vaccine efficacy and safety, and new delivery systems, should be prioritised for assessment by the TGA.

Recommendations specific to children aged <5 years

- **Optimise immuniser engagement:** Ensure immunisers seize every opportunity to discuss influenza vaccination with parents during routine childhood immunisation visits and opportunistically at medical appointments. Equip immunisers well in advance with comprehensive information, tools and resources. This should be a coordinated effort between government and peak bodies supporting each profession.
- **Implement electronic reminder systems for parents:** Deploy and evaluate multiple digital platforms to deliver timely reminders to parents when their child is due for

influenza vaccination. Future consideration should be given to all infectious diseases on the Childhood Immunisation Schedule, starting with influenza.

- **Send season-launch SMS alerts to parents:** Issue SMS notifications to all parents of eligible children at the beginning of each flu season, leveraging proven high-coverage models such as South Korea's approach.
- **Provide tailored, fit-for-purpose online education (for parents):** Develop a trusted 24/7 accessible online program specifically designed for parents with young children, addressing common questions and providing information to assist people in weighing up the risks versus benefits of vaccination.
- **Expand "No Jab No Play" legislation:** Amend national and state childcare immunisation requirements to include influenza vaccination (and potentially other childhood vaccines), aligning with existing No Jab No Play/No Jab No Pay framework and take the initial learnings into consideration. This could be introduced gradually to ensure a realistic target-met approach.
- **Enable 'in-centre' vaccination visits:** Coordinate visits by general practitioners (GPs) and other authorised immunisation providers to childcare centres, allowing consenting children to be vaccinated on-site – thereby mirroring successful school-based immunisation programs.
- **Embrace new modalities of administration:** Provide access to needle-free options, where appropriate, to support increased vaccine uptake.

Recommendations specific to residential aged care

- **Provide government-funded immunisation coordinators in all aged care facilities:** Appoint dedicated vaccine coordinators in each facility to liaise with immunisation providers for on-site resident vaccination. Streamline consent procedures and embed both roles into aged-care accreditation standards.
- **Establish an integrated pre-winter vaccination program:** Develop a cost-effective, streamlined model that delivers influenza, COVID-19 and (until listed on the NIP) RSV vaccines, with scope to co-administer pneumococcal and shingles immunisations.
- **Enhance AIR functionality:** Configure AIR to show real-time vaccination status for each resident and link records directly to their aged care facility.
- **Incorporate immunisation as part of aged care accreditation:** Require all residential aged care staff to maintain up-to-date vaccinations for respiratory viruses like COVID-19, Influenza and RSV, and to receive pertussis booster doses during periods of high internal or community/regional outbreaks.
- **Provide tailored, fit-for-purpose online education (for carers, aged care staff and resident family members):** Provide 24/7 access to basic disease-specific and vaccine-focused training modules that provide information to assist people in weighing up the risks versus benefits of vaccination and meet accreditation requirements for staff competence.

Recommendations specific to individuals with medical risk conditions

- **Increase patient awareness:** Ensure medically at-risk individuals understand their specific risk factors and the protective benefits of NIP vaccines through electronic health record prompts and proactive GP/HCP consultations.
- **Deliver tailored, fit-for-purpose online patient and carer education:** Develop a dedicated 24/7 accessible online program for patients with medical risk conditions, featuring clear guidance on recommended vaccines, the potential consequences of remaining unvaccinated and provide information to assist people in weighing up the risks versus benefits of vaccination.
- **Implement personalised vaccine reminders:** Inform eligible patients on which vaccines they are due for and by when, and evaluate multiple communication channels – such as SMS, email and patient web portals – for suitability and effectiveness.
- **Leverage AIR for provider alerts:** Configure AIR to flag vaccination status in GP/HCP practice systems, triggering timely provider follow-up for due or overdue immunisation.

3. Pneumococcal Disease

Key Factors Responsible for Pneumococcal Disease Undervaccination or Declining Vaccination Rates

Many members of the public have become vaccine hesitant or fatigued following the COVID-19 pandemic, with a growing perception that vaccines may cause harm, including long-term complications.^{7,18}

In relation to pneumococcal disease, a significant proportion of Australians remain unaware of the condition itself, the populations at highest risk – including young children, older adults, First Nations peoples, and individuals with chronic health conditions – and the serious consequences of invasive pneumococcal disease (IPD).¹⁹ Public understanding of pneumococcal vaccination guidelines and recommendations is similarly limited: many are unclear about who should be vaccinated and when, i.e. at what age, under what conditions including previous history of vaccination and which vaccine was given.^{19,20}

Healthcare providers are often time-constrained and may not have the opportunity to discuss pneumococcal vaccination during regular appointments. Without a recommendation from an HCP, the public has limited awareness of – or opportunity to consider – pneumococcal vaccination.²¹

Service delivery barriers also persist, with state-based differences in which pharmacists can vaccinate against pneumococcal disease, and there is currently no funding for nurses to provide adult vaccinations in local council-run clinics.^{22,23}

Incomplete pneumococcal vaccination records on AIR for adults also mean that individuals often lack a clear record or recollection of previous vaccinations. Providers, in turn, may be unable to verify prior doses if they did not administer them.²⁴

Multiple changes to pneumococcal vaccination recommendations over time have led to confusion among providers, leaving some uncertain about what to recommend, to whom, and when.¹⁹ Additionally, without access to complete vaccination histories, providers may worry about exceeding the recommended 'lifetime' dose limits.¹⁹ The IC PneumoSmart Tool has helped providers clarify which vaccine to use and under what conditions:

<https://www.immunisationcoalition.org.au/pvt/>.

There is also a lack of funding for HCP education through organisations such as Primary Health Networks (PHNs), which are commissioned by the government to work closely with primary care providers.²⁵ Education fosters knowledge; knowledge builds confidence in engaging patients; patient conversations drive vaccine uptake; increased uptake reduces the risk of disease and severe illness requiring hospitalisation; and fewer hospitalisations ease pressure on the acute healthcare system.

Lastly, data on pneumococcal vaccination rates of adults is limited and the NIP schedule is complex. This makes it difficult to get a clear picture of how many adult Australians are vaccinated against this disease. Vaccination rates for children are clearer based on the Childhood Immunisation Program, but these are declining towards 90 percent coverage in some states.

Addressing these multifaceted barriers through coordinated education, policy reform, streamlining the NIP and service delivery improvements is essential to strengthening pneumococcal vaccine uptake and protecting vulnerable populations from this preventable disease.

NIS Implementation Recommendations

We advocate that primary care HCPs prioritise high-risk individuals eligible under the NIP, ensuring these groups are well-informed on when they are due for vaccination and the benefits of vaccination against pneumococcal disease. Greater awareness should lead to proactive uptake or acceptance of clinical advice to vaccinate. Undervaccination is

concentrated within these risk groups and must remain the central focus of immunisation efforts.

The following recommendations target priority populations at increased risk of pneumococcal disease:

- Children aged ≤ 5 years
- Children aged 12 months to 17 years (effective from 1 September 2025) newly diagnosed with a medical risk factor
- Individuals of any age with medical risk conditions
- Healthy Aboriginal and Torres Strait Islander peoples aged ≥ 50 years (not covered)
- Healthy non-Indigenous individuals aged ≥ 70 years

Subsequent recommendations outline overarching strategies to address under-vaccination across these groups. They include programmatic enablers to support implementation, as well as tailored tactics for each age and cohort group – designed to improve awareness, access and uptake of vaccination.

Overarching recommendations

- **Roll-out ongoing awareness campaigns:** There are no current government announcements about pneumococcal disease. Periodic, visible reminders on mainstream and social media should be used to increase public awareness. Links to further pneumococcal disease information should be considered, including where to direct the public.
- **Improve awareness of pneumococcal disease vaccination rates amongst HCPs:** More transparent data on the vaccination rates and coverage should be made available as HCPs do not have a clear picture.
- **Encourage integration into immuniser practice:** Primary care immunisers should actively promote pneumococcal vaccination using either private stock or NIP-supplied vaccines. However, they need access to detailed vaccination data to be able to implement effective campaigns/programs to target unvaccinated patients.
- **Provide resourcing and education to primary care immunisers:** Primary care immunisers (including GPs, nurses and pharmacists) must be adequately resourced with up-to-date education, patient information and clinical tools so they can confidently discuss vaccination benefits with at-risk and NIP-eligible patients.
- **Fund pilot programs:** Invest in pilot programs that demonstrably increase vaccination coverage in manageable, scalable and cost-effective ways. Eligible adult individuals aligned with the NIP should be prioritised.
- **Develop consumer resources:** Develop a simple, easy-to-read, tear-off information sheet for providers to give patients who are recommended pneumococcal vaccination.
- **Deliver tailored fit-for-purpose online education:** Develop a dedicated, 24/7 accessible online program on pneumococcal disease.
- **Optimise AIR usage:** Leverage AIR to identify unvaccinated individuals and trigger provider alerts for follow-up. Implement necessary software enhancements to support real-time recall, targeting and flagging. Explore more integration of AIR with practice software systems and explore ways that aged care facilities are alerted to an unvaccinated resident.
- **Support co-administration via a provider-facing App:** Develop a provider-facing App that recommends a combination of vaccines in line with ATAGI guidelines and Government Recommendations. Use in-App decision support to highlight co-administration opportunities.

Recommendations specific to persons with medical conditions that increase risk of IPD

- **Promote opportunistic discussions:** Immunisers should use every appropriate clinical encounter to discuss pneumococcal vaccination with patients.
- **Encourage integration into immuniser practice:** Specialists and primary care immunisers (GPs, nurses and pharmacists) should discuss vaccination recommendations whenever an at-risk medical condition is identified. This should be flagged by the GP practice software.
- **Deliver tailored, fit-for-purpose online patient and carer education:** Develop a dedicated 24/7 accessible online program for patients with medical risk conditions, featuring clear guidance on recommended vaccines and the potential consequences of remaining unvaccinated.

Recommendations specific to residential aged care

- **Provide government-funded immunisation coordinators in all aged care facilities:** Assign designated vaccine coordinators to liaise with providers who visit and vaccinate residents and streamline the consent process as part of aged care accreditation.
- **Develop a streamlined, cost-effective model:** Develop a streamlined, cost-effective vaccination model for residential aged care that covers all recommended vaccines.
- **Improve AIR visibility:** Ensure AIR provides real-time visibility of residents' vaccination status and links each record to the resident's facility.
- **Provide tailored, fit-for-purpose online education (for carers, aged care staff and resident family members):** Provide 24/7 access to basic disease-specific and vaccine-focused training modules that meet accreditation requirements for staff competence.

Recommendations specific to adults aged ≥70 years (not in aged care)

- **Optimise practice software and integration of AIR:** Ensure AIR is integrated with practice software to enable identification of patients due for vaccination.
- **Deliver tailored, fit-for-purpose online education for patients (and carers):** Develop a dedicated 24/7 accessible online program covering adults 70 years and over.
- **Fund pilot programs:** Look at communication models that are efficient and sustainable outside of traditional GP Practice and Pharmacy models, e.g. retirement villages, and DVA.

4. Pertussis

Key Factors Responsible for Pertussis Undervaccination or Declining Vaccination Rates

Maternal vaccination surveillance and data are limited in scope and timeliness, but available analyses show recent declines in antenatal pertussis uptake.^{26,27} Adolescent (school-based) pertussis booster coverage has also declined since the COVID-19 pandemic.¹⁰ These adolescent declines follow disruptions to school-based vaccination delivery during the pandemic and growing distrust of vaccines, and warrant targeted education, catch-up and program recovery actions.

Reasons for high pertussis infection rates

Reduced population exposure to *Bordetella pertussis* during COVID-19 restrictions in 2020–21 likely reduced infection-acquired immunity and increased post-pandemic susceptibility.²⁸ School-based vaccination programs were disrupted during the pandemic, reducing routine delivery and catch-up opportunities for adolescents and diminishing access to the adolescent dTpa booster for many of those aged 12–13 years; this contributed to lower cohort coverage when normal schooling resumed.¹⁰

Immunological and epidemiological evidence shows that protection from the childhood acellular pertussis (dTpa) series wanes substantially over several years following the last primary dose (typically given around age 4 years), leaving adolescents vulnerable around ages 12–13 years unless boosted by the adolescent dTpa dose or by recent natural exposure. Thus, the combination of waning vaccine-derived immunity, reduced natural boosting during 2020–21 and pandemic-related disruptions to school delivery helps explain the larger susceptible adolescent cohorts and increased pertussis activity observed in some jurisdictions.^{29,30}

Strengths of the current vaccination program

The current pertussis vaccination program has several clear strengths:

- Maternal vaccination is evidence-based: a single dose of a pertussis-containing vaccine is recommended in every pregnancy, ideally given between 20 and 32 weeks' gestation to maximise transplacental antibody transfer to the infant.³⁰ The adolescent booster is timed to address waning protection from the childhood acellular series, helping to restore immunity in the age group most likely to transmit infection to infants.³⁰
- Access is broad and equitable: maternal vaccination is funded and universally recommended, and adolescent boosters are delivered free through school-based programs, which supports high population reach and simplifies logistics for families. The program benefits from strong clinical endorsement across obstetric, paediatric and immunisation stakeholders, and it is implemented with consistent core recommendations across jurisdictions, facilitating coordinated public health messaging and program delivery.³¹

Weaknesses of the current vaccination program

The current pertussis maternal vaccination program has several weaknesses:

- It lacks sufficient tailoring for at-risk groups: a largely one-size-fits-all approach appears to contribute to lower uptake among First Nations women, culturally and linguistically diverse (CALD) communities, and people in rural and remote areas, where barriers to access and culturally appropriate delivery persist.³²
- Implementation is inconsistent across clinical settings, producing missed opportunities during routine antenatal care when vaccination could be offered and recorded; delivery pathways and recall systems vary by provider and jurisdiction.³²
- Public awareness about the maternal pertussis recommendation remains uneven. Many pregnant women, particularly first-time mothers and those from lower socioeconomic or

non-English speaking backgrounds, report limited understanding of the benefits and timing of vaccination.³²

- There is also no routinely mandated booster strategy for close household contacts; while cocooning is not emphasised in current national guidance, vaccinating close contacts could still reduce infant exposure in settings where maternal coverage is low.^{30,33}
- The program depends heavily on provider initiative: proactive recommendation and offer from clinicians are key determinants of uptake, so variation in clinician engagement directly affects coverage.
- Furthermore, evaluation and monitoring are limited: gaps in timely, disaggregated surveillance and inconsistent performance metrics across jurisdictions constrain rapid identification of coverage shortfalls and targeted program improvements. Considering pertussis can be fatal in newborns, it is important to have visibility of maternal vaccination rates.

The current pertussis adolescent vaccination program also has several weaknesses:

- It leaves adolescents unprotected if they miss the Year 7 dTpa delivered through school clinics, for example, because they are absent on the vaccination day, are home-schooled, or are disengaged from school. Although catch-up schedules and opportunistic vaccination through primary care and state services do exist, these pathways are variable and do not reliably reach all young people who miss school-based delivery, and routine consent processes may mean that some students remain unvaccinated because consent was not returned or was declined.
- There is no uniformly mandated, national outreach program that proactively re-contacts adolescents or families who decline or delay vaccination because of safety concerns or misinformation. Thus, implementation relies on locally organised follow-up (re-visits, opportunistic offers, primary care recall) and education activities that vary between jurisdictions, thereby reducing the consistency and reach of targeted catch-up and vaccine confidence interventions.
- National surveillance and coverage reporting indicate that adolescent on-time vaccination and overall uptake declined after the COVID-19 pandemic, with interim NCIRS analyses and national summaries documenting reductions in childhood and adolescent coverage and increased delays in receipt of scheduled doses compared with the pre-pandemic period.¹⁰
- Adolescents with waning immunity are an important reservoir for *B. pertussis* transmission because infections in older children and adults are often milder or atypical and therefore under-recognised; this epidemiology underpins the rationale for the Year 7 booster and for maternal vaccination to protect young infants, and recent reviews of post-pandemic pertussis trends emphasise the role of older age groups in sustaining transmission to vulnerable infants.³⁴
- Although the Year 7 dTpa booster is a longstanding, funded component of the National Immunisation Program, there is limited recent, publicly available national evaluation specifically assessing the school-based Year 7 delivery model across all jurisdictions; routine monitoring is reported in NCIRS coverage reports, but a single, comprehensive national review of Year 7 school-based vaccine delivery has not been published since 2009.

NIS Implementation Recommendations

Recommendations for maternal vaccination

- **Mandate or incentivise on-site vaccination at antenatal clinics:** Require, or provide financial incentives for, all public and private antenatal providers to offer pertussis vaccination at routine prenatal visits so this is available at the point of care.

- **Incorporate maternal vaccination into national perinatal standards:** Make maternal pertussis vaccination coverage a mandatory quality indicator in national maternity standards and include it in hospital accreditation criteria.
- **Expand immunisation provider base to community pharmacies and midwives:** Amend regulatory and funding arrangements to permit trained midwives and community pharmacists in every jurisdiction to administer maternal pertussis vaccine through Medicare-reimbursed services.
- **Fund and support First Nations-led immunisation programs:** Provide dedicated funding and program support for First Nations-led vaccination initiatives to increase uptake and address barriers rooted in historical mistrust.
- **Implement automated reminder and recall systems:** Integrate automatic SMS and email reminders into Medicare and state maternity booking systems, timed to prompt vaccination in the recommended 20–32 weeks' gestation window.

Recommendations for adolescent vaccination

- **Implement national review and evaluation:** Commission a national review of state-based adolescent vaccination programs to identify strengths, weaknesses, variation in delivery models, and opportunities for harmonisation.
- **Identify gaps and transparency:** Map coverage, access and equity gaps (including First Nations, CALD, remote and disengaged adolescents) and publish findings to support accountability and targeted improvement.
- **Develop clear accountability mechanisms:** Define roles, responsibilities and reporting lines across Commonwealth, state/territory and local delivery partners and require regular public reporting on performance metrics.
- **Provide tailored, fit-for-purpose online education (for adolescents and their parents):** Consent is required as part of the Year 7 dTpa vaccination program meaning that parents should have a basic understanding of pertussis and the benefits of vaccination to better allow them to feel comfortable providing consent. Information should also be tailored to the adolescent.
- **Implement a catch-up program:**
 - **Utilise AIR reports:** Use AIR reports to identify those aged 12–13 years who are overdue for the dTpa booster and generate lists for follow-up by schools, local health services and primary care. A cost-effective reliable and robust mechanism to inform parents/guardians that their child did not receive their booster should be explored, with instructions for catch-up options.
 - **Implement GP software alerts and recalls:** Configure primary care clinical systems to flag patients aged 11–14 years who are undervaccinated and trigger clinician prompts and automated recalls.
 - **Increase access:** Provide after-school and weekend nurse-led vaccination sessions in schools and community venues; run free Year 7 catch-up clinics.

Concluding Remarks

As set out in the National Immunisation Strategy for Australia 2025–2030, immunisation prevents avoidable illness and fosters healthy communities.⁷ Although Australia's vaccination rates are high by international standards, further action is needed to strengthen community trust, understanding and acceptance, and to close remaining coverage gaps.⁷

The recommendations in this submission identify prioritised NIP eligible age groups, practical initiatives that target persistent under-vaccination and clear, implementable steps to increase uptake across four priority disease areas – COVID-19, influenza, pneumococcal disease and pertussis – where there is a clear low and/or declining vaccination rate or lack of data with suspected low vaccination rates. Recommendations should be streamlined across diseases, age cohorts, and clinical conditions – supporting a cohesive and comprehensive immunisation strategy. A table summarising the Advisory Board recommendations, mapped (where possible) to the NIS priority areas, is provided below.

In addition to the recommendations presented in this submission, emerging needle-free delivery systems – including intranasal sprays, microneedle patches and dissolvable microarrays – offer the potential to raise vaccination rates in the future by reducing pain and needle anxiety, expanding access through broader or self-administration, and simplifying logistics for outreach campaigns.^{35,36} The future promise of combination vaccines also has the potential to further support coverage by simplifying schedules, reducing visit burden and improving adherence, with particular value for seasonal respiratory programs and locations with limited access to health services.³⁷

Priority regulatory review, early ATAGI engagement and streamlined approval-to-funding pathways can shorten time to market, ensure that clinical recommendations reflect both safety standards and real-world implementation needs, provide confidence to industry to continue investing in Australia, and enable more rapid subsidised access through the National Immunisation Program. These measures reduce delays that otherwise constrain availability and equitable uptake of new delivery formats.³⁸ They also support access to more effective vaccines, for example, some countries are now using pertussis-only vaccines that are reportedly more effective than the current combination vaccines available in Australia.

Call to action

The IC recommends prioritising the **proposed, KPI driven scalable** measures that reduce system complexity, improve transparency and accountability, provides fair funding for qualified immunisers and essentially incentivises HCPs to strengthen vaccination delivery across settings to protect more Australians.

Recommendation Alignment with NIS Priority Areas

Note: not all NIS Priority Area fields are filled out with the recommendations put forward in this report. The objective of the table below is to align the Advisory Board recommendations summary, by age group, with the NIS 2025–30. Gaps in the table may be due to insufficient information to make a recommendation, NIS Priority Areas not specifically being covered (e.g. the NIS 2025–30 report was made available towards the end of the Advisory Board investigation), areas not covered including Aboriginal and Torres Strait Islander people as there was no representation on their behalf, or other reasons.

NIS PRIORITY AREAS:	Build trust, understanding and acceptance of immunisation in communities	Use data more effectively to target immunisation strategies and monitor performance	Strengthen the immunisation workforce	Harness new technologies to respond to the evolving communicable disease and vaccine landscape	Implement sustainable reform in vaccine program governance, program delivery and accountability
Overarching recommendations across all four diseases	Deliver tailored, fit-for-purpose online education to the general public and carers. Gain learnings from pilot programs before broadening reach across additional disease areas	Optimise AIR usage for real-time recall and provider alerts and integrate AIR with practice software, and support co-administration via a provider-facing App	Specific to aged care, provide government-funded immunisation coordinators whose role is to coordinate with providers (GPs, nurse and pharmacist immunisers) for a streamlined vaccination schedule	Embrace new modalities of administration as they become available and coordinate roll out programs that demonstrate an increase in vaccination coverage	Fund objective-driven pilot programs and scale up successful models that directly increase vaccination rates
COVID-19 – ADULTS					
Overarching recommendations	Proactively recall people aged ≥65 years through GP clinics, pharmacy and other settings	Optimise AIR usage. Support co-administration via a provider-facing App	Specific to aged care, provide government-funded immunisation coordinators whose role is to coordinate with	–	Fund pilot programs that directly increase vaccination rates in a cost-effective

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			providers (GPs, nurse and pharmacist immunisers) for a streamlined vaccination schedule		and sustainable way
Recommendations specific to residential aged care	Provide tailored, fit-for-purpose online education (for carers, aged-care staff and resident family members)	Enhance AIR visibility and functionality to identify patients eligible and due for vaccination	Provide government-funded immunisation coordinators in all aged care facilities	–	Establish an integrated pre-winter vaccination program. Incorporate immunisation as part of aged care accreditation
Recommendations specific to immunocompromised individuals and adults aged 65–74 years	Deliver tailored, fit-for-purpose online patient and carer education	Leverage AIR for provider alerts	Ensure patients are reviewed at every healthcare appointment. Strengthen specialist-to-GP referral pathways. Commission an educational white paper for HCPs	–	–

NIS PRIORITY AREAS:	Build trust, understanding and acceptance of immunisation in communities	Use data more effectively to target immunisation strategies and monitor performance	Strengthen the immunisation workforce	Harness new technologies to respond to the evolving communicable disease and vaccine landscape	Implement sustainable reform in vaccine program governance, program delivery and accountability
INFLUENZA – ALL AGE GROUPS					
Overarching recommendations	Communicate the start of the annual flu season launch from April to both HCPs and the general public	Optimise AIR usage. Support co-administration via a provider-facing App	Empower primary care HCP immunisers to follow a national approach that minimises competition and enhances vaccine uptake	Prioritise new technologies and vaccines that remove barriers to vaccination acceptance, and increase efficacy and safety	Vaccine distribution model – look at optimising a provider-focused cost-effective model. Enhance reimbursement and access
Recommendations specific to children aged <5 years	Send seasonal SMS alerts to parents. Provide tailored, fit-for-purpose online education	Implement electronic reminder systems for parents and track responses	Optimise immunisation programs by supporting all primary care HCPs and a common immunisation practice	Embrace new modalities of administration that are less invasive, e.g. needle-free options	Expand “No Jab No Play” legislation to include influenza
Recommendations specific to residential aged care	Provide tailored, fit-for-purpose online education (for carers, aged-care staff and resident family members)	Enhance AIR visibility and functionality to identify patients eligible and due for vaccination	Provide government-funded immunisation coordinators in all aged care facilities	–	Establish an integrated pre-winter vaccination program. Incorporate immunisation as part of aged care accreditation

NIS PRIORITY AREAS:	Build trust, understanding and acceptance of immunisation in communities	Use data more effectively to target immunisation strategies and monitor performance	Strengthen the immunisation workforce	Harness new technologies to respond to the evolving communicable disease and vaccine landscape	Implement sustainable reform in vaccine program governance, program delivery and accountability
Recommendations specific to individuals with medical risk conditions	Increase patient awareness. Provide tailored, fit-for-purpose online patient and carer education	Implement personalised vaccine reminders. Leverage AIR for provider alerts	–	–	–
PNEUMOCOCCAL DISEASE – ADULTS					
Overarching recommendations	Roll-out ongoing awareness campaigns. Develop consumer resources. Deliver tailored fit-for-purpose online education	Improve awareness of pneumococcal disease vaccination rates amongst HCPs. Optimise AIR usage. Support co-administration via a provider-facing App	Provide resourcing and education to primary care immunisers. Encourage integration into immunisation practice across primary care	–	Fund pilot programs that deliver an increase in vaccination rates in a cost-effective and sustainable way
Recommendations specific to persons with medical conditions that increase risk of IPD	Deliver tailored, fit-for-purpose online patient and carer education	–	Promote opportunistic discussions. Encourage integration into immuniser practice	–	–
Recommendations specific to residential aged care	Provide tailored, fit-for-purpose online education (for carers, aged-care	Enhance AIR visibility and functionality to identify patients	Provide government-funded immunisation coordinators in all aged care facilities	–	Incorporate immunisation as part of aged care accreditation

NIS PRIORITY AREAS:	Build trust, understanding and acceptance of immunisation in communities	Use data more effectively to target immunisation strategies and monitor performance	Strengthen the immunisation workforce	Harness new technologies to respond to the evolving communicable disease and vaccine landscape	Implement sustainable reform in vaccine program governance, program delivery and accountability
	staff and resident family members)	eligible and due for vaccination			
Recommendations specific to adults aged ≥70 years (not in aged care)	Deliver tailored, fit-for-purpose online education for patients (and carers)	Optimise practice software and integration of AIR	–	–	Fund pilot programs that deliver an increase in vaccination rates in a cost-effective and sustainable way
PERTUSSIS – MATERNAL AND ADOLESCENCE					
Recommendations for maternal vaccination	Fund and support First Nations-led immunisation programs	–	Expand immunisation provider base to community pharmacies and midwives	–	Incorporate maternal vaccination into national perinatal standards. Mandate or incentivise on-site vaccination at antenatal clinics
Recommendations for adolescent vaccination	Provide tailored, fit-for-purpose online education (for	Implement automated reminder and recall systems (to parents of Year 7 students). Implement national	–	–	Review the Year 7 school program and implement a robust catch up program through

NIS PRIORITY AREAS:	Build trust, understanding and acceptance of immunisation in communities	Use data more effectively to target immunisation strategies and monitor performance	Strengthen the immunisation workforce	Harness new technologies to respond to the evolving communicable disease and vaccine landscape	Implement sustainable reform in vaccine program governance, program delivery and accountability
	adolescents and their parents)	review and evaluation of vaccination status in adolescents and identify gaps for catch up programs			GP clinics and pharmacies

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Appendices

Appendix 1. Advisory Group Members (in no particular order)

- Dr Andrew Minton – Chief Executive Officer, Immunisation Coalition
- Dr Sarah Chu – General Practitioner and Travel Doctor
- Harriet Wright – Senior Manager, Practice and Programs, The Pharmacy Guild of Australia
- Dr Allan Leeb – General Practitioner
- Dr Robert Menzies – Medical Lead, Sanofi Australia
- Tham Vo – Senior Manager, Policy, Medicines Australia
- Dr Martijn Kwaijtaal – Medical Manager, Roche Australia
- Steve Wiblin – Senior Medical Manager, Pfizer Australia
- Ken Griffin – Chief Executive Officer, APNA
- Sam Develin – Director, External Affairs, Moderna Australia
- Dr Hitesh Ghai – Director – HCPX Solutions
- Angela Newbound - Clinical Nurse Consultant
- Dr Holly Seale – Joint CEO, COSSI, Sydney University
- Dr Jill Pleasance - Scientific Lead, Bioclect Australia
- Dr Jane Leong – Director, Development — Australian Centre for Artificial Intelligence in Medical Innovation (ACAMI), La Trobe University
- Peta James – Head of Government Affairs and Policy, GSK Australia
- Anne-Maree Englung – Head of Strategic Policy Implementation, Medicines Australia
- Chris Campbell – GM - Policy & Program Delivery, Pharmaceutical Society of Australia
- Dr Jennifer Corum – Senior Medical Advisor, MSD Australia
- Suzanne Coutinho – Director, Immunisation Coalition
- Dr Merrin Tulloch – Senior Scientific Specialist, AstraZeneca
- Leonie Loyer – Director, Biosecurity, Government & In-Licensed Vaccines, CSL Seqirus

Appendix 2. Key Supporting Evidence for COVID-19 Recommendations

- The global pandemic is over but infection rates remains high caused by the different SARS-CoV-2 variants and fewer people choosing to be vaccinated.^{1,44}
- Infection and death rates are significantly lower than 2021–2023, but death rates are still high and potentially preventable (June 621, May 434, Jan-May 1600).⁴⁵
- COVID-19 vaccination coverage among Australians aged ≥ 75 years has declined from 1.4 million doses in April 2024 to 782,000 by April 2025, while coverage in those aged 65–74 years decreased from 1.9 million to 585,300 doses over the same period.¹
- As of June 2025:¹
 - Only 20 percent of those aged 65–74 years had received any COVID-19 vaccine dose in the previous six months
 - Only 32 percent of those aged ≥ 75 years had received any COVID-19 vaccine dose in the previous six months
 - Only 55 percent of residents in aged care homes had received any COVID-19 vaccine dose in the previous six months

Appendix 3. Key Supporting Evidence for Influenza Recommendations

- Influenza vaccination coverage in children aged <5 years was 27% in 2024. Coverage peaked at 44% in 2020 (seasonal measure) and declined after 2020.^{11,16}
- The national influenza vaccination coverage rate (VCR) in 2024 for U5 yrs is around 25%. In 2020, the VCR was 46%.^{15,16}
- It appears the COVID-19 pandemic has played a significant role in the declining vaccination rate. Adult vaccination rates, reported at 31% are not that much better.¹²
- Recent survey data conducted by the Immunisation Coalition suggests this will decline to further in 2025. Adults aged 65 years have the highest vaccination rate at around 60% but like all other age groups, this has declined steadily from 72% over the last 4 years.³⁹
- Coverage among children aged 6 months to 5 years dropped from 32% in 2022 to 27% in 2024.¹¹
- In 2023, laboratory-confirmed influenza notifications for children aged <5 years exceeded those for COVID-19 in the same age group, as reported by the National Notifiable Diseases Surveillance System.²⁹
- Overall, 42% of parents surveyed believe influenza is not serious enough to warrant vaccination.³⁹
- Only 38% of GPs routinely recommend influenza vaccine for children aged <5 years.⁴⁰
- In a national survey, 61% of parents said they would vaccinate their children against influenza if this was offered at childcare⁴¹
- Delivery models for children aged <5 years vary internationally: Wales in the UK uses school nurses and health visitors for nursery delivery, while Ireland has used community pharmacists to expand access for children aged <5 years.^{42,43}
 - Wales nursery pilot (2016–2018) offered influenza vaccination to 3-year-olds in nurseries via school nurses and health visitors alongside the existing GP program for 2–3 year olds; uptake in 3-year-olds increased from 41.0% (2015/16) to 70.7% (2016/17) and 71.5% (2017/18), with the largest gains in the lowest socioeconomic groups.⁴²
- Examples of general population specific education from UK NHS websites include:
 - <https://www.nhs.uk/vaccinations/child-flu-vaccine/>
 - <https://www.gov.uk/government/publications/which-flu-vaccine-should-children-have/flu-vaccines-for-children-and-young-people>
- A Western Australian study estimated health benefits and direct healthcare cost savings from increasing influenza vaccine coverage in children aged <5 years and from expanding funded programs to primary and secondary school ages using a dynamic transmission–economic model. Results showed that while modest increases in preschool coverage yield net healthcare savings, the greatest population-level and economic benefit comes from funding and achieving higher coverage in primary-school aged children, with additional but smaller benefit from vaccinating older adolescents.¹⁷

Appendix 4. Key Supporting Evidence for Pneumococcal Recommendations

- Pneumococcal vaccine coverage for adults turning 71–72 years was around 41% in 2023¹⁰
- Pneumococcal vaccine coverage Aboriginal and Torres Strait Islander adults turning 50 years or older in 2023 was 24%¹⁰
- 11 months following the new pneumococcal vaccination program, individuals aged 65–69 years with at least one selected comorbidity, and among those specifically identified with chronic kidney disease and haematological malignancy, was substantially lower than in adults aged 70+ years. PCV13 uptake was particularly low in people with comorbid conditions outside of the adult age threshold for universal PCV13 (i.e., <70 years), despite some comorbid conditions being funded for free vaccination⁴⁶

Appendix 5. Key Supporting Evidence for Pertussis Recommendations

- In Queensland, the proportion of pregnant women receiving pertussis vaccine fell from 77 percent in 2020 to 71 percent in 2023 coinciding with a notable increase in pertussis notifications in some jurisdictions.²⁶ Coverage among First Nations pregnant women is up to 20% lower than national average.²⁷
- Vaccination coverage among First Nations pregnant women is consistently lower than in non-First Nations women, with jurisdictional analyses reporting coverage up to 20 percent lower in some areas.²⁷
- Approximately 35% of pertussis cases are in those aged 10–14 years (Year 7–8 students) which coincides with the NIP recommendation for dT_p vaccination; 0–5 year olds are 7–8% affected whilst maternal vaccination data is unknown.⁴⁷
- The National Centre for Immunisation Research and Surveillance (NCIRS) reports that 74 percent of adolescents who turned 13 years in 2023 had received their adolescent dT_{pa} dose by 31 December 2023, meaning approximately one in four remained without the adolescent booster by the end of the year.¹⁰
- NCIRS further documents a gradual fall in dT_{pa} coverage measured at age 15 years from 87 percent in 2021 to 87 percent in 2022 to 86 percent in 2023, with Indigenous adolescents experiencing lower coverage than the overall cohort (80 percent in 2023).¹⁰