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[Brendan Goodger](#), [Kira Wright](#), [Vicky Sheppeard](#)

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Article

Voices from the Frontline: Understanding the Barriers and Enablers to Vaccination in Aged Care Facilities in Sydney, Australia

Courtney McGregor ¹, Lisa Maude ¹, Karen Chee ¹, Lauren Tillman ¹, Caitlin Swift ¹, Mark Ferson ^{1,2}, Brendan Goodger ³, Kira Wright ³ and Vicky Sheppeard ^{1,4,*}

- ¹ South Eastern Sydney Public Health Unit, Sydney, NSW 2031, Australia
- ² School of Population Health, University of New South Wales, Sydney, NSW
- ³ Central and Eastern Sydney Primary Health Network, Sydney, NSW 2020, Australia
- ⁴ School of Public Health, University of Sydney, Sydney, NSW 2050, Australia
- * Correspondence: vicky.sheppeard@health.nsw.gov.au; Tel.: +61-2 9382 8333

Abstract

Background/Objectives: Vaccination is a critical public health measure for older adults in residential aged care facilities (RACFs). In Australia, COVID-19, influenza, pneumococcal, and shingles vaccines are recommended and funded for this group. However, vaccination coverage remains suboptimal, with limited understanding of the underlying causes. **Methods:** Surveys and semi-structured interviews were conducted with in-reach geriatric teams, general practitioners (GPs), RACF staff, residents and family members. Data were analysed using thematic analysis, with manual, iterative coding to develop themes. Key quotes illustrate findings, and the prevalence of barriers and enablers was also quantified. **Results:** Input was gathered from seven in-reach geriatric staff, 40 GPs, 90 RACF staff, 17 RACF residents and 84 family members of residents. Barriers and enablers were grouped under four headings: operational, communication, coordination and financial. RACF staff identified limited access to vaccination histories as the most significant barrier and relied on external providers to upload data to the Australian Immunisation Register (AIR). On-site clinics were essential, but organisational policies prevented nursing staff from vaccinating. Most RACFs stored only influenza vaccines and depended on external providers for others. Gaps in translated materials contributed to vaccine hesitancy. Healthcare provider endorsement was valued, but RACF staff were often expected to discuss vaccination despite feeling ill-equipped. Consent processes were burdensome, and responsibility for tracking vaccination schedules was unclear with calls for streamlined processes. Low provider remuneration was also noted, with calls for increased government support. **Conclusions:** This work identifies key barriers and enablers to resident vaccination in RACFs. Improving delivery requires organisational policy change, staff support, digital access, and continued advocacy. The approach is replicable for other vulnerable groups.

Keywords: vaccination in aged care; residential aged care facility; barriers; enablers; vaccine hesitancy; health policy; advocacy; qualitative methods

1. Introduction

Immunisation is one of the most significant public health interventions globally, preventing illness, disability, and death from vaccine-preventable diseases (VPDs). Australia delivers one of the world's most extensive and well-structured immunisation programs [1] through publicly funded vaccines that protect individuals across the lifespan, with a strong focus on vulnerable populations including older adults [2].

Older Australians represent a growing demographic, with 17.1% of the Australian population aged 65 years or older in 2022, an increase from 15.9% in 2018 [3]. Approximately 4.1% of older

Australians permanently reside in residential aged care facilities (RACFs) [3], accounting for almost 190 000 Australians in 2024 [4], with an average age at admission of 85 years [5].

In Australia, COVID-19, influenza, pneumococcal and shingles (herpes zoster) vaccines are recommended and funded for older adults under the National COVID-19 Vaccine Program [6] and the National Immunisation Program [7]. When these vaccines are administered, they are required to be uploaded to the Australian Immunisation Register (AIR) [8]. RACFs are encouraged to regularly review residents’ vaccination status, accessible via the AIR if the organisation employs an authorised nurse immuniser (ANI) (a registered nurse with additional vaccination training) or through My Health Record (MHR), provided the resident has not opted out [9]. At the time of this work, AIR access in RACFs was limited to facilities employing an ANI. Ensuring RACF residents are up to date with recommended vaccinations has dual benefits of protecting the individual from serious illness or hospitalisation and reducing the risk of infectious disease outbreaks within RACFs [10].

Current funded vaccination recommendations relevant to this population are listed in Table 1, however the proportion of older adults who receive these vaccines on time is below the New South Wales (NSW) Immunisation Strategy 2024-2028 targets [11].

Table 1. Vaccines for older adults funded through the National COVID-19 Vaccine Program and the National Immunisation Program (NIP) [12].

Vaccine	Recommended timing of COVID-19 booster doses for older adults		
COVID-19	Every 6 months for all adults ≥ 75 years old		
	Every 6 months for RACF residents ≥ 65-74 years old		
	Every 12 months for general population ≥ 65-74 years old		
Vaccine	Recommendation	Age vaccine is funded from	
		Non-Indigenous	Indigenous
Influenza	Annual single dose	65 years	6 months
Pneumococcal Prevenar 13 (13vPCV)	Single dose of 13vPCV for all adults		
	PLUS	70 years	50 years
	2 doses of 23vPPV for all Indigenous adults and for non-Indigenous adults with vulnerable conditions		
Pneumovax 23 (23vPPV)			
Shingrix	2 doses	65 years	50 years

As of April 2025, 20.6% of people aged ≥75 years and 10.3% of people aged 65–74 years in Australia had received a COVID-19 vaccine within the preceding six months [13]. Influenza vaccine coverage among older adults declined from 70.0% in 2022 to 61.7% in 2024. Although pneumococcal vaccination rates have shown a gradual year-on-year increase, coverage remains suboptimal; only 41.5% of adults aged 70 years and older were vaccinated as of 2024 [14]. Similarly, in 2023, just 41% of Australians turning 71 years had received at least one dose of the shingles vaccine [15].

Vaccination coverage data specific to residents of RACFs is limited, however does indicate substantially different vaccination patterns compared to the general population. As of April 2025, 44.4% of RACF residents in Australia had received a COVID-19 dose within the preceding six months [13]. In 2022, median RACF resident vaccination coverage in Victoria was 32.8% for pneumococcal vaccination and only 19.3% for shingles vaccination [16]. At that time in Australia a single dose of Zostavax shingles vaccine was funded on the NIP at ≥70 years, replaced with Shingrix in November 2023.

Vaccination coverage is shaped by a complex mix of demographic, structural, social, and behavioural factors [17]. Low coverage in RACF residents has been attributed to assumptions that residents are vaccinated before admission and to a lack of government reporting requirements [8,16]. A systematic review of aged care staff practices identified additional barriers to residents’ general health outcomes, including high staff turnover and workload, low staff education, lack of support from senior staff, infrastructure and logistical challenges, and resident and family attitudes. The

review recommended considering barriers from staff, organisational, resident, family, and external perspectives to improve resident outcomes [18].

South Eastern Sydney Local Health District (SESLHD) has almost one million residents [19], of whom almost 40% were born overseas, and 30% born in a non-English speaking country [20]. SESLHD has 97 RACFs that accommodate nearly 8,000 residents. In partnership with the Central and Eastern Sydney Primary Health Network (CESPHN), the SESLHD Public Health Unit (PHU) conducted a quality improvement initiative with the overall aim of improving the age-recommended vaccination coverage of COVID-19, influenza, pneumococcal and shingles vaccines for SESLHD RACF residents. This paper uses qualitative methodology to describe perceived enablers and barriers to vaccination of residents from the perspective of in-reach geriatric teams, general practitioners (GPs), RACF staff, residents and families.

2. Materials and Methods

2.1. Study Design and Data Collection

Questionnaires were developed to explore views on vaccination practices, barriers, and enablers in RACFs. Themes were based on the 5As framework (awareness, acceptance, access, affordability, and activation) [17] and refined based on material developed by the National Centre for Immunisation Research and Surveillance (NCIRS) [21]. Topics included consent, access to vaccination history and the AIR, access to providers, vaccination knowledge, and services funded or eligible under Australia's national health insurance scheme (Medicare) [21]. Questions were tailored so that the language was appropriate for each stakeholder group.

Questionnaires were piloted internally by PHU staff not involved in their design.

Participants either completed the questionnaire online via REDCap or their responses were transcribed into REDCap by a project team member following an interview. Data was collected between June and September 2024.

2.2. Participants

Participants included five key stakeholder groups. A convenience sample from each group was invited using the following methods:

1. In-reach geriatric teams: The SESLHD Aged Care Stream manager emailed geriatricians and nurses who visit RACFs, inviting them to complete the online questionnaire within two weeks.
2. Local GPs: CESPHN emailed an online questionnaire link to their mailing list of approximately 340 GPs and promoted it in their newsletter, with a three-week response period.
3. RACF staff: facility contact lists held by the SESLHD Aged Care Stream manager and by the PHU were reconciled. Each of the 97 listed RACFs was called to confirm a key contact and invite participation. Interviews were conducted on-site, via teleconference, or online, with on-site interviews prioritised for facilities with low vaccination rates or many residents born overseas.
4. RACF residents: facility staff were asked to select cognitively competent residents, aiming to include vaccine-hesitant individuals where possible. Residents were interviewed on-site.
5. Family members of RACF residents: whilst we had hoped to interview family members during our visits to facilities, this was generally not feasible. RACFs were asked to email family contact lists a link to an online questionnaire, with responses collected over six weeks.

2.3. Data Analysis

Data was analysed using Braun and Clarke's six-phase thematic analysis [22]. The process was manual and iterative, involving repeated readings and hand-coded data to develop and refine themes [22,23]. Selected participant quotes are included to illustrate key findings. The prevalence of perceived barriers and enablers was also analysed quantitatively.

3. Results

3.1. Participants

Questionnaires were completed by seven staff from in-reach geriatrician and nursing teams (three geriatricians, two nurse practitioners and two nurses) and 40 GPs. Interviews were conducted with staff from 90 of 97 RACFs, with 53% of interviews completed on-site. These staff had various roles including facility managers, care managers, infection prevention and control leads, corporate staff and registered nurses.

Interviews were conducted with 17 residents from 11 different RACFs, and 84 family members of residents from 15 RACFs completed the online questionnaire. Demographic details of residents who were interviewed or whose family members responded are in Table 2.

Table 2. Demographic characteristics of RACF residents who were interviewed or whose family members completed the online questionnaire (interview by proxy).

Resident demographic characteristics	N (%)	N (%)
	Resident interview	Interview by proxy
Sex		
Male	6 (37)	20 (22)
Female	11 (63)	64 (78)
Age		
65 to 69 years	0	1 (1)
70 to 74 years	3 (18)	5 (6)
75 to 79 years	3 (18)	11 (13)
80+ years	11 (64)	66 (80)
Indigenous status		
Aboriginal and/or Torres Strait Islander	1 (6)	0
Country of birth		
Australia	10 (59)	42 (50)
Overseas	7 (41)	42 (50)
Language spoken		
English	16 (94)	71 (80)
Other	5 (29)	21 (26)
Time lived in RACF		
< 6 months	2 (12)	13 (16)
6 months to 1 year	2 (12)	14 (17)
1 to 3 years	8 (47)	34 (41)
>3 years	5 (29)	22 (26)

Of the 84 family respondents, 61 (74%) were adult children, 10 (12%) spouses and 11 (14%) another relation. For decisions regarding vaccination of the resident, 55 (66%) of family respondents were the sole decision maker, 22 (27%) made joint decisions with the resident and three (4%) reported that the resident made vaccination decisions independently.

Barriers and enablers were grouped under four headings: operational (access to vaccination history, providers, organisational policies and vaccines), communication (vaccination information, patient-provider consultation and consent), coordination (tracking vaccination schedules), and financial (government reimbursement for GPs).

3.2. Operational Barriers and Enablers

3.2.1. Access to Residents' Vaccination Histories

RACF staff ranked limited access to vaccination histories as the most significant barrier to vaccination of RACF residents. While 25 (28%) of the 90 participating RACFs employed an ANI, only 12 (13%) accessed the AIR. The remaining 13 facilities were unaware that employing an ANI allowed AIR access. MHR was available at 10 (11%) RACFs, but only 2 (2%) knew how to retrieve vaccination history using it.

"unable to access AIR.... [RACF] cannot rely on GP to chase their old vaccination history. Some residents had multiple GPs prior to admission." – RACF 19

All RACFs relied on external vaccination providers to upload vaccination encounters to AIR. However accurate and timely reporting to AIR was identified as an issue.

"Often see that vaccinations are not correctly sent to AIR by pharmacy so have to chase them up" – Family member 69

"Outside agencies sometimes forget to put vaccines on AIR so difficult to know who has/has not had them." – GP 30

RACFs reported a strong need for direct access to residents' immunisation histories, specifically using AIR. In-reach geriatric teams, GPs, and aged care staff agreed that this access would significantly improve vaccination tracking and delivery.

"Difficult when new residents arrive at the facility, and they can't provide documentation. This could be overcome with access to AIR." – RACF 17

3.2.2. Access to Vaccination Providers and Organisational Vaccination Policies

On-site vaccination clinics were considered essential by RACF staff, residents and families due to mobility or frailty issues, with 85 (94%) RACFs reporting vaccinations were given mainly on-site.

"Having the clinics run in the facility is the most helpful thing to access the vaccinations and prompt when the next vaccine is due." – Resident 16

Models of on-site vaccine administration varied considerably between facilities. RACFs used a combination of pharmacist immunisers (54/90, 60%), facility GPs (46/90, 51%), residents' own GPs (32/90, 36%) and ANIs (13/90, 14%). Nine (10%) RACFs reported difficulty securing a vaccination provider to attend on-site.

Having access to multiple vaccination providers was widely considered a key enabler of vaccination for RACF residents. Many respondents highlighted the benefits of on-site providers who were familiar with residents, especially those with cognitive dysfunction.

"Best done within the facility by people experienced with dementia." – Family member 83

Many RACFs were shifting to using external pharmacist immunisers for on-site vaccination clinics, citing inefficiencies with multiple GPs each vaccinating only their own patients and the administrative burden of uploading vaccine records to the AIR. However, some GPs were uncomfortable with this approach.

"Pharmacists are a poor substitute to a registered nurse who has clinical bedside training. Our RACF system has disempowered nurses and overall the system is now crumbling" – GP 32

Although 25 (28%) RACFs employed an ANI, only 13 of the 25 (52%) facilities utilised them for resident vaccinations, due to RACF policies preventing them from administering vaccines to residents and lack of access to AIR.

"ANI gives staff vaccines but not confident to give resident vaccines as they have no way to enter data on AIR." – RACF 34

"She is qualified [to vaccinate residents] but the RACF does not have the correct policy to allow for this." – RACF 70

Nurse practitioners were employed at 30 (33%) RACFs. GPs were generally supportive of nursing staff expanding their role to include resident vaccination and some expressed frustration that

nurses were not vaccinating, possibly unaware that this was due to policy restrictions rather than individual choice.

"Every RACF has a registered nurse - they should be promoted to vaccinate residents." – GP 32

"The biggest barrier in my opinion is the resistance of the nurse practitioners and nurses within the nursing facility who don't want to administer vaccines. However, they are trained clinical staff who are giving them medications anyway, so I don't understand why the nurse practitioners or nurses in care homes are reluctant to administer vaccines." – GP 4

Twenty (22%) RACFs (generally smaller size facilities) did not have a formal vaccination policy for residents, and several of these requested examples of key components to include in such documents.

"...[we] would appreciate a sample vaccination policy....[we] do not have the vaccination policy" – RACF 18

3.2.3. Access to Vaccines

Of the 90 participating RACFs, 80 (89%) had a vaccine fridge, but most only ordered and stored influenza vaccines, and relied on providers to bring other vaccines on-site. RACFs could not order COVID-19 vaccines due to Australian government policies. GPs expressed frustration about being expected to supply vaccines themselves.

"...Another RACF supplies the flu vaccine and lets me do it, but then they did not stock COVID vaccine and were expecting me to bring [it] from practice.." – GP 30

"The major barrier to increasing vaccination rates for me is access to vaccines, in particular to facilities without a cold chain. In these instances, I am expected to provide vaccines... In facilities in which there is a cold chain and the facility manager is able to order the correct amount of flu/pneumo/zoster [shingles], my patients are 100% up to date" – GP 13

Removing the State Vaccine Centre ordering limits for vaccination providers running clinics for RACFs was seen as important with suggestions for:

"an exemption or an alternate system for providers who visit RACFs to enable increase volume of particular vaccines to be ordered [is required]. This is such a simple intervention." – GP 13

Of the 40 GP respondents, 34 (87%) reported they would be more likely to administer vaccines to RACF residents if the vaccines were readily available on-site, making it logistically easier to run clinics:

"RACF should have vaccines on site in proper fridges" – GP 25

"Have vaccines stored at the RACFs with appropriate needles, cotton balls, small sharp containers and bandaids available." – GP 19

3.3. Communication Barriers and Enablers

3.3.1. Vaccination Information

RACF staff reported difficulty accessing translated vaccination resources, particularly relating to the shingles and pneumococcal vaccines. This limited their ability to support informed decision-making among residents from culturally and linguistically diverse (CALD) backgrounds.

Of the residents interviewed, 5 of 14 (36%) felt they had not received enough information about vaccines. Among 84 family respondents, 56 (67%) relied on healthcare providers, 40 (48%) on RACF staff, and 36 (44%) on media sources (e.g., TV, radio) for vaccine information.

Both residents and families expressed a desire for clearer, more specific and accessible information.

"Genuinely HONEST information and SPECIFIC data... The current sheet just says – it is recommended and very safe." – Family member 80

"Media plays an important role... speak in layman terms so people can understand." – Resident 8

Family influence was a key barrier to vaccine uptake, particularly when concerns were raised about the recommended six-month interval for COVID-19 vaccination or when there was mistrust in vaccines.

"Primarily hesitancy or refusal is coming from the family" – RACF 12

"COVID and flu vaccines do not work... More thorough research into the truth..." – Family member 78

Resident vaccination hesitancy was linked to fear of side effects, and behavioural issues, particularly among those with dementia.

"Even though there is consent, the immuniser cannot proceed, as they are unable to restrain [the resident]." – RACF 12

3.3.2. Patient-Provider Consultation

Of the GP respondents, 37 of 39 (95%) provided on-site consultations and 32 of 37 (86%) administered vaccinations to residents in RACFs. However limited time for vaccine education was noted by in-reach geriatric teams and GPs, with visits largely occurring when residents were acutely unwell.

"GPs try hard to attend to give vaccinations... but have little time to provide education... to residents or their family/person responsible." – In-reach geriatric team member 4

"Focus of care is more on treatment of current episode rather than prevention." – In-reach geriatric team member 3

"Patient care in RACF is reactive... not focused on preventative health." – GP 9

This meant that RACF staff were often relied upon to initiate discussions with residents and families, even though they felt ill-equipped and attempted to defer vaccine hesitancy conversations to medical providers.

"The staff have been trying to address misinformation/vaccine hesitancy by circulating resources to help with informed decision making. They seem burnt out by continual obstruction from families though, so reported rarely having individualised discussions." – RACF 30

"Encourage GP to have conversation if resident is vaccine hesitant." – RACF 6

Residents highlighted the importance of trust in RACF staff, and the value of education and endorsement was widely acknowledged, especially when families were hesitant or unsupportive of vaccination.

"RACF staff play a big role" - Resident 7

"Education to carers and family members on the importance of vaccination [is required], and answering any concerns to minimise hesitation or refusal" – In-reach geriatric team member 3

"Relatives need more education so they don't refuse vaccines on behalf of residents." – Resident 13

Many family members echoed the importance of healthcare provider endorsements in the decision-making process:

"My father's GP always recommends what vaccinations are due." – Family member 25

"All has to be consulted with the health staff and GP, then weigh up all the reasons and benefits of these vaccinations, [acceptance of vaccination] will be decided accordingly." – Family member 44

3.3.3. Consent

Organising vaccination consent was reported as a major barrier by all respondent groups, particularly for residents unable to provide consent themselves.

"It is difficult at times to get consent. Where the patient is unable to, it can be difficult to get on to next-of-kin and they don't answer emails" – GP 36.

It was noted to be particularly time-consuming for residents under Public Guardianship.

"Issues obtaining consent from Public Guardian – [they] never reply regarding consent" – RACF 1

Consent delays were common, sometimes due to the Public Guardian requesting GPs or geriatricians complete a "consent for medical treatment" form. Additional delays arose from separate forms for each vaccine, unresponsive families, and GPs requiring renewed consent despite earlier collection. Verbal phone consent was a common but time-consuming workaround.

"Often have to wait for significant number of residents to consent for the vaccination process to be carried out. Most recently it was a two-month wait from date of sign off until vaccination" – Family member 35

"Will send emails to families or seek verbal consent and document accordingly. Have found verbal consent to work better, as families tend to forget to send back the consent form" – RACF 11

Consent for pneumococcal and shingles vaccination was not routinely obtained by RACFs and largely viewed as the GP's responsibility. Streamlined consent processes were called for, with a common proposal being a single, modifiable form covering multiple vaccines.

"Help facility develop generic consent form for all 4 vaccinations." – RACF 1

"One consent form to cover regular COVID-19 and influenza vaccines, rather than having to ask each time." – RACF 28

The use of digital tools to simplify consent was also recommended, including web-based forms and electronic submission options.

"A web form that you can complete and submit online is essential." – Family Member 45

"Identify ways to improve problems around accessing consent from families and the guardianship board... electronic options." – RACF 87

3.4. Coordination Barriers and Enablers

3.4.1. Tracking Vaccination Schedules

All respondent groups recognised the value of RACFs actively tracking vaccination schedules and informing GPs and family members when vaccines were due.

"The RACF could monitor the vaccination status and notify GPs when vaccines are due... as is already happening in some RACF facilities that I visit" – GP 29

"Having the facility let us know when vaccinations are due is really helpful, and they organise for the nurse/doctor to administer it at the facility" – Family member 68

Most RACFs tracked residents' COVID-19 (98%) and influenza (99%) vaccinations manually, but only 46% monitored pneumococcal and shingles uptake. Tracking was often left for GPs, leading to role confusion noted by families.

"Poor in-house systems meant one vaccine was missed when due & requested" – Family member 8

"Lack of clarity regarding who is responsible for organising the vaccination – i.e. is the family or the facility going to arrange this?" – Family member 72.

Residents reported reliance on facility staff to keep them informed about when they are due for vaccinations and healthcare providers highlighted the importance of individualised reminders tailored to each resident's vaccination schedule, as opposed to generic notifications.

"Having reminders for RACF or the GP for any due age-recommended vaccinations for the resident is helpful. This is better than a generic reminder for all" – In-reach geriatric team member 3

GPs also expressed concerns about the fragmented tracking and communication, noting:

"No tracking in RACF software. Difficult to determine if they have been done or not. Also they get outside agencies to do COVID and flu but not shingles and pneumococcal vaccines. No communication between facilities and GPs" – GP 7

"I'd rather the aged care homes track it, and wish they could access the immunisation register" – GP 3

Maintaining an up-to-date vaccination register was seen as vital, but RACFs lacked a unified system to track all four vaccines. Separate reports, manual calculations, and multiple software platforms were being used.

"COVID and flu is checked manually for each resident when arranging an upcoming clinic, no automated system, and report these numbers to the Quality team [in Head Office]." – RACF 47

3.5. Financial Barriers and Enablers

3.5.1. Government Reimbursement

Multiple aged care staff highlighted a lack of GPs willing to come on-site to administer vaccinations. Of the GP respondents who did not administer on-site vaccinations, two (33%) cited the lack of payment and confusion over government reimbursement for vaccinating residents in RACFs as one of the reasons.

"... It is unclear what item numbers can be used for a facility visit to give COVID [vaccination] as well as others" – GP 36

Financial incentives were seen by both in-reach geriatric teams and GPs as a key enabler to improve GP engagement in aged care vaccination, particularly given workforce shortages and increasing resident numbers.

"Making the [vaccination] discussion with family a billable encounter could be an incentive for the GP." – In-reach geriatric team member 3

"Agree with increased GP incentives. Dwindling number of GPs with more patients in nursing homes." – GP 40

One GP suggested redirecting incentives to RACFs themselves to encourage vaccination uptake at the facility level:

"Maybe incentives for the RACF to have their residents vaccinated." – GP 27

4. Discussion

As residents' vaccination histories were not readily available from their GPs or family members on admission to the RACF, having access to either AIR or MHR by RACF staff is essential. The issue of underused health information databases and systems in RACFs has been reported before [24]. Our study found that ANIs working in RACFs were not aware they could access AIR to view residents' immunisation histories. The MHR system, an alternative database for RACFs that did not employ ANIs, was also under-utilised due to lack of staff awareness. These results show that RACF staff require clear instructions, ongoing education and support on how to access such systems to enable monitoring of RACF resident vaccination status. In response to these findings the project team successfully advocated for a nationwide policy change, resulting in all RACFs having the ability to apply for direct access to the AIR regardless of ANI employment as of May 2025 [25].

GPs and in-reach geriatric teams supported nursing staff administering vaccines in RACFs, however, organisational policies often prevented ANIs from doing so, despite being qualified to independently vaccinate. While the reasons were not explored in detail, similar policy barriers have been noted previously [26]. Nurse practitioners were also found to be underutilised, consistent with existing literature [27]. Shifting organisational policies towards nurse-led vaccination would require RACF board-level endorsement, sustained support for frontline staff [28], and would likely benefit from encouragement from the Australian Department of Health, Disability and Aging.

RACFs in Australia are not authorised to order or store COVID-19 vaccines independently and have to rely on vaccination providers to do so via the national Vaccine Operations Centre [29]. This restriction creates logistical challenges, especially for GPs who have to transport large numbers of COVID-19 vaccines if running a mass clinic. The project team are advocating nationally to remove this restriction.

As a result of this project, advocacy at a state level has allowed for RACFs, small GP practices and pharmacies in NSW to increase their NIP vaccine (influenza, pneumococcal and shingles) ordering limits for the purpose of on-site RACF mass vaccination clinics.

Another key consideration is access to appropriate cold chain management on-site. RACFs would benefit from enhanced education and guidance to ensure compliance with national cold chain standards [30].

Our findings highlight the need for simplified and translated vaccination information, consistent with previous research in hospitals, long-term care, and among CALD and disadvantaged populations [31]. Barriers such as limited health promotion resources and insufficient time for patient-provider discussions have also been reported in rural and regional Australian settings [32].

Provider endorsement was a key influence on vaccination decisions for RACF residents and families, in keeping with findings from other studies showing that recommendations from a trusted health provider increased vaccine uptake [31], especially in CALD populations [33]. This is particularly relevant in our District, where many RACFs serve residents from multiple ethnic backgrounds.

To support informed decision-making, our findings identify a need for clear and accessible vaccine information for RACF residents and families, and education for RACF staff to better support them to have conversations about vaccination, especially with vaccine hesitant residents and families. Multi-component interventions with ongoing reinforcement, such as the provision of targeted information and education, have been shown to improve health outcomes for residents in RACFs, particularly when associated with changes in staff behaviour [18]. On-site education has been identified as the most effective approach, increasing staff confidence in vaccination discussions [34].

The aged care sector is facing increasing demand in Australia [3], with a growing need for health information technologies that enhance care quality, efficiency and workforce productivity. Electronic documentation systems, already adopted by most RACFs, improve accuracy of documentation, access to records and decision-making [24]. These existing digital systems could be utilised to enable better tracking of when vaccinations are due, helping to ensure RACF staff are aware of and can act on vaccination recommendations for their residents.

Our project identified obtaining consent as a major barrier to RACF resident vaccination, an issue previously explored [26,35]. New systems incorporating online consent capabilities may streamline administrative workflows and support timely vaccination of RACF residents. Previously identified barriers to implementation of digital technology or new innovations more broadly in aged care include; financial and time constraints [24,28]; demands on resources [24,28,36]; technology infrastructure [24]; and staff capability (skills and knowledge) to use new innovations [24,28,36]. Enablers include good communication, adequate staff education and organisational support via mentors or champions [24,28]. Working with organisations to develop and implement organisational policies that support new innovations is crucial [28].

Inadequate remuneration has been identified as a key barrier to GPs providing preventive care for more medically complex residents in RACFs [37]. Our findings support this, highlighting financial barriers including lack of reimbursement for vaccinations administered in RACFs, remuneration being directed to practices rather than individual GPs, and vaccine-related discussions not billable under current funding models. The Australian Government introduced the General Practice in Aged Care Incentive on 1 July 2024, aimed at supporting GPs and practices to deliver health care to permanent RACF residents [38]. Under this scheme, incentive payments are made to eligible GPs and practices quarterly, provided requirements for care planning services and regular visits are met [38]. This scheme was introduced around the time of our project data collection, meaning further work will be required to assess its effectiveness at increasing GP engagement in RACF resident vaccination.

A key strength of this project was the inclusion of diverse stakeholder perspectives, including vaccination providers, RACF staff from a large proportion of facilities in the district, and residents and families from CALD backgrounds who are often under-represented in health research despite facing poorer health outcomes [20,39]. Among the interviewed residents, 41% were born overseas, aligning with the demographic profile of SESLHD [20], but notably higher than the national

proportion in 2024, which was 31.5% [40]. Including these perspectives enhances the local relevance of our findings while contributing valuable insights applicable more broadly across Australia.

Despite these strengths, we acknowledge that participant recruitment was conducted via convenience sampling, and residents and family member participants were drawn from a subset of participating facilities.

We recognise that data collection from residents was limited, with 17 interviewed due to consent challenges related to cognitive decline and limited staff availability. Face-to-face interviews were chosen for ease but occurred in only 53% of participating RACFs, potentially missing other eligible residents. Although facilities with low vaccination coverage were prioritised, vaccine-hesitant residents were often unwilling to participate, likely leading to their under-representation and bias in the findings.

Surveys of GPs and family members also had methodological limitations. The GP survey had a low response rate (12%). Family member recruitment via on-site interviews was unsuccessful; instead, RACF managers distributed the survey via mailing lists. The questionnaire, designed for guided interviews, may have been unclear to families, leading to skipped questions, including facility identification, limiting our ability to link responses to specific RACFs.

The PHU developed and implemented several practical resources for SESLHD RACFs in response to the insights gained from this work. These included: an online consent form template; low literacy, translated factsheets [41]; vaccination action plan toolkit; a vaccination tracker register for residents; a vaccination policy template; instructional videos to support resource use [42]; and a series of online and face-to-face education sessions for RACF staff.

Future work would benefit from direct engagement with RACF corporate bodies to address policy barriers, such as prohibiting resident vaccination by nursing staff and consent processes. Exploring enablers and barriers with pharmacist immunisers directly may also provide valuable insights into vaccination delivery in RACFs. Beyond RACFs, these methods are applicable to other vulnerable groups, including residents of independent living units (retirement villages) and disability group homes, who may face similar challenges. Strengthening engagement with vulnerable communities and ensuring inclusive, tailored strategies will be key to improving vaccine equity and informing national immunisation strategies and policy.

5. Conclusions

This project has provided greater understanding of the complex barriers and enablers contributing to suboptimal vaccination coverage of RACF residents. Our findings show that strengthened and sustainable vaccination delivery in RACFs will require organisational policy changes; better support, education and training for RACF staff; improved RACF access to digital tools; and continued advocacy to government. The methods used in this project offer a replicable framework for understanding vaccination coverage gaps in other vulnerable population groups.

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Institutional Review Board Statement: This quality improvement initiative was reviewed by the South Eastern Sydney Local Health District Human Research Ethics Committee (QAQI/11March2025/R2), who noted this activity did not raise any ethical risks requiring submission to an ethical review committee in accordance with NSW Health Policy. The participants received a consent form in English and written and/or verbal consent was obtained prior to the interviews and surveys. The participants volunteered their time.

Informed Consent Statement: Informed written consent was obtained from all participants involved in this study before the survey or interview and confirmed verbally at the time of the interview.

Data Availability Statement: The data presented in this study are available upon request from the corresponding author. Due to ethical restrictions, they are not publicly available.

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Abbreviations

The following abbreviations are used in this manuscript:

RACF	Residential aged care facility
NIP	National Immunisation Program
AIR	Australian Immunisation Register
ANI	Authorised nurse immuniser
MHR	My Health Record
NSW	New South Wales
13vPCV	Prevenar 13
23vPPV	Pneumovax 23
SESLHD	South Eastern Sydney Local Health District
CESPHN	Central and Eastern Sydney Primary Health Network
PHU	Public Health Unit
GP	General practitioner
NCIRS	National Centre for Immunisation Research and Surveillance
CALD	Culturally and linguistically diverse

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