OPTIMISER^3

On-site Pharmacist Implementation Trial

in residential aged care homes in urban, regional, rural and remote Australia

Final evaluation report



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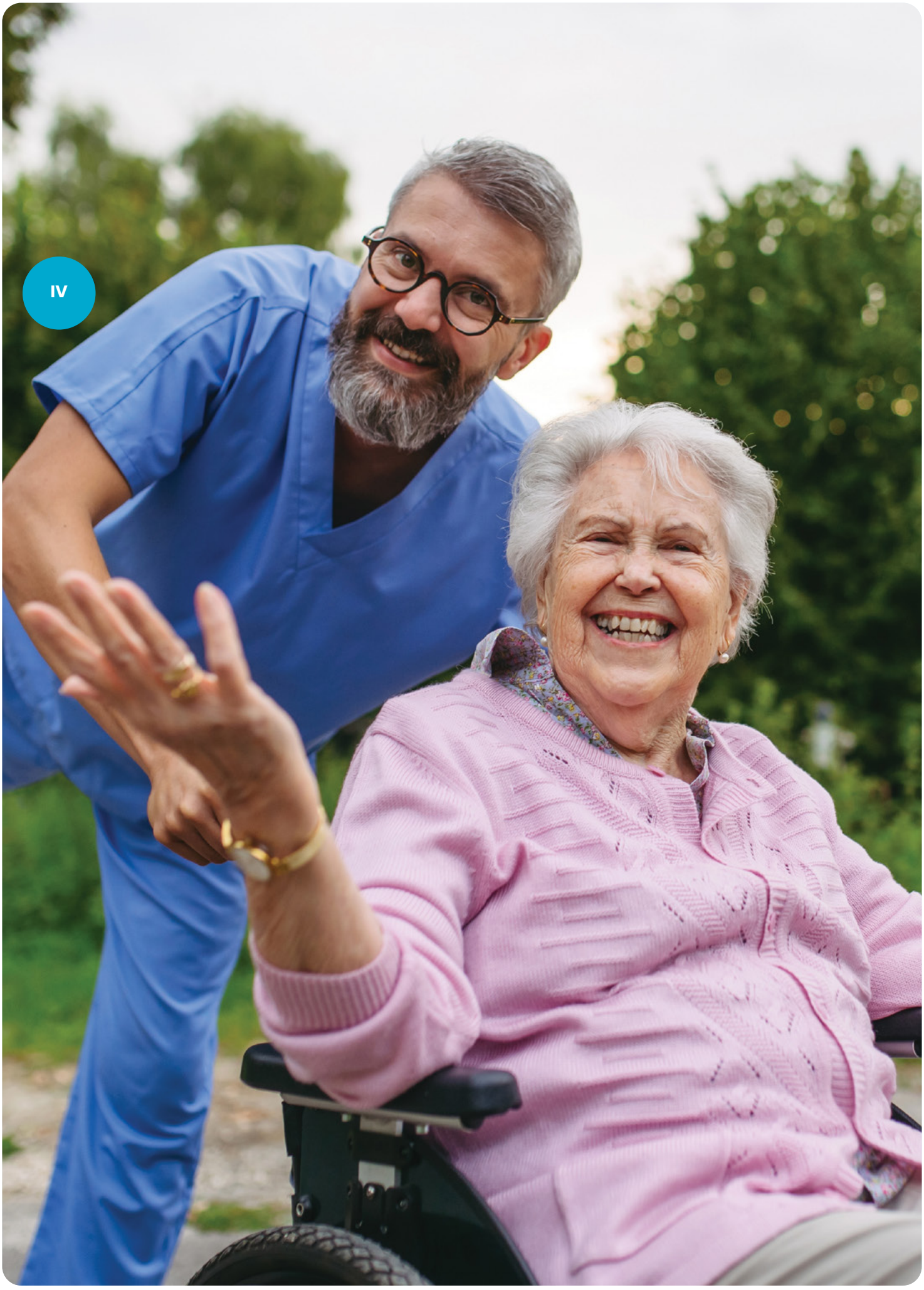
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The views expressed in this report are those of the authors and do not necessarily reflect the views of the Australian Government, participating organisations, partner organisations or individual stakeholders. The findings and recommendations presented are based on evidence collected as part of the OPTIMISER[3] evaluation and are intended to inform policy, practice and future implementation of the Aged Care On-site Pharmacist Measure.

Conflict of interest declarations

Professor Mark Naunton and Dr Jane Koerner, both Chief Investigators, became president of the Pharmaceutical Society of Australia and an employee of the Department of Health, Disability and Ageing, respectively, after the study commenced. Neither was involved in developing the policy recommendations in this report.




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Abbreviations

Abbreviation	Definition
ACOP	Aged Care On-site Pharmacist
AMS	Antimicrobial stewardship
EN	Enrolled nurse
GP	General practitioner
HMR	Home Medicines Review
MAC	Medication Advisory Committee
OPTIMISER³	On-site pharmacist implementation trial in residential aged care homes in urban, regional, rural and remote Australia
PiRACF	Pharmacists in Residential Aged Care Facilities Trial
PIM	Potentially inappropriate medicine
PRN	Pro re nata (as required)
RACH	Residential aged care home
RMMR	Residential Medication Management Review
RN	Registered nurse
S8	Schedule 8 (controlled drug)
UC	University of Canberra
VicTAG	Victorian Therapeutics Advisory Group



Executive summary

The Aged Care On-site Pharmacist (ACOP) initiative represents a significant reform within the Australian aged care system, designed to embed pharmacists within residential aged care homes to improve medication safety, quality use of medicines, and resident outcomes.

As implementation expands nationally, understanding the conditions that support successful integration and sustainable delivery has become increasingly important. This evaluation examined the implementation of the ACOP model across diverse residential aged care settings, including urban, regional, rural, and remote locations. Drawing on activity data, stakeholder interviews, and case studies, the evaluation explored how the model was implemented, the factors influencing success, and opportunities to strengthen future delivery.

Key findings

The evaluation found that the ACOP model is both feasible and valuable across a broad range of aged care contexts. Participating organisations reported that embedded pharmacists made meaningful contributions to medication management, quality improvement, staff education, clinical governance, and multidisciplinary care. However, the findings demonstrate that successful implementation depends on much more than the placement of a pharmacist within a service. The greatest determinants of success were organisational readiness, leadership support, role clarity, relationship-building, and the ability of pharmacists to integrate into existing clinical and operational systems.

Several overarching themes emerged:

- The ACOP role extends well beyond medication reviews, encompassing education, quality improvement, medication governance, resident and family engagement, and support for broader clinical decision-making.
- Strong relationships between pharmacists, residential aged care staff, general practitioners, and residents are critical to implementation success.
- Services with established governance processes, leadership commitment, and clear implementation planning achieved more effective integration.
- Flexible delivery approaches, including hybrid and outreach models, were essential for supporting rural and remote services.
- Workforce recruitment, retention, and sustainability challenges may constrain future expansion of the model if not addressed.
- Existing activity and performance measures do not fully capture the breadth and impact of the ACOP role.

Strategic significance

The findings suggest that the future success of the ACOP measure will depend less on whether pharmacists can be embedded within residential aged care services and more on how effectively organisations support their integration, utilisation, and long-term sustainability. The evaluation provides strong evidence that pharmacist-led interventions can contribute to safer medication use and strengthen medication governance within aged care settings. Importantly, it also highlights that implementation outcomes are driven by organisational and system-level factors as much as by individual pharmacist capability. As the program matures nationally, policy attention should increasingly focus on supporting implementation quality, workforce capacity, and sustainable models of delivery rather than solely monitoring service uptake.

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Future directions

To maximise the benefits of the ACOP measure, future implementation efforts should prioritise:

- Strengthening organisational readiness and implementation planning.
- Supporting recruitment, development, and retention of the aged care pharmacist workforce.
- Enhancing integration between pharmacists, residential aged care teams, and primary care providers.
- Developing flexible service models suited to regional, rural, and remote settings.
- Refining performance indicators to better capture quality improvement, governance, education, and system-level contributions.
- Continuing evaluation to inform ongoing optimisation of the model.

Conclusion

This evaluation demonstrates that the ACOP model can be successfully implemented across diverse aged care environments and has become an important contributor to medication safety and quality use of medicines in residential aged care. The next phase of reform should focus on optimising implementation, strengthening workforce sustainability, and ensuring that funding, performance monitoring, and support systems enable pharmacists to operate as fully integrated members of multidisciplinary aged care teams. Through this shift from establishment to optimisation, the ACOP measure has the potential to deliver sustained improvements in medication management, service quality, and resident outcomes across Australia's aged care sector.



Introduction



Residential Aged Care Reform

Older people living in residential aged care homes (RACHs) are particularly vulnerable to medication-related harm because of multimorbidity, polypharmacy and complex care needs. Improving medication management requires both individualised care and organisational systems that support safe prescribing, administration and monitoring. Workforce shortages and limited access to healthcare professionals can create additional challenges in regional, rural and remote settings.

The Royal Commission into Aged Care Quality and Safety identified medication management and safety as priorities for reform. In response, the Australian Government introduced the Aged Care On-site Pharmacist (ACOP) Measure from 1 July 2024, funding pharmacists to work within RACHs and strengthen medication care (Department of Health, Disability and Ageing, 2026).

Development of the ACOP model

The ACOP model builds on a program of research undertaken by our team in the Australian Capital Territory, progressing from a pilot study to the Pharmacists in Residential Aged Care Facilities (PiRACF) cluster randomised controlled trial and subsequent implementation work. The pilot provided early evidence supporting further investigation of an embedded pharmacist model (McDerby et al., 2020). The PiRACF trial, involving 15 RACHs, demonstrated reductions in potentially inappropriate medicine use and improvements in overall medication management (Haider et al., 2023). Together, this research informed the evidence base for wider implementation.

The model embeds pharmacists within the multidisciplinary team, providing ongoing medication expertise and regular engagement with residents, families, staff and prescribers. Responsibilities extend beyond medication reviews to include staff education, clinical audits, quality improvement, medication policy development and participation in Medication Advisory Committees. The intended benefits encompass safer medicine use, stronger clinical governance, improved collaboration and more responsive resident-centred care.

The OPTIMISER^3 Study

Study rationale

Although our earlier studies established the benefits of the ACOP model, evidence was needed on implementation and sustainability across geographically and organisationally diverse settings. The national rollout created an opportunity to investigate local adaptations, workforce requirements and the supports needed to integrate ACOPs into routine care, particularly in regional, rural and remote homes (Kosari et al., 2026).

A further priority was identifying practical measures for ongoing monitoring. Medication-use indicators provide information about prescribing patterns but cannot capture the full contribution of ACOPs to resident care, workforce capability and organisational improvement. Monitoring therefore needs to capture relevant aspects of medication use and pharmacist contribution while remaining feasible within routine practice and minimising reporting burden.

Study aims

OPTIMISER^3 aimed to identify strategies and adaptations supporting implementation and scale-up of the ACOP model across diverse settings, and quality and performance indicators suitable for ongoing monitoring and improvement.

Research questions

The study addressed two research questions:

1. Which strategies and adaptations are needed to implement and scale up the ACOP model across different geographic regions?
2. Which quality and performance indicators are feasible, measurable and useful for monitoring the performance of the ACOP model?

Evaluation outcomes

The evaluation examined nine areas: education and training; role definition; local adaptation; rural, regional, and remote service delivery; clinical governance; interprofessional collaboration; mentoring and peer support; workforce sustainability; and implementation barriers and enablers.

Purpose of this report

This report brings together qualitative and quantitative findings to inform implementation, workforce sustainability, local adaptation and quality monitoring. It provides recommendations and practical resources for policymakers, aged care providers, pharmacists, Primary Health Networks and professional organisations supporting the ongoing development of the ACOP model.





Study design

OPTIMISER[3] Australia was a mixed-methods implementation study examining how the ACOP model could be implemented, adapted and sustained across diverse residential aged care settings, and which quality and performance indicators could support ongoing monitoring. The study combined local co-design, 12 months of implementation and evaluation, informed by the Consolidated Framework for Implementation Research (Damschroder et al., 2009) and Normalisation Process Theory (May & Finch, 2009). Detailed methods are described in the published protocol (Kosari et al., 2026).

Settings and recruitment

Eight RACHs participated across urban, regional, rural and remote locations. Four RACHs were recruited in each of two recruitment phases. Phase 1 RACHs were randomly selected from expressions of interest; Phase 2 RACHs were recruited through convenience sampling, supported by the study partner. Pharmacist availability influenced recruitment, particularly outside urban areas.

Participants included ACOPs, RACH managers, nursing and care staff, general practitioners, community pharmacy representatives, residents and family members. Participants were approached in collaboration with participating homes.

Implementation and data collection

Pre-implementation co-design workshops established local priorities, role expectations, communication pathways and working arrangements. Resident discussions explored experiences of medication care and preferences for pharmacist involvement. These contributions informed local adaptation of the ACOP model.

During implementation, pharmacists received research team support, supplementary training and opportunities for peer learning. Facility characteristics were collected, and resident demographic, diagnosis and medication data were obtained from care records at baseline and after 12 months to calculate medication-related quality indicators. Pharmacists recorded their activities using a structured online diary.

Interviews and group discussions explored implementation experiences, role integration, benefits, barriers, adaptations and sustainability. Surveys and stakeholder discussions examined the feasibility and usefulness of quality indicators, including reporting burden and interpretation.

Data analysis

Quantitative data were summarised descriptively, and baseline and endpoint medication indicators were collected to assess medication and prescribing quality indicators. Qualitative data were analysed against nine predefined evaluation outcomes, with additional themes identified inductively. Findings were compared across stakeholder groups and settings, then integrated with quantitative findings to inform recommendations and implementation resources.

Ethics and confidentiality

The University of Canberra Human Research Ethics Committee approved the study (13769; 8 April 2024), which was registered with the Australian New Zealand Clinical Trials Registry (ACTRN12624000827538; 4 July 2024). Participation was voluntary and informed consent was obtained. De-identified resident data for quality indicator calculations were collected through an opt-out process. Identifying details were withheld from reporting to protect participant and home confidentiality.



Findings

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Characteristics of participating residential aged care homes and pharmacists

Eight RACHs were recruited in two phases, with four RACHs in each phase. Phase 1 RACHs were randomly selected from those that submitted an expression of interest, while Phase 2 RACHs were recruited through convenience sampling. Recruitment was supported by the study partner and was challenged by difficulties finding pharmacists to undertake ACOP roles, particularly in regional, rural and remote locations.

The final sample comprised two urban, two regional, two rural and two remote RACHs (**Table 1**). Twelve pharmacists participated across the eight RACHs, reflecting staff turnover and replacement during the study (**Table 2**). Characteristics of residents who participated in interviews are not reported to protect their privacy and confidentiality and minimise the risk of identification.

Pharmacists' activities

During the 12-month implementation period, ACOPs recorded 2,188 activities spanning resident-level care and organisational support. Communication and medication reviews were the most frequently recorded activity types, alongside medication management, education and training, quality improvement, and clinical audits. The detailed breakdown illustrates the breadth of this work, including engagement with residents, families and healthcare providers; audits of high-risk medicines; staff education; improvements to medication rounds; and contributions to medication policies, incident review and clinical governance committees (**Table 3**).

These data demonstrate that medication reviews represented only one component of the ACOP role, with considerable effort directed towards communication, workforce capability building, governance and quality improvement activities, reflecting a broader contribution to medication safety and quality use of medicines across the residential aged care home.





Table 1. Characteristics of participating residential aged care homes

Study phase	Site code	Geographical classification	Intervention commencement date
Phase 1	RACH 1	Urban	1 October 2024
	RACH 2	Regional	10 October 2024
	RACH 3	Rural	13 February 2025
	RACH 4	Remote	5 March 2025
Phase 2	RACH 5	Regional	13 March 2025
	RACH 6	Remote	8 April 2025
	RACH 7	Rural	21 May 2025
	RACH 8	Urban	3 July 2025

Note: The mean number of beds of participating RACHs was 78 beds (range 28–191). Individual home capacities are withheld to minimise the risk of identification.



Table 2. Characteristics of participating pharmacists

Characteristic	Category	Value
Gender	Male	7 (58)
	Female	5 (42)
Age (years)	21–30	3 (25)
	31–40	3 (25)
	41–50	5 (42)
	51–60	1 (8)
Tertiary qualification	Bachelor of Pharmacy	11 (92)
	Master of Pharmacy	1 (8)
Experience as an Australian pharmacist (years)		14 (2–29)*
RMMR/HMR credentialed	Yes	12 (100)
	No	0 (0)

Notes: Values are n (%) unless otherwise indicated.
* Pharmacist experience is reported as mean (range). Twelve pharmacists participated across eight RACHs, reflecting staff turnover and replacement during the study. All pharmacists commenced ACOP training while working in the role.

Table 3. Details of activities undertaken by aged care on-site pharmacists during the 12-month study implementation period

Activity	Activity subcategory	Frequency (%)
Medication review	Comprehensive and targeted medication reviews	641
Clinical audit	Psychotropics	19 (21)
	Antimicrobials	18 (20)
	PIM	10 (11)
	Opioids	6 (7)
	Drug chart audit	5 (6)
	Other	32 (36)
	Total	**90**
Communication related to medication reviews	**Stakeholders involved in medication review communication:**	
	Resident	457 (27)
	GP	437 (26)
	RACH Staff	379 (23)
	Residents' family	133 (8)
	Nurse practitioner	120 (7)
	Hospital	42 (3)
	Community pharmacy	31 (2)
	Geriatrician/specialist	14 (1)
	Staff at GP reception	10 (1)
	Other	46 (3)
	Total	**1669**
	Modes of communication used during medication review:	
	In person	535 (45)
	Written communication	317 (27)
	Email	111 (9)
	Phone	91 (8)
	Fax	84 (7)
	Text message	2 (0.2)
	Other	50 (4)
	Total	**1190**

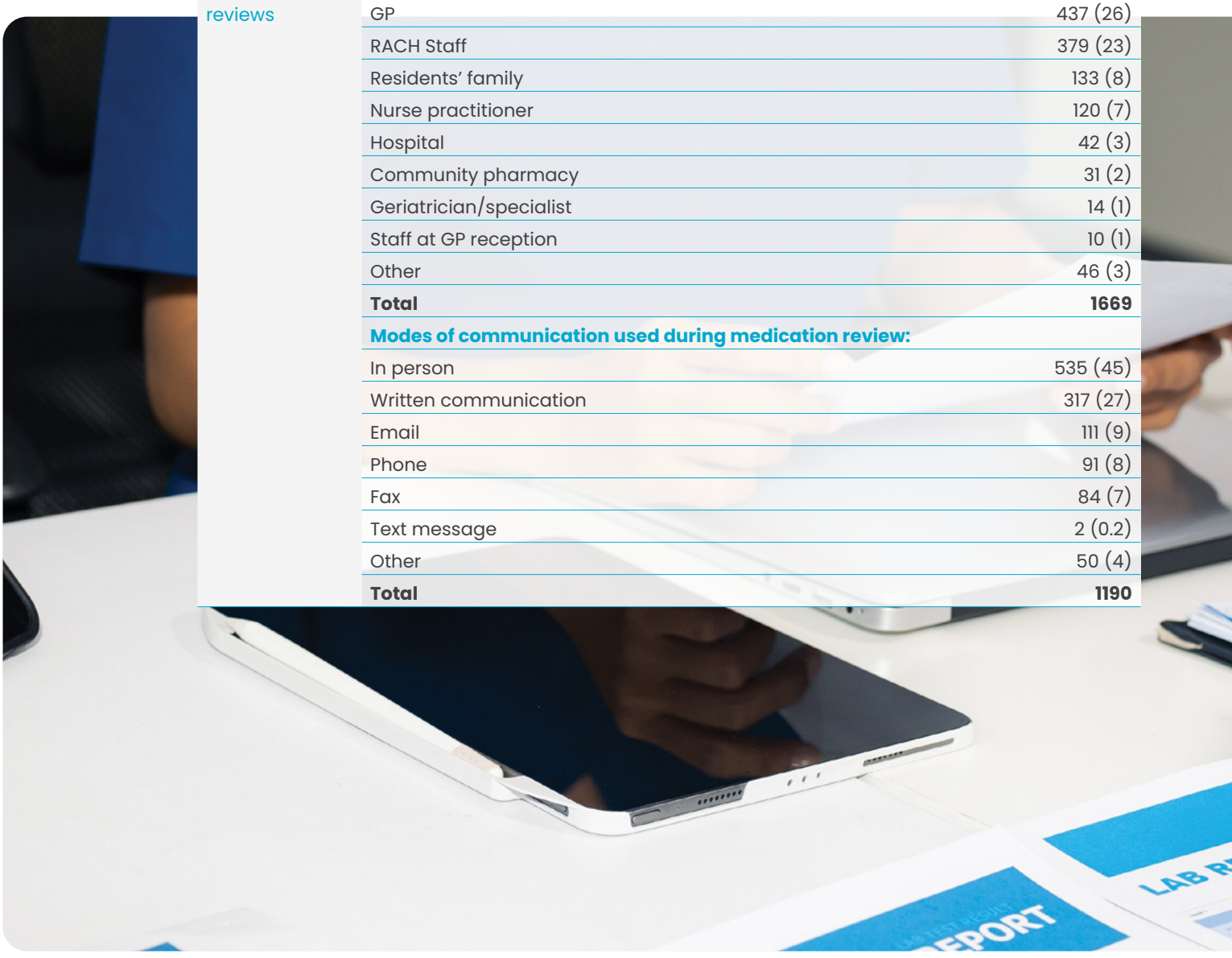
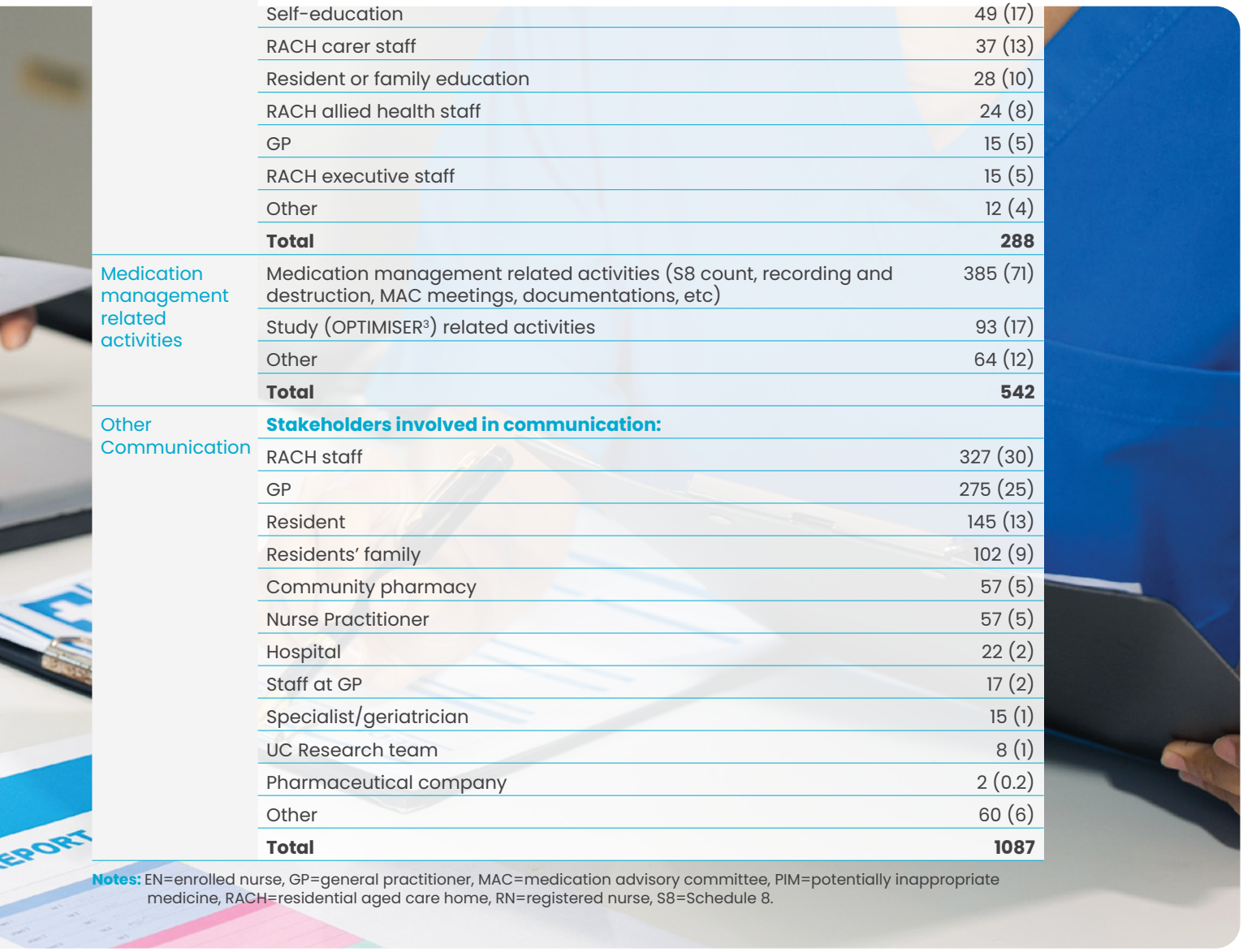


Table 3. Details of activities undertaken by aged care on-site pharmacists during the 12-month study implementation period *(continued)*

Activity	Activity subcategory	Frequency (%)
Quality improvement activities	Reviewing, writing and implementing medication management policies and procedures	31 (22)
	Improving efficiencies in medication rounds	30 (21)
	Reviewing medication incidents and making system changes to address these incidents	23 (16)
	Attending and preparing for Medication Advisory Committee, Falls Committee, Quality and Safety Committee meetings	22 (16)
	Quality improvement activities relevant to psychotropic medications	12 (9)
	Other	23 (16)
	Total	**141**
Training and education	**Stakeholders involved in training and education:**	
	RACH RN/EN staff	108 (38)
	Self-education	49 (17)
	RACH carer staff	37 (13)
	Resident or family education	28 (10)
	RACH allied health staff	24 (8)
	GP	15 (5)
	RACH executive staff	15 (5)
	Other	12 (4)
	Total	**288**
Medication management related activities	Medication management related activities (S8 count, recording and destruction, MAC meetings, documentations, etc)	385 (71)
	Study (OPTIMISER[3]) related activities	93 (17)
	Other	64 (12)
	Total	**542**
Other Communication	**Stakeholders involved in communication:**	
	RACH staff	327 (30)
	GP	275 (25)
	Resident	145 (13)
	Residents' family	102 (9)
	Community pharmacy	57 (5)
	Nurse Practitioner	57 (5)
	Hospital	22 (2)
	Staff at GP	17 (2)
	Specialist/geriatrician	15 (1)
	UC Research team	8 (1)
	Pharmaceutical company	2 (0.2)
	Other	60 (6)
	Total	**1087**

Notes: EN=enrolled nurse, GP=general practitioner, MAC=medication advisory committee, PIM=potentially inappropriate medicine, RACH=residential aged care home, RN=registered nurse, S8=Schedule 8.



Key findings

Finding 1

The ACOP model enabled pharmacists to contribute across multiple areas of residential aged care

A key strength of the ACOP model was its capacity to support resident care, workforce capability and organisational improvement concurrently. ACOPs were involved in direct clinical care activities, communication and collaboration with healthcare professionals, resident and family engagement, medication safety initiatives and quality improvement activities. Together, these activities embedded medication expertise within day-to-day service delivery and enabled pharmacists to contribute across multiple levels of residential aged care practice.

Medication reviews remained an important component of the role and were frequently identified as a valuable mechanism for addressing medication-related issues and supporting prescribing decisions.

One manager reflected on the value of pharmacist-led medication reviews for residents whose medication regimens had remained unchanged despite ongoing concerns:

> **"For me was about the reviewing of the meds that we were struggling to get doctor to change, but [the ACOP] did it."**
>
> (Manager, Remote location)

Similarly, a general practitioner highlighted the reach of the pharmacist's review activities:

> **"[The ACOP]'s undertaken a medication review for almost all of my residents."**
>
> (GP, Remote location)

The role, however, extended well beyond individual medication reviews. ACOPs were described as a readily accessible source of medication expertise for staff, providing advice, supporting clinical decision-making and facilitating communication with prescribers.

Staff highlighted the value of having timely access to pharmacist support when medication-related issues arose:

> **"If we can't crush certain medication, [the ACOP]'s really onto it and talks with doctor and change it right away."**
>
> (Staff member, Remote location)

ACOPs were also reported to play an important role in supporting residents and families to understand medications and medication-related decisions. The ongoing presence of the ACOP within the service was seen as facilitating these interactions and strengthening relationships with residents and families.

> **"Yeah, [the ACOP]'s built a good relationship with some of the families."**
>
> (Staff member, Remote location)

Beyond direct resident care, participants identified substantial contributions to medication safety, quality improvement and organisational processes. Activities included medication stock reviews, audits, stewardship initiatives and broader quality improvement work aimed at strengthening medication management systems.

One manager described how a pharmacist-led review identified expired medicines, unnecessary stock and gaps in emergency medication supplies:

> **"[The ACOP] found there was couple of expired meds and then he found meds that we do not need, and meds that we need as an imprest stock wasn't available."**
>
> (Manager, Remote location)

Participants from several sites also described pharmacists contributing to audit and quality improvement activities that supported organisational performance and medication safety outcomes.

> **"With all your AMS audits, chemical restraint audits, there's a lot that you can do."**
>
> (ACOP, Regional location)

> **"Provide that feedback on how we can overall improve our clinical indicator, falls, anything to do weight loss, polypharmacy."**
>
> (Manager, Regional location)

Taken together, these findings suggest that the value of the ACOP model was not limited to any single activity. Rather, pharmacists contributed across resident care, workforce support and organisational improvement, enabling medication expertise to be integrated into everyday practice. This breadth of contribution was frequently identified as one of the model's key strengths and as an important mechanism for improving medication safety and quality use of medicines within residential aged care services (**Table 4**).

Table 4. Areas of ACOP contribution

Domain	Examples reported by participants
Resident care	Medication reviews, medication optimisation, deprescribing support, medication monitoring and resident education
Workforce support	Medication advice, education, mentoring, clinical guidance and support for prescribers
Resident and family engagement	Medication explanations, responding to concerns and supporting informed decision-making
Organisational improvement	Audits, medication-use reviews, stock management reviews and quality improvement activities
Collaboration	Liaison with GPs, community pharmacies, residents, families and aged care staff
Governance and safety	Medication safety monitoring, stewardship activities and quality use of medicines initiatives

Case study 1: Improving hazardous medicine management and reducing unnecessary cytotoxic waste disposal

Background and issue identified

During a medication crushing review at a regional RACH, the ACOP identified inconsistencies in how potentially hazardous medicines were classified, handled and disposed of. Electronic medication systems provided information about whether medicines could be crushed but did not consistently identify handling precautions relevant to staff exposure.

Questions also arose about medicines being managed under cytotoxic precautions. A resident queried why these precautions were necessary when their specialist had not discussed them, prompting the ACOP to investigate the basis for existing practices.

Pharmacist contribution

Working with facility leadership, the ACOP reviewed medication handling procedures, disposal arrangements and the information available to nursing staff. The review compared existing practices and electronic medication alerts with Victorian Therapeutics Advisory Group (VicTAG) guidance on hazardous medicines.

The ACOP identified gaps in handling information for some medicines and instances where cytotoxic precautions appeared unnecessary following review. The findings were escalated to personnel responsible for organisational medication safety, policy and electronic systems.

Reported changes

The review led to updates to electronic medication alerts and organisational policies to better distinguish handling and disposal requirements. According to the case account, reassessment identified that only one resident required the cytotoxic waste disposal arrangements previously applied to several residents.

These changes reduced unnecessary use of the cytotoxic waste stream and were reported to reduce associated disposal costs. Updated alerts and guidance also supported staff to identify exposure risks and apply appropriate precautions. The report does not quantify cost savings or changes in occupational exposure.

Changes to organisational policies and software extended the initiative beyond the originating home.

Key lesson

An ACOP's review of routine medication administration practices can identify wider system issues and inform organisational change. This case illustrates the connection between clinical expertise, staff support, medication governance and more appropriate use of disposal resources.

Finding 2

Relationships, collaboration and integration are key to ACOP implementation

Strong relationships were fundamental to successful implementation of the ACOP model. The ability of ACOPs to influence resident care, support staff and contribute to organisational improvement was closely linked to their visibility within services, accessibility to stakeholders and the trust developed over time through ongoing engagement.

Participants consistently highlighted the importance of visibility and accessibility in establishing the role. Regular on-site presence enabled pharmacists to become familiar members of the care team and created opportunities for both formal and informal interaction.

One ACOP reflected on how everyday interactions helped establish visibility within the service:

> **"Every morning I say good morning to you. They know you're there."**
> (ACOP, Urban location)

Another ACOP highlighted the importance of sustained presence over time:

> **"Being here consistently."**
> (ACOP, Urban location)

Managers and staff frequently described accessibility as one of the key advantages of the role. Having a pharmacist on-site created opportunities for timely advice, collaborative problem-solving and support for medication-related decision-making.

> **"Good. Like at least he's here on site. If there's anything urgently needs to be reviewed or need some advice, so it's good."**
> (Manager, Remote location)

> **"He was always available to help."**
> (Staff member, Remote location)

Case study 2: Identifying medication safety risks through trusted relationships with non-clinical staff

Background and issue identified

An ACOP working in a rural RACH became aware of medicines being found in resident rooms and communal areas, including a physiotherapy and rehabilitation area.

A cleaning staff member approached the ACOP after finding tablets. She reported having previously raised concerns with nursing staff but felt these had not been adequately addressed. On some occasions, she had been advised to dispose of the medicines, leaving uncertainty about their identity, ownership and whether prescribed doses had been taken.

Pharmacist contribution

The ACOP examined the medicines and attempted to establish their identity and likely source using their appearance, the circumstances in which they were found and medication records. Medicines identified included antibiotics, pain relief medicines and calcium supplements. One medicine found in the physiotherapy room was traced to a person receiving physiotherapy.

The discoveries raised concerns about potentially missed doses, accidental ingestion by another resident and gaps in incident reporting and investigation. The ACOP raised these concerns with staff and highlighted the need for consistent documentation and follow-up.

The discussions also drew attention to oversight of self-administered, family-supplied and complementary medicines. The pharmacist's experience of finding expired medicines during previous medication reviews informed these concerns; those earlier examples were not established as events at this study RACH.

Improvement opportunities and lessons learned

The case identified opportunities to strengthen:

- Reporting and investigation of medicines found unattended.
- Follow-up to establish whether prescribed doses had been taken.
- Review of self-administration arrangements.
- Documentation, storage and oversight of family-supplied and complementary medicines.
- Processes enabling clinical and non-clinical staff to raise medication safety concerns.

The account describes risk identification and escalation but does not establish whether revised procedures were subsequently implemented or whether medication incidents decreased.

Key lesson

The ACOP's visibility and accessibility created a trusted route for a non-clinical staff member to raise an unresolved concern. The case illustrates how relationships across the whole aged care workforce can help identify medication safety risks and bring gaps in organisational processes to attention.

As pharmacists became more familiar within services, relationships evolved beyond day-to-day interactions to become trusted professional partnerships. Trust was described as facilitating communication, increasing confidence in recommendations and encouraging staff to seek advice when medication-related concerns arose.

"There is this trust in the facility."
(Manager, Urban location)

"They have built this trustworthy being on site."
(Staff member, Urban location)

Strong relationships also supported integration within multidisciplinary teams. Pharmacists were frequently described as acting as a bridge between aged care staff, general practitioners, community pharmacies, residents and families, helping coordinate communication and assist with medication-related decision-making.

One ACOP described becoming a communication link between care providers:

"Nursing staff did sort of realise that a pharmacist could be a contact point or a sort of vessel for communication between the nursing home and the GP."
(ACOP, Regional location)

The value of this role was similarly recognised by general practitioners:

"I'd ask [the ACOP] if he would mind being a communicator for me."
(GP, Regional location)

In some services, pharmacists were viewed as trusted team members who connected people and supported collaborative approaches to resident care.

"I've been the connector of people."
(ACOP, Regional location)

"They've been able to go, 'Hey [ACOP], what do you reckon about this?'"
(Manager, Regional location)

These findings suggest that successful implementation depended not only on pharmacist expertise, but also on the quality of relationships established within the service. Visibility, accessibility and trust enabled pharmacists to become integrated members of multidisciplinary teams, strengthening communication pathways and supporting contributions across resident care, workforce development and organisational improvement (see **Table 5**).

Table 5. Factors supporting relationship development and integration

Factor	Contribution to implementation
Visibility	Increased awareness and understanding of the ACOP role
Accessibility	Enabled timely advice and informal consultation
Trust	Increased confidence in pharmacist recommendations
Communication	Supported coordination and problem-solving
Collaboration	Strengthened multidisciplinary care and shared decision-making
Ongoing presence	Facilitated integration into day-to-day service activities



Finding 3:

Organisational infrastructure was essential for effective implementation

The benefits of the ACOP model were influenced not only by the skills and expertise of individual pharmacists, but also by the extent to which organisations created an environment capable of supporting the role. Leadership support, access to clinical systems, onboarding processes and operational infrastructure all influenced how effectively ACOPs were able to integrate into services and contribute to resident care, workforce support and quality improvement activities.

Strong leadership support was an important enabler of implementation. Managers who actively engaged with ACOPs, involved them in service activities and supported their integration into existing processes created opportunities for the role to become embedded within the organisation.

One manager described the collaborative approach taken during implementation:

> **"So we both sat down, we make the plan and it really works very well."**
> (Manager, Remote location)

Similarly, an ACOP reflected on the value of having supportive organisational structures and leadership in place:

> **"I've been very fortunate to have that team built around me."**
> (ACOP, Urban location)

Management support also influenced the extent to which pharmacists were included in organisational activities and decision-making processes. One manager described deliberately involving the pharmacist in key clinical and resident-focused activities:

> **"They involved [the ACOP] in our clinical catch-up and then family meetings."**
> (Manager, Urban location)

Access to organisational systems emerged as another important implementation factor. Access to clinical records, medication management systems and organisational information enabled pharmacists to undertake reviews, monitor resident care and contribute effectively to service activities. Conversely, delays in obtaining access created significant barriers during implementation.

One manager described challenges associated with providing system access:

> **"The project manager, executive manager did not give him access."**
> (Manager, Remote location)

ACOPs working across different services similarly reported difficulties obtaining access to systems required to perform their role.

> **"Getting that access in the beginning to the programmes that I needed was hard."**
> (ACOP, Regional location)

> **"It took months to get access to Autumn Care."**
> (ACOP, Regional location)

In some services, limited access to systems and technology slowed implementation and restricted pharmacists' ability to complete key activities.

"Being able to access everything, that was a barrier for about three months."

(ACOP, Regional location)

"It's quite difficult to get access to an external contractor, to our IT process, to our programs and things."

(Manager, Regional location)

Clear governance arrangements and practical support also appeared to facilitate implementation. ACOPs who were incorporated into communication pathways, quality improvement activities and organisational processes were better positioned to contribute to service improvement and medication safety initiatives. Where these structures were established, stakeholders described ACOPs becoming an active part of the service rather than remaining peripheral to day-to-day operations.

The findings suggest that successful implementation depended on more than pharmacist capability alone. Organisational infrastructure provided the foundation that enabled ACOPs to access information, build relationships, participate in organisational activities and deliver the intended benefits of the model. Where leadership support, systems access and governance arrangements were in place, ACOPs were better able to integrate into services and contribute across resident care, workforce support and organisational improvement (see **Table 6**).

Table 6. Organisational factors supporting implementation

Enabler	Examples
Leadership support	Executive and management endorsement of the role
Role integration	Inclusion in clinical meetings, family meetings and service activities
Systems access	Access to clinical records, medication management systems and reporting platforms
Governance structures	Participation in organisational processes and quality improvement activities
Communication pathways	Established mechanisms for engaging staff and stakeholders
Practical supports	Technology, workspace and administrative support

Finding 4

Workforce sustainability relied on professional support, remuneration and career development opportunities

The long-term success of the ACOP model depends on a workforce capable of delivering advanced medication management, quality improvement and clinical governance activities within residential aged care. While stakeholders consistently recognised the value of the role, workforce capability and sustainability emerged as important considerations for the future growth and continuation of the model.

Structured professional support was identified as an important contributor to workforce capability. ACOPs described the value of peer networks, mentoring relationships, communities of practice and opportunities to connect with colleagues undertaking similar roles. These supports provided opportunities to share knowledge, discuss challenges and build confidence in a role that is often undertaken independently and across multiple services.

Peer support networks were frequently described as helping ACOPs manage complex situations and reducing professional isolation.

> **"It's a good sounding board."**
> (ACOP, Urban location)

> **"Just a friend or someone to lean on. If I've got some questions."**
> (ACOP, Urban location)

One ACOP highlighted the value of being able to seek advice from colleagues working in similar roles:

> **"I can put the question out to the team or to a group or and there's this instant support network and that has been incredibly valuable for me."**
> (ACOP, Regional location)

Communities of practice were also viewed as an important mechanism for workforce development and consistency of practice. Stakeholders described these forums as creating opportunities for shared learning, dissemination of resources and discussion of implementation challenges.

> **"The great thing I love is that you're part of a much bigger team."**
> (ACOP, Regional location)

> **"Fund monthly community of practice meetings."**
> (Stakeholder)

Mentorship emerged as a particularly important issue. Several participants noted that new pharmacists entering the role may require additional support to navigate the clinical, operational and relationship-building aspects of aged care practice.

One ACOP described supporting workforce development through training and mentoring activities:

> **"I am actually training up an ACOP here in [rural town]."**
>
> (ACOP, Rural location)

At a broader system level, stakeholders identified mentorship as a critical workforce need.

> **"That's the big gap in this program is lack of mentorship."**
>
> (Stakeholder)

The findings suggest that professional support structures contribute not only to individual capability but also to workforce retention and sustainability. Participants highlighted the importance of establishing formal mechanisms for mentoring, peer connection and ongoing professional development as the program continues to expand.

Workforce sustainability, however, was viewed as extending beyond education and professional support. Stakeholders also raised concerns regarding the longer-term attractiveness of the role and the ability of the model to recruit and retain experienced pharmacists. While the role was recognised as requiring advanced clinical knowledge, medication management expertise, relationship-building skills and the ability to contribute to quality improvement and governance activities, some participants questioned whether remuneration arrangements adequately reflected these responsibilities.

One stakeholder noted:

> **"So the feedback…. they need more remuneration than what is currently availably offered through the ACOP funding. The second big one was flexibility."**
>
> (Stakeholder)

Another observed:

> **"The two key workforce issues I see is the level of salary and funding and then the flexibility of the role."**
>
> (Stakeholder)

Several participants suggested that remuneration may influence the ability to attract experienced pharmacists into the role, particularly where alternative employment options offered comparable or higher salaries.

> **"Why would I do that when I can just work at x-pharmacy or x-hospital and get paid the same or if not better?"**
>
> (Stakeholder)

> **"Then you're attracting that person to an ACOP role that pays less."**
>
> (Stakeholder)



Career progression was also identified as an important consideration for workforce sustainability. While stakeholders recognised the opportunity to develop expertise in aged care practice, concerns were raised regarding the availability of clear advancement pathways for experienced pharmacists.

One participant highlighted the importance of progression opportunities:

> **"It's actually flexibility, lifestyle, being able to see progression."**
> (Stakeholder)

Taken together, these findings suggest that sustaining the ACOP workforce will require more than training alone. Professional support, mentorship, peer networks and communities of practice provide important foundations for workforce capability, while remuneration, professional recognition, flexibility and career development opportunities may influence long-term workforce attraction and retention (**Table 7**).

Table 7. Workforce factors supporting sustainability

Factor	Contribution
Training and education	Development of role-specific knowledge and skills
Mentoring	Guidance, confidence-building and professional development
Peer support networks	Sharing experiences, resources and practical solutions
Communities of practice	Knowledge exchange and consistency of practice
Professional connection	Reduced professional isolation and increased workforce cohesion
Remuneration	Attraction and retention of experienced pharmacists
Career progression opportunities	Retention of experienced pharmacists and workforce development
Role flexibility	Supports recruitment, retention and workforce participation



Finding 5

Rural, regional and remote implementation was feasible but required local adaptation

The ACOP model was implemented across a diverse range of urban, regional, rural and remote settings. While stakeholders identified additional challenges associated with non-urban service delivery, the findings indicate that implementation was achievable when the model was adapted to local circumstances and workforce realities.

Geography, workforce availability and access to healthcare providers influenced how the role was implemented. Participants described challenges associated with attracting and retaining health professionals, maintaining access to general practitioners and managing the logistical demands associated with service delivery across large geographic areas. These factors often required pharmacists and services to adopt flexible approaches to implementation.

One participant reflected on the importance of preparing pharmacists for the realities of practice outside urban settings:

> **"Absolutely. Oh, for sure. Yeah, for sure." (regarding the need to understand rural and remote challenges)**
>
> (ACOP, Rural location)

Access to medical practitioners was frequently identified as a challenge in rural and remote services. Existing workforce shortages and competing demands on clinicians could affect communication, collaboration and implementation activities.

A stakeholder working in a remote service observed:

> **"It's going to be hard, especially because we are in this side of country and it's very hard to get in touch with GPs."**
>
> (Staff member, Remote location)

A general practitioner similarly reflected on the pressures experienced within some rural aged care settings:

> **"There are a lot of GPs in those settings who are doing aged care work, for lack of a better word, under duress."**
>
> (GP, Regional location)

Travel and distance created additional implementation considerations. Pharmacists working across geographically dispersed services described the practical challenges associated with transportation, accommodation and servicing multiple locations.

One ACOP noted:

> **"It is a barrier, and especially in rural and remote."**
>
> (ACOP, Regional location)

The financial implications of delivering services across large geographic areas were also highlighted:

> **"But flights, accommodation, where's that come from?"**
>
> (ACOP, Regional location)

Despite these challenges, stakeholders consistently described examples of successful implementation across rural, regional and remote services. Rather than viewing geography as a barrier to the model itself, participants frequently emphasised the importance of flexibility, local partnerships and adaptation to local contexts.

The ability to tailor implementation approaches to available workforce capacity, existing relationships and local service arrangements was viewed as a key strength of the model. In many locations, pharmacists worked closely with residential aged care staff, general practitioners and other healthcare providers to develop practical solutions suited to local circumstances. The findings suggest that implementation success was less dependent on geography itself and more dependent on the availability of flexible approaches that recognised local needs and constraints.

Importantly, the benefits identified elsewhere in this evaluation, including medication optimisation, staff support, quality improvement and enhanced medication safety, were reported across urban and non-urban locations. This suggests that the ACOP model can be successfully implemented in rural, regional and remote settings, provided that implementation approaches are responsive to local conditions.

Workforce shortages, geographic distance and travel requirements created additional implementation challenges; however, these challenges were not viewed as insurmountable. Instead, stakeholders described flexibility, local collaboration and context-specific solutions as key factors supporting successful implementation (**Table 8**).

Table 8. Key factors influencing rural, regional and remote implementation

Factor	Influence on implementation
Workforce availability	Influenced access to pharmacists, GPs and other healthcare providers
Geographic distance	Increased travel requirements and service delivery complexity
Access to healthcare professionals	Affected communication, collaboration and responsiveness
Travel and accommodation costs	Added logistical and financial considerations
Local partnerships	Supported problem-solving and service integration
Flexible implementation approaches	Enabled adaptation to local circumstances
Existing service arrangements	Influenced how the role was integrated into care delivery



Finding 6

Hybrid delivery increased flexibility without limiting on-site engagement

Hybrid delivery provided a practical mechanism for extending workforce capacity while maintaining the benefits associated with on-site pharmacist engagement. The model created opportunities to improve efficiency, increase service reach and reduce the impact of travel and geographic barriers, particularly in regional, rural and remote settings. At the same time, on-site engagement remained an important component of the role, supporting relationship-building, visibility and integration within residential aged care services.

Participants highlighted the importance of an initial period of on-site engagement to build relationships, understand residents' needs and become familiar with facility systems and workflows. Once these foundations were established, delivery could transition to a hybrid arrangement while maintaining regular on-site engagement.

Several activities were considered well suited to remote delivery, including audits, reporting, documentation review, quality improvement activities and administrative tasks. Completing these activities remotely enabled pharmacists to make more efficient use of on-site time and focus face-to-face engagement on residents, families and staff.

One pharmacist explained:

> **"One of the benefits of being, I guess working remotely is having that time to document and do the administrative tasks."**
>
> (ACOP, Rural location)

Similarly, another ACOP noted:

> **"As the audit, or the pharmacy audit, all kind of audits that can happen in the background as well."**
>
> (ACOP, Urban location)

The ability to combine on-site and offsite activities was viewed as improving efficiency while maintaining support for facilities.

> **"One at home, one on site. Yeah, that way it's more efficient, I think."**
>
> (ACOP, Urban location)

Hybrid delivery was regarded as particularly valuable in rural, regional and remote settings where workforce availability, travel requirements and geographic distance could make traditional service delivery approaches more challenging.

> **"I think it is for your more regional rural settings where they find it difficult to get a pharmacist there every week or regularly as that."**
>
> (ACOP, Rural location)

Another pharmacist reflected on the potential benefits in remote communities:

> **"From a remote perspective, a hybrid model would be potentially amazing."**
>
> (ACOP, Rural location)

Stakeholders also suggested that hybrid approaches may support workforce sustainability and increase the capacity of the model to reach more services.

"That sort of hybrid model, I think not just the rural remote but in metro areas, I think that's the key to helping to unlock the workforce."

(Stakeholder)

Despite these benefits, a consistent message across the evaluation was that remote delivery should complement rather than replace on-site engagement. Activities such as relationship-building, resident engagement, multidisciplinary collaboration and understanding the day-to-day operation of a service were viewed as more difficult to achieve remotely.

One ACOP stated:

"It couldn't just be the hybrid model that was never on site."

(ACOP, Rural location)

The same participant observed:

"There is very little opportunity to develop some sort of relationship."

(ACOP, Rural location)

and reflected that:

"Without knowing more broadly what's happening or even just having that engagement with people, I think would be lost."

(ACOP, Rural location)

A pharmacist working in a remote setting expressed strong support for hybrid delivery but also emphasised the continuing importance of being physically present:

"Oh my goodness, please go hybrid. It's so much better."

(ACOP, Remote location)

"You definitely need the on-site, it's invaluable."

(ACOP, Remote location)

Similar views were expressed by aged care managers, who identified limitations in models that relied heavily on remote engagement.

"My preference is on-site."

(Manager, Urban location)

"You will never really get to deeply know residents, which is what our philosophy is, if you're working remotely."

(Manager, Urban location)



Taken together, these findings suggest that hybrid delivery created opportunities to improve flexibility, efficiency and workforce reach while preserving the benefits associated with on-site pharmacist engagement. Rather than being viewed as an alternative to on-site practice, hybrid delivery was generally seen as a complementary approach that enabled pharmacists to balance administrative, governance and quality improvement activities with relationship-based clinical practice (**Table 9** and **Table 10**).

Table 9. Activities commonly suited to on-site and remote delivery

On-site activities	Remote activities
Resident engagement	Audits
Family discussions	Reporting
Relationship-building with staff	Documentation review
Medication reviews involving resident interaction	Quality improvement activities
Multidisciplinary meetings	Monitoring quality indicators
Building trust and visibility	Data analysis and benchmarking
Informal staff support and advice	Preparation of educational materials
Understanding local context and workflows	Administrative activities
Integration within the care team	Follow-up communication and liaison

Table 10. Perceived benefits and challenges of hybrid delivery

Benefits	Challenges
Increased flexibility	Reduced visibility within the service
Improved workforce reach	Fewer informal interactions
Reduced travel burden including costs	Challenges building relationships
More efficient use of pharmacist time	Reduced understanding of local context
Increased service coverage	Risk of reduced integration into the care team
Potential workforce attraction and retention benefits	Limited resident and family engagement when overly remote



Finding 7

Meaningful quality monitoring requires measures of both medication use and the role of pharmacists

The evaluation supported medication quality indicators as useful tools for identifying risks, setting local priorities and guiding improvements in care. Their usefulness depended on selecting measures relevant to each RACH and interpreting results in light of resident needs, prescribing indications and facility circumstances. Existing mandatory indicators (polypharmacy and antipsychotic use), provided a foundation, with supplementary medication indicators and ACOP activity measures offering opportunities to address local improvement priorities.

One manager described the routine monitoring and reporting of medication-related indicators undertaken by the pharmacist:

> **"So [the ACOP] sent us all the psychotropic and all the polypharmacy. So this is [the ACOP's] permanent job that [the ACOP] does."**
>
> (Manager, Remote location)

Medication indicators and activity counts alone were not considered sufficient to demonstrate the quality or impact of ACOP services. Medication reviews, audits, education and quality improvement activities reflected different aspects of the role, but their value depended on what they achieved for residents, staff and the organisation. The findings supported flexible monitoring that recognised this breadth of contribution while allowing RACHs to select a manageable set of measures aligned with their risks, priorities and planned ACOP activities.

The study proposed a standardised set of supplementary medication and prescribing indicators covering benzodiazepine use, opioid prescribing and antimicrobial use, alongside ACOP activity measures covering comprehensive medication review coverage, clinical audits, staff education and quality improvement initiatives.

Medication Advisory Committees can select relevant measures from this set according to each RACH's medication risks, improvement priorities and planned ACOP activities, without requiring every measure to be reported. The proposed measures and collection guidance are presented in **Table 11** and **Appendix 7**.





Table 11. Proposed supplementary prescribing and ACOP activity indicators for local selection

Category	Indicator	Measure
Supplementary prescribing indicator	Benzodiazepines	Percentage of residents prescribed regular benzodiazepines without a documented diagnosis of epilepsy or anxiety disorder, excluding those receiving end-of-life care.
	Opioids	Percentage of residents prescribed regular opioids.
	Antimicrobials	Percentage of residents prescribed regularly scheduled antimicrobials, including short courses and topical preparations.
ACOP activity	Medication review coverage	Percentage of residents who received at least one comprehensive medication review involving the resident or their family or representative, with recommendations considered by the prescriber.
	Clinical audit	Number of medication-related audits completed by the ACOP, with findings and follow-up actions recorded.
	Staff education	Number of documented medication-related education activities delivered by the ACOP, including formal sessions and informal workplace teaching.
	Quality improvement	Number of medication-related quality improvement initiatives implemented with ACOP involvement, aligned with the RACH's priorities and context.

The ability to demonstrate measurable improvements in medication-related outcomes was also viewed as an important aspect of evaluating impact. One ACOP reflected on the value of benchmarking and outcome monitoring:

> **"Where the real magic can happen with ACOPs particularly. You know when you're doing a bit of benchmarking, but by being able to demonstrate, hey, we've reduced polypharmacy by 50% or your antipsychotic prescribing by, you know X percent is really great."**
>
> (ACOP, Rural location)

A consistent message throughout the evaluation was that reporting should support improvement rather than become an administrative exercise. Collecting and reporting indicators requires staff time and organisational resources. The value of monitoring was therefore seen to lie not simply in collecting data, but in using that information to inform decision-making, quality improvement activities and organisational learning.

One manager described how monitoring activities were linked to governance processes and policy development:

> **"Then we had the MAC meeting at the same time. We spoke about this. We got the policy and procedure ready so that we can work according to it."**
>
> (Manager, Remote location)

The evaluation also reinforced the importance of interpreting indicators within their local context. Measures such as psychotropic use, polypharmacy and antimicrobial prescribing may be influenced by resident acuity, dementia prevalence, multimorbidity, prescribing practices and local service characteristics. Interpretation of results also requires consideration of resident preferences, cultural context and service arrangements, including services caring predominantly for Aboriginal and Torres Strait Islander residents. Quality indicators were considered most useful when used to inform enquiry, reflection and improvement rather than as standalone measures of performance.

Overall, the findings supported locally relevant, proportionate monitoring rather than an extensive reporting framework. Supplementary measures needed to reflect each RACH's priorities and capacity to use the results. RACHs required the knowledge and a clear process to interpret findings, implement improvement actions and review progress, while keeping collection and reporting demands manageable and protecting ACOP time for clinical care.

Table 12. Evaluation outcomes and corresponding findings and resources

Evaluation outcome	Relevant key findings	Supporting resources
1. Education and training	4	Onboarding and integration guide
2. Role definition	1	Resident-centred medication management guide; onboarding and integration guide
3. Local adaptation	3, 5 & 6	Policy brief; onboarding and integration guide
4. Rural, regional and remote service delivery	5 & 6	Policy brief
5. Clinical governance	1 & 7	Onboarding and integration guide
6. Interprofessional collaboration	2	Resident-centred medication management guide; onboarding and integration guide
7. Mentoring and peer support	4	Policy brief
8. Workforce sustainability	4, 5 & 6	Policy brief
9. Implementation barriers and enablers	2, 3, 4, 5 & 6	Policy brief; onboarding and integration guide

Discussion



Integration of the ACOP role into routine practice

The ACOP role became integrated into routine practice within participating residential aged care services. While medication reviews remained an important component of the role, ACOPs also contributed to medication safety, workforce support, clinical governance, multidisciplinary care and quality improvement.

A key strength of the model was the embedding of medication expertise within everyday service delivery. ACOPs supported individual residents while also strengthening medication management systems, advising staff, collaborating with prescribers and participating in governance activities. As a result, the role operated across resident, workforce and organisational levels.

Relationship-building was central to integration. Trust, visibility and accessibility enabled ACOPs to work effectively with staff, residents, families, general practitioners and community pharmacies, supporting collaboration and informed decision-making.

These findings demonstrate that the benefits of the ACOP model are greatest when ACOPs are embedded within routine service delivery and organisational processes rather than operating as a standalone clinical service.

Context matters: Organisational support and local adaptation

Implementation depended on organisational support as well as ACOP capability. Leadership support, access to organisational systems and inclusion in governance and communication structures enabled ACOPs to contribute more effectively to resident care, medication safety and quality improvement activities.

Implementation should therefore be viewed as a shared organisational responsibility. Establishing an ACOP within a service is only the first step; services must also create the conditions that allow the role to contribute fully across care delivery, governance and improvement activities.

Local adaptation was a consistent feature of implementation. While the objectives of the model remained unchanged, implementation approaches varied according to organisational structures, workforce availability, service configuration and local priorities. This was particularly evident in regional, rural and remote settings, where workforce shortages, geographic distance and travel requirements required flexible approaches.

Future implementation guidance should balance consistency with flexibility. Maintaining the core functions of the role while allowing services to adapt delivery arrangements to local circumstances is likely to support broader adoption and sustainability.

Hybrid delivery models were one example of this flexibility. Participants identified opportunities for a combination of on-site and remote activities, particularly where geography or workforce availability challenged a fully on-site approach. An initial on-site period was considered important to establish relationships, understand local workflows and integrate the ACOP into the care team before transitioning to hybrid delivery. Regular on-site presence remained important for resident engagement, relationship-building and multidisciplinary collaboration.

Sustaining the ACOP workforce

The long-term success of the ACOP model depends on a skilled and sustainable workforce. ACOPs contribute across resident care, medication safety, workforce support, quality improvement and governance activities, requiring a broad combination of clinical, communication and implementation skills.

Professional supports, including mentoring, peer networks and communities of practice, were identified as important mechanisms for strengthening workforce capability, particularly for ACOPs working across multiple services or geographically dispersed locations.

Workforce sustainability extends beyond training and professional development. Stakeholders highlighted the importance of remuneration, professional recognition, career progression and flexible working arrangements in attracting and retaining experienced clinicians.

As the role continues to mature, consideration may be needed regarding advanced practice opportunities, leadership development and clearer career pathways within aged care. Supporting long-term careers in aged care pharmacy may strengthen workforce retention while building specialist expertise within the sector.

Future expansion of the model will depend on workforce strategies that support both capability and sustainability.

Measuring performance and impact

The evaluation highlighted the need for a manageable, locally relevant approach to performance monitoring. Mandatory indicators of polypharmacy and antipsychotic use remain important but do not capture the full scope of the ACOP role.

Alongside these, the Medication Advisory Committee should select ACOP activity measure(s) and supplementary medication indicator(s) per reporting cycle from the standardised OPTIMISER[3] list, guided by the RACH's priorities and identified risks.

Selected measures should be interpreted in the context of residents' needs, prescribing indications, pharmacist availability and service circumstances. Activity counts alone should not be considered measures of impact. Contributions to workforce capability, clinical governance, collaboration and resident-centred care should also be recognised without requiring routine indicators for every dimension of the role.

Quality monitoring is most valuable when it informs action. RACHs need clear guidance on interpreting findings and using them to improve care. Collection and reporting should draw on existing data wherever possible and minimise additional burden, preserving ACOP time for resident care.



Recommendations

Priority 1

Recommendation 1:
Strengthen implementation guidance and organisational readiness

Future implementation should be supported by consistent implementation guidance that addresses onboarding, role integration, governance arrangements and organisational readiness. Residential aged care services should be supported to embed ACOPs within routine care delivery, decision-making and quality improvement processes.

Recommendation 2:
Review ACOP workforce allocation arrangements

Review current ACOP staffing allocations to ensure they reflect the size, complexity and needs of residential aged care services. Particular consideration should be given to smaller facilities and services in regional, rural and remote locations where workforce and service delivery challenges may differ from urban settings.

Recommendation 3:
Review funding and remuneration arrangements and clarify service interfaces

Review funding and remuneration arrangements to support recruitment, retention and long-term workforce sustainability. Clarification should also be provided regarding the relationship between ACOP activities, Residential Medication Management Reviews (RMMRs) and relevant GP Medicare Benefits Schedule items to support effective and coordinated service delivery.

Recommendation 4:
Strengthen workforce capability and sustainability

Support ongoing workforce development through mentoring, peer support, communities of practice and professional development opportunities. Consideration should also be given to career progression pathways and professional recognition to support long-term workforce attraction and retention.

Priority 2

Recommendation 5:
Support flexible and hybrid models of service delivery

Implementation arrangements should maintain the core functions of the ACOP role while allowing flexibility to respond to local circumstances. Hybrid models that combine on-site and remote activities should be supported where appropriate, following an initial on-site period to establish relationships, understand local workflows and integrate the ACOP into the care team. Regular on-site engagement should then be maintained to support collaboration, relationship-building and resident-centred care.

Recommendation 6:
Support locally relevant performance monitoring and quality improvement

Support a manageable performance monitoring framework that combines mandatory medication-related quality indicators with locally selected supplementary medication indicators and ACOP activity measures. Enable Medication Advisory Committees to select ACOP activity measure(s) and supplementary medication indicator(s) per reporting cycle from the standardised OPTIMISER[3] indicator set, aligned with the RACH's priorities and identified risks. Provide clear guidance on interpretation within local context and use for quality improvement, while minimising additional reporting burden.

Priority 3

Recommendation 7:
Support ongoing evaluation of the ACOP model

Establish ongoing monitoring and evaluation of the ACOP model to assess implementation, outcomes and emerging service needs. Continued evaluation will support program refinement, inform future policy decisions and contribute to the evidence base for aged care pharmacy services.



Outputs of the study

OPTIMISER[3] was designed not only to evaluate implementation of the ACOP model, but also to generate practical resources capable of supporting implementation, scale-up and ongoing quality improvement within residential aged care services.

In addition to the findings and recommendations presented in this report, the study produced a number of implementation and practice resources informed directly by stakeholder experiences and evaluation findings.

Policy brief

A policy brief translating OPTIMISER[3] findings into actionable recommendations to support implementation, integration and sustainability of the ACOP model nationally is included in **Appendix 2** for consideration by the Pharmaceutical Society of Australia and the Department of Health, Disability and Ageing.

Resident-Centred Medication Management Practice Guide

The study also developed the Resident-Centred Medication Management in Residential Aged Care: Practice Guide (**Appendix 3**), which translates resident perspectives into practical actions for ACOPs and aged care services. The guide identifies nine resident-informed practice areas and provides conversation prompts, practical strategies and quality improvement considerations to support resident-centred medication management.

The resource focuses on themes identified through the evaluation, including resident involvement in medication decisions, communication, privacy and dignity, medication timing, treatment burden, coordination of care and resident feedback.

ACOP Onboarding and Integration Guide

The study developed the ACOP Onboarding and Integration Guide (**Appendix 4**) to support implementation of the ACOP model within residential aged care services.

The guide provides practical support for ACOPs, managers and clinical leaders when establishing a new service and focuses on role clarification, integration into multidisciplinary teams, resident-centred care, governance arrangements, communication pathways and organisational readiness.

The guide reflects the implementation factors identified through OPTIMISER[3], including the importance of leadership support, role clarity, onboarding processes, communication and relationship-building. It also provides a structured process for agreeing local priorities, identifying implementation supports and reviewing progress over time.

Proposed Performance Monitoring Framework

A further output of OPTIMISER[3] is the proposed performance monitoring framework presented in **Appendix 7**. The framework responds directly to Research Question 2: *Which quality and performance indicators are feasible, measurable and useful for monitoring the performance of the ACOP model?* The framework provides practical guidance on the selection and use of medication quality indicators and ACOP activity indicators. It is intended to support local quality improvement while maintaining alignment with existing national reporting requirements.

Implementation and scale-up insights

OPTIMISER[3] generated practical evidence regarding the implementation of the ACOP model across urban, regional, rural and remote residential aged care settings. The study identified strategies supporting successful implementation, including organisational readiness, multidisciplinary integration, workforce support, local adaptation and flexible service delivery approaches.

These insights provide practical guidance for aged care providers, policymakers, Primary Health Networks and other organisations involved in implementation and expansion of the ACOP model.



Limitations

Several limitations should be considered when interpreting the findings of OPTIMISER[3].

1

OPTIMISER[3] was designed as an implementation evaluation rather than an effectiveness trial. The primary focus was to understand how the ACOP model was implemented across diverse contexts, identify barriers and enablers to implementation, and explore approaches to sustainability and performance monitoring. While quantitative prescribing and medication quality indicators were collected, the study was not designed or sufficiently powered to attribute changes in resident-level clinical outcomes directly to ACOP activities. As a result, findings should be interpreted primarily in relation to implementation processes, rather than causal effectiveness.

2

The study involved eight residential aged care homes across urban, regional, rural and remote settings. Although this geographic diversity was a key strength and enabled examination of implementation across a range of service contexts, participating organisations were not intended to be representative of all Australian residential aged care services. Homes volunteered to participate and may have had greater organisational readiness, leadership support or interest in service innovation than non-participating organisations. Consequently, implementation experiences may differ in other settings.

3

Workforce availability influenced recruitment and implementation. Several sites experienced challenges recruiting and retaining pharmacists, and some turnover occurred during the study period. While these workforce realities provided valuable insight into implementation challenges facing the national rollout, they may also have influenced the consistency, timing and intensity of ACOP service delivery across sites.

4

Much of the evaluation relied on qualitative interviews and stakeholder accounts. Although perspectives were gathered from pharmacists, managers, residential aged care staff, general practitioners, residents, family members and sector stakeholders, participant perceptions may have been influenced by local circumstances, personal experiences and organisational culture. The inclusion of multiple stakeholder groups, activity data and quality indicator data strengthened triangulation of findings; however, self-reported data remain subject to response and recall bias.

5

Implementation occurred during a period of significant policy reform and ongoing maturation of the ACOP measure. Stakeholder understanding of the role, expectations of pharmacists and organisational approaches to implementation evolved throughout the study period. The findings therefore reflect implementation experiences at a particular point in the evolution of the program and may not fully reflect future models of delivery, funding arrangements or policy settings.

6

The evaluation was undertaken over a 12-month implementation period. While this timeframe was sufficient to examine early integration, workforce development, organisational adaptation and implementation processes, it may not have captured longer-term effects on organisational culture, prescribing practices, workforce sustainability or resident outcomes. Ongoing longitudinal evaluation will be important to understand the durability of implementation and the extent to which benefits are sustained over time.

7

The study did not include a formal economic evaluation. Participants reported examples of improved efficiency, strengthened medication governance, reduced waste, enhanced workforce capability and potential cost savings; however, the study was not designed to quantify economic impacts or assess cost-effectiveness. Given the increasing focus on sustainability and value-based healthcare, future research should examine the economic implications of the ACOP model, particularly in relation to hospitalisations, medication-related harm, workforce utilisation and aged care service performance.

Despite these limitations, OPTIMISER[3] represents one of the first national implementation evaluations of the ACOP model across urban, regional, rural and remote residential aged care settings. The inclusion of multiple stakeholder perspectives, diverse service contexts, quantitative activity and quality indicator data, and implementation-focused analysis provides a rich and comprehensive understanding of how the ACOP model operates in practice. The findings offer valuable insights to inform future policy, implementation, workforce planning and optimisation of the ACOP measure as it continues to mature nationally.



Conclusion

The OPTIMISER[3] evaluation provides important evidence regarding the implementation of the Aged Care On-site Pharmacist (ACOP) measure across urban, regional, rural and remote residential aged care settings. The findings demonstrate that the ACOP model can be successfully integrated within diverse organisational and geographical contexts and is perceived by stakeholders as making meaningful contributions to medication safety, quality use of medicines, clinical governance, workforce capability and multidisciplinary care. Importantly, the evaluation demonstrates that the contribution of on-site pharmacists extends beyond the completion of medication reviews. Pharmacists were found to play broader roles in quality improvement, staff education, systems development, medication governance and supporting collaborative decision-making across residential aged care teams. These activities were frequently identified as critical mechanisms through which pharmacists contributed to service improvement and medication safety.

The evaluation also highlights that implementation success is not determined solely by the presence of an on-site pharmacist. Rather, successful integration depends on organisational readiness, leadership support, role clarity, workforce stability and the development of trusted relationships between pharmacists, residential aged care staff, general practitioners, residents and families.

These findings reinforce the importance of implementation support as a key component of national program success.

As the ACOP measure continues to mature, attention should increasingly shift from establishing the role toward optimising its impact. This includes ensuring a sustainable pharmacist workforce, supporting implementation in regional and remote settings, strengthening multidisciplinary collaboration and developing performance measures that more fully capture the breadth of pharmacist contributions within aged care services.

The evaluation suggests that future policy discussions should move beyond the question of whether pharmacists belong in residential aged care and instead focus on how the role can be optimised and sustained at scale. The evidence indicates that the greatest opportunities for future impact lie in strengthening implementation support, workforce capacity, quality improvement functions and performance monitoring systems. These factors are likely to be critical determinants of the long-term success and value of the ACOP measure nationally.

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Appendices

Appendix 1: Protocol Paper

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Research Paper

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On-site pharmacist implementation trial in residential aged care homes in urban, regional, rural and remote (OPTIMISER^3) Australia: study protocol

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Abstract

Background: Older people living in RACHs experience high rates of medication-related harm, particularly in regional, rural, and remote settings where access to pharmacist-led services is limited. The Aged Care On-site Pharmacist (ACOP) model was introduced nationally in Australia in 2024 to strengthen medication management in residential aged care homes (RACHs). While earlier studies have demonstrated the feasibility and benefits in metropolitan areas, little is known about effective implementation across diverse geographic contexts. The OPTIMISER^3 Australia study aims to identify strategies and adaptations to support implementation and scale-up of the ACOP model across diverse geographic settings, and to determine appropriate quality and performance indicators to support its ongoing monitoring and sustainability.

Methods: OPTIMISER^3 is a multiphase, mixed-methods implementation study involving eight RACHs across urban, regional, rural, and remote areas in Australia. Phase 1 comprises co-design of locally adapted ACOP service models with staff, residents, families, general practitioners, and pharmacists. Phase 2 involves 12 months of implementation, and Phase 3 evaluates implementation, pharmacist integration, and sustainability using qualitative and quantitative data. Guided by the Consolidated Framework for Implementation Research and Normalisation Process Theory, the study will also examine medication-related quality indicators and pharmacist activity data to identify measures suitable for ongoing monitoring.

Discussion: This study will provide real-world evidence to support sustainable implementation of the ACOP model across varied aged care settings. By combining implementation science with co-design, OPTIMISER^3 will identify context-specific adaptations and practical quality indicators to guide ongoing national delivery of ACOP services. Findings will support aged care providers, policymakers, and pharmacists in improving medication management in Australian aged care.

Keywords Aged Care On-Site Pharmacist, pharmacy practice, residential aged care, care homes, long-term care

Background

Older people living in residential aged care homes (RACHs), also known as long-term care or care homes, are particularly vulnerable to medication-related harm due to the high prevalence of multimorbidity, polypharmacy, and complex care needs [1, 2]. Australian national reports and studies consistently show that up to 20% of unplanned hospital admissions from aged care are medication-related. Potentially inappropriate medications (PIMs), suboptimal prescribing, and errors in medication administration contribute significantly to this burden [3–7].

These risks are further exacerbated in regional, rural, and remote areas, where systemic health inequities and workforce shortages limit access to pharmacist-led clinical services and integrated care models [8, 9]. The Royal Commission into Aged Care Quality and Safety highlighted the challenges of medication management, recommending greater integration of pharmacists and allied health professionals into RACHs to improve medication safety and care quality, particularly in underserved communities [10].

Traditionally, pharmacists in Australia have supported RACHs through services such as the Residential Medication Management

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Review (RMMR) and the Quality Use of Medicines (QUM) program [11, 12]. While these models have demonstrated effectiveness in improving medication outcomes [12, 13], their utilization, especially in rural and remote areas, has been limited due to service fragmentation, workforce constraints, and the short visitational nature of these services [8, 9]. These limitations, coupled with the persistent medication safety challenges identified in aged care, highlighted the need to enhance and embed pharmacist services more directly into routine aged care systems.

In response to these challenges and to improve system-level medication management in RACHs, a new model of care with an on-site pharmacist in aged care was proposed and tested in a series of research studies conducted by the authors [14–19]. This model embeds a credentialled pharmacist as a member of the RACH's clinical and governance teams, enabling ongoing on-site presence and integration into multidisciplinary care teams and processes. Unlike RMMR providers, who operate on a visitational basis and who are not or may not be involved in post-RMMR follow-up, on-site pharmacists are based at RACH and work collaboratively with nursing staff, general practitioners, allied health professionals, and facility leadership. On-site Pharmacist responsibilities include comprehensive medication management, staff education, participation in medication advisory committees, medication management policy and process improvement, immunization support, and ongoing communication with residents and their families.

The on-site pharmacist in aged care model was first piloted in the Australian Capital Territory (ACT) through a non-randomized feasibility trial and subsequently evaluated in a cluster randomized controlled trial and an implementation study conducted by the authors. These studies collectively demonstrated that the model is feasible, acceptable, and effective in reducing PIMs, enhancing medication management, and improving interdisciplinary collaboration [14–19].

Building on this evidence base and following recommendations from the Royal Commission into Aged Care Quality and Safety (notably Recommendation 38) [10], the Australian Government launched the Aged Care On-site Pharmacist (ACOP) Program on 1 July 2024 [20]. This provides federal funding to enable RACHs to integrate pharmacists into their clinical on-site teams [20]. It aims to transition from prior RMMR/QUM models by embedding pharmacists at the RACH for ongoing medication management, rather than episodic reviews [21]. The ACOP program seeks to reduce medication harm and increase medicine safety and quality in RACHs for ongoing pharmacist input, improving interdisciplinary communication between prescribers, nurses, and pharmacists, and supporting flexible service models that align with each facility's clinical and operational needs [20].

However, there is limited evidence on how the ACOP model can be adapted and sustained across Australia's diverse aged care sector, particularly in rural and remote areas. Despite the predominance of coastal metropolitan populations, the presence of sizeable rural and remote communities necessitates adaptation of implementation, workforce, and infrastructure strategies for national scale-up. These strategies also include the identification and use of appropriate quality and performance indicators to support ongoing monitoring and evaluation. In the context of effective implementation and scale-up, identifying such indicators is essential to track progress, inform adaptive implementation, and support continuous improvement of the model across diverse settings. Additionally, implementation and sustainability of the ACOP model can be constrained by barriers including limited access, workforce shortages, training constraints, and infrastructure deficits, all of which may affect long-term sustainability [8, 9].

Study aims

The OPTIMISER^3 study aims to identify strategies for implementing and scaling up the ACOP model across diverse settings. This includes determining local adaptations required to support scale-up and integration of on-site pharmacists in urban, regional, rural, and remote areas. The study will address two key research questions:

- Which strategies and adaptations are needed to implement and scale up ACOP across different geographic regions?
- Which quality and performance indicators are feasible, measurable, and useful for monitoring the performance of the ACOP model?

Materials and methods

Study design

The OPTIMISER^3 Australia study is a multiphase, mixed-methods implementation study informed by implementation science principles.

Phase 1 co-design

A locally adapted ACOP model will be developed for each participating RACH, tailored to site-specific needs and contextual factors. Co-design sessions will involve key stakeholders, including RACH staff, residents, family members, general practitioners, ACOP and community pharmacists, and other healthcare professionals working within the RACH. These sessions will produce an actionable model, including a tailored position description, collaborative working structure for the ACOP role, and identification of anticipated barriers and enablers.

Phase 2 implementation

ACOPs will be embedded within participating RACHs for a 12-month period to deliver services according to the co-designed model.

Phase 3 evaluation

Following 12 months of implementation, focus groups and interviews will be conducted with stakeholders to assess pharmacist activities, integration of the ACOP role into routine care, implementation challenges and successes, and sustainability considerations. The evaluation will also identify practical and appropriate quality and performance indicators for monitoring model effectiveness.

Study outcomes

The outcomes of this implementation-focused study are understanding barriers and enablers to ACOP implementation, identifying local adaptations required across diverse geographical

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settings, assessing role integration and sustainability, and determining the suitability of medication-related quality indicators for monitoring ACOP implementation and performance.

Conceptual framework and theory

This project is informed by implementation science, evaluation frameworks, and co-design principles. Given the complexity and scope of the intervention, multiple methodological approaches and theoretical foundations are employed.

The study is guided by the Consolidated Framework for Implementation Research (CFIR) [22], a widely recognized framework that provides a structured approach to identifying factors influencing the implementation of complex interventions. CFIR consists of five domains: intervention characteristics, outer setting, inner setting, characteristics of individuals, and process, each containing constructs that influence implementation. The framework provides a systematic way to identify determinants relevant to the design, delivery, and scale-up of the ACOP model across diverse residential aged care environments. CFIR will guide the identification of contextual determinants during Phase 1 co-design (pre-implementation) and Phase 3 evaluation. Qualitative data collection instruments (co-design prompts, interview and focus group guides) will incorporate questions aligned with CFIR constructs to ensure consistent coverage of barriers, enablers, organizational factors, and implementation processes across settings. Quantitative data relating to organizational characteristics (e.g. staffing, pharmacy service access, bed size) will also be captured to map relevant Inner and Outer Setting constructs.

In addition, Normalisation Process Theory (NPT) [23] will be used to examine how the ACOP model becomes embedded in routine practice. NPT focuses on the social processes that support the integration of new practices within organizations, making it particularly suited to understanding adaptation and normalization across geographically and contextually diverse RACHs.

Finally, the study adopts principles of resident-centered care, prioritizing the values, needs, and preferences of residents in service design and delivery [24]. Co-design processes, grounded in these principles, ensure that implementation is shaped by those who deliver, receive, and are directly affected by the service. Co-design will draw on experience-based co-design methodology [24], adapted to the study settings and participant groups.

Setting, study population and RACH recruitment

The study will be conducted in eight RACHs across Australia. Australia has approximately 2590 RACHs, many of which are operated within larger aged care provider groups. Sites will be selected to reflect a range of geographic locations using the Modified Monash Model (MMM) to locate study sites in regional, rural and remote regions [25]. Recruitment will occur in two stages, each including four RACHs: one urban, one regional, one rural, and one remote site.

Sites will be purposively selected to ensure variation in ownership type (e.g. not-for-profit, private), bed size, and existing pharmacy service access. All participating RACHs will be supported throughout all phases of implementation. The sample size was selected pragmatically to support implementation and evaluation across diverse aged care settings in urban, regional, rural and remote locations, while remaining feasible within available study resources.

Participants include RACH staff (e.g. managers, care coordinators, other staff), residents and families, general practitioners, ACOPs, and community pharmacists. Participation is open to Australian RACHs meeting the study inclusion criteria (described in the next section) and agreeing to implement the ACOP model.

Stage 1 recruitment, conducted prior to the July 2024 government roll-out of the ACOP program, involved collaboration with third-party pharmacy service providers delivering RMMR and QUM services to regional, rural, and remote RACHs. The study was also promoted through professional pharmacy and aged care sector organizations, direct contact with the head offices of large aged care provider groups that operate in Australian regional, rural and remote areas, and the research team's established professional networks.

A total of 16 expressions of interest were received. As the number of interested sites exceeded the target of four, randomization stratified by geographic location and ownership type was applied pragmatically to support geographic diversity. Following randomization, four ACOPs were recruited in collaboration with the selected RACHs and placed within those sites under flexible arrangements, allowing hybrid service delivery (on-site and remote) based on workforce availability and site preferences.

Stage 2 recruitment commenced after 1 July 2024 and involved early adopters of the government-funded ACOP program. RACHs that had expressed interest during Stage 1 but were not selected through randomization were re-contacted and invited to participate in Stage 2. Four RACHs expressed interest, matching the target number; therefore, further randomization was not required.

Eligibility criteria

Inclusion criteria for RACHs are:

- current accreditation by the Aged Care Quality and Safety Commission against the Aged Care Quality Standards [26, 27];
- no existing ACOP service established at the site at the time of study commencement, and
- formal agreement to establish ACOP services at the site.

Sites will be excluded if they:

- have fewer than 20 beds, due to limited scale for data collection and evaluation.
- are located in the ACT, as all previous studies were conducted there, or
- are unable to engage a pharmacist to work on-site.

Independent living facilities, multi-purpose services, and care settings that do not meet the definition of a RACH will also be excluded.

Pharmacist training, credentialling, and support

Participating pharmacists are required to hold current registration with the Australian Health Practitioner Regulation Agency, and to

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hold, or be actively completing, an ACOP credentialling course delivered by an accredited provider in accordance with national program requirements [20].

In addition to formal credentialling, pharmacists will receive supplementary online training from the research team. This training will cover the study protocol, expectations of the ACOP role, and medication management priorities in aged care. Practical strategies for integration into RACH clinical governance and operational structures will also be addressed, including approaches to interdisciplinary communication, embedding ACOP services, and participation in medication advisory committees. Content will draw on lessons from previous trials conducted by the investigators, highlighting key implementation strategies and common challenges in pharmacist integration.

Throughout the trial, pharmacists will have access to structured support from the research team, including implementation resources, regular check-ins, quarterly meetings, and opportunities for peer learning and mentorship.

Data collection and analysis

Participant consent process

Potential aged care staff participants will be identified in collaboration with participating RACHs and contacted by the study team to arrange relevant study activities, such as co-design sessions, focus groups or interviews. Potential resident participants interested in taking part in interviews, focus groups or other study activities will be identified with the assistance of aged care staff, to minimize burden on residents and avoid unnecessary direct approaches by the research team. Participants will be provided with study information and written informed consent will generally be obtained face-to-face at the commencement of the activity. Consideration will be given to verbal and/or recorded consent for online interviews where appropriate to support participation and enhance inclusivity.

ACOPs who agree to participate in the research will be provided with study information and consented at the commencement of their involvement in the study. This consent will cover all relevant research activities, including completion of pharmacist activity diaries. Where Aboriginal and/or Torres Strait Islander peoples participate, culturally safe and respectful consent and data collection processes will be followed.

For RACH-level quality indicator calculations, de-identified resident-level data will be used following an opt-out process, consistent with previous studies conducted by the research team [16, 17].

Qualitative data

Co-design session data will be collected through written materials generated during sessions and audio-recorded group discussions. Recordings will be transcribed by a professional transcription service. Post-implementation focus group discussions will also be recorded and transcribed.

Analysis of co-design and focus group transcripts will use a combined inductive and deductive approach, guided by the NPT coding framework as described by May *et al.* [28]. Coding will be conducted iteratively, with findings from each phase informing subsequent co-design sessions. NVivo software (QSR International, Version 14) will be used to support coding and theme development organization.

Quantitative data

De-identified resident-level medication, diagnosis, and demographic data will be collected by designated RACH staff to calculate medication-related quality indicators, aggregated at the facility level. Personally identifiable information (e.g. names, addresses, and Medicare numbers) will not be collected.

Medication-related quality indicators—such as polypharmacy ($\geq$9 regular medicines), mean anticholinergic burden score, and the proportion of residents prescribed regular antipsychotics, antimicrobials, benzodiazepines, or opioids—are drawn from the PiRACF study [16, 17] and national medication safety priorities [29]. Indicator data will be extracted from each RACH at baseline and after the 12-month implementation period. Each indicator will be analyzed independently to assess sensitivity to the ACOP intervention by comparing baseline and endpoint data. Where quality indicators were assessed by facility staff and research team members, inter-rater reliability will be assessed. Quantitative findings will be integrated into the qualitative analysis to determine the suitability for routine monitoring.

Pharmacist activity data

ACOPs will self-report their activities using a structured online diary developed in REDCap®. The diary captures the type and frequency of clinical, educational, and administrative activities, based on the methodology used in the PiRACF study [16, 17]. Data entered by pharmacists will be used to assess the breadth and scope of activities and performance against predefined indicators, including the number of medication reviews, clinical audits, staff education sessions, and quality improvement activities conducted over the 12-month implementation period. Data will be analyzed descriptively to evaluate workload distribution, activity frequencies, and variation in role delivery across urban, regional, rural, and remote sites. Pharmacist activity data relate primarily to CFIR's Process domain (e.g. executing, engaging) and characteristics of individuals (e.g. role clarity, self-efficacy), supporting examination of how the ACOP role is enacted across settings.

Data triangulation

Findings from the qualitative and quantitative components will be triangulated to provide a comprehensive understanding of the ACOP implementation and impact of the ACOP model. Triangulation will occur at the interpretation stage by comparing themes from co-design sessions and evaluation focus groups with patterns observed in quality and performance indicators and pharmacist activity data.

Quality and performance indicators will be assessed using both data sources: quantitative analysis will examine their sensitivity to ACOP interventions and reliability in detecting the impact, while qualitative data will inform feasibility based on data availability, perceived usefulness and practicality for routine monitoring in aged care settings.

This approach will enable meaningful comparisons across sources, for example, aligning focus group insights on barriers and role integration with pharmacist-reported activity patterns and changes in medication-related indicators. By linking stakeholder experiences with observed activity levels and facility outcomes, the analysis will identify implementation success and areas requiring adaptation.

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Table 1 Application of CFIR methodology.

CFIR domain	Application and relevance
Intervention characteristics	How the ACOP model fits, adapts, and performs within RACH medication management practices.
Outer setting	External conditions impacting ACOP delivery, including geography, workforce, and policy context.
Inner setting	Organizational factors affecting integration of the ACOP role within RACHs.
Characteristics of individuals	Engagement of ACOPs, RACH staff, residents and other stakeholders involved in the model.
Process	Reflection of implementation processes

Application of CFIR in data analysis

CFIR constructs will be applied deductively to qualitative and quantitative data to identify barriers and enablers across the five domains, enabling cross-site comparison of contextual influences on implementation. Inductive coding will allow identification of emergent themes not captured within CFIR. This combined deductive-inductive approach will generate an integrated understanding of how contextual factors influence implementation processes, pharmacist integration, and model scale-up.

The application of the CFIR methodology is shown in Table 1.

Data management

Study data will be collated in a central database and stored on the University of Canberra's secure encrypted shared drive, accessible only to authorized research team members using individual usernames and passwords. Personal identifying information such as names, addresses and Medicare numbers will not be collected, and study data will be retained for 5 years in accordance with NHMRC guidance.

Study governance

A study management group, comprising the chief investigators, post-doctoral research fellow and project manager, will oversee delivery of the study in accordance with the protocol. A study advisory committee, including investigator, RACH and pharmacy representatives, will provide broader oversight, with protocol modifications reviewed through the advisory committee and submitted to the Human Research Ethics Committee where required.

Safety evaluation and reporting

As the study implements a pharmacist service aligned with the Commonwealth ACOP model, and pharmacists will practice within their professional scope, adverse events related to the intervention are not anticipated. Any adverse events or participant distress arising during study activities will be recorded, reviewed by the study team and reported to the Human Research Ethics Committee as required, with participants supported to access appropriate care if needed.

Ethics and trial registration

Ethics approval for this study has been obtained from the University of Canberra Human Research Ethics Committee (approval number 13769, approval date 8 April 2024). The study is registered with the Australian New Zealand Clinical Trials Registry (registration number ACTRN12624000827538, registration date 4 July 2024).

Discussion

This paper describes the protocol for the OPTIMISER^3 Australia study, which evaluates the implementation of the ACOP model across urban, regional, rural, and remote aged care settings. Previous research has shown that embedding pharmacists within aged care teams can improve medication management and interdisciplinary collaboration; however, this evidence has largely been generated in metropolitan settings [14–19]. There remains limited understanding of how the ACOP model can be effectively implemented, adapted, and sustained across geographically and contextually diverse environments.

The timing of this study is particularly significant given the national rollout of the ACOP program as a government-funded service from July 2024. As the model transitions from research-led implementation to routine practice at scale, there is a critical need to understand the implementation factors that influence its integration and sustainability. Without such evidence, a uniform implementation approach may fail to account for workforce constraints, service delivery challenges, and contextual variation across non-urban settings.

OPTIMISER^3 Australia addresses this gap by examining ACOP implementation in real-world conditions across a representative range of Australian aged care contexts. By incorporating urban, regional, rural, and remote RACHs, the study will capture variation in organizational structures, staffing models, access to external health services, and resident needs. This approach enables identification of common mechanisms and context-specific adaptations required to support successful integration of on-site pharmacists.

A key strength of the study is its use of implementation science theory combined with co-design to examine how the ACOP model is introduced, embedded, and sustained within routine practice. Co-design ensures that strategies reflect the experiences and priorities of residents, staff, pharmacists, and local health systems, supporting practical context-appropriate adaptations rather than prescriptive solutions.

In addition to exploring implementation processes, the study will examine medication-related quality and performance indicators that are feasible for ongoing monitoring. Indicators that are sensitive to pharmacist-led interventions and practical for routine use will support continuous quality improvement and provide aged care providers and policymakers with actionable metrics.

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Anticipated limitations include the qualitative design, which may limit generalizability, and reliance on stakeholder perspectives, which may introduce reporting bias. These will be mitigated through purposive sampling and triangulation of data sources.

OPTIMISER[3] will generate practice-relevant evidence to inform national ACOP implementation. Findings will contribute to an implementation framework and practical guidance to support aged care providers, pharmacists, and policymakers. By addressing contextual variation and sustainability factors related to implementation, this study aims to improve outcomes for residents, strengthen medication management capacity and support the long-term success of the ACOP program within Australia's residential aged care system.

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Author contributions

Sam Kosari (Conceptualization, Methodology, Writing—original draft, Writing—review & editing), Bella St Clair (Methodology, Writing—original draft, Writing—review & editing), Jennifer Sonter (Writing—review & editing), Mark Naunton (Conceptualization, Methodology, Writing—review & editing), Lakeesha Sandamali Liyanage (Methodology, Writing—review & editing), Jane Koerner (Methodology, Writing—review & editing), and Rachel Davey (Conceptualization, Writing—review & editing). All authors have read and agreed to the published version of the manuscript.

Conflicts of interest

None declared.

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Data availability

Data cannot be shared for ethical/privacy reasons.

Data access statement

The authors have complete ongoing access to the collected data.

Dissemination of findings

Findings will be published in scientific journals and professional Australian networks.

Study governance

The study will be routinely monitored by a team comprising chief investigators and an external study advisory committee.

Ethics

Ethics approval for this study has been obtained from the University of Canberra Human Research Ethics Committee (approval number 13769, approval date 8 April 2024). The study is registered with the Australian New Zealand Clinical Trials Registry (registration number ACTRN12624000827538, registration date 4 July 2024).

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Research Paper

Policy Brief: Final findings from the OPTIMISER³ Australia Study

Prepared for: Australian Government Department of Health, Disability and Ageing, and the Pharmaceutical Society of Australia (PSA)

Date: 29 September 2026

Authors: OPTIMISER³ Australia Study Chief Investigators: Prof Sam Kosari[1], Dr Bella St Clair[1,2], and Prof Rachel Davey[2].

[1] *RMIT University and* [2] *University of Canberra*

Conflict of interest

Professor Mark Naunton, a Chief Investigator on the OPTIMISER³ Australia Study, was appointed Chair of the PSA after the study commenced. He was not involved in the development of the policy recommendations presented in this brief.

Executive summary

This policy brief presents the final findings of the OPTIMISER³ Australia Study, an implementation evaluation of the Aged Care On-site Pharmacist (ACOP) model across eight residential aged care homes (RACHs) in metropolitan, regional, rural and remote Australia. Findings highlight the model's contribution to medication safety, medication management, staff capability, clinical governance and quality improvement, alongside implementation challenges related to workforce availability, organisational readiness and multidisciplinary integration. Sustainable national implementation will require flexible service delivery models, workforce support and clearer implementation guidance, particularly for smaller, rural and remote residential aged care homes.

The ACOP model appears effective, valued and scalable; however, its long-term success will depend on addressing workforce constraints, implementation consistency and funding flexibility, particularly outside metropolitan areas.

Background

The ACOP model was introduced to improve medication safety and quality use of medicines in residential aged care. Funded by the Medical Research Future Fund, the OPTIMISER³ Australia Study evaluated the implementation and sustainability of the model across diverse geographical settings, examining workforce arrangements, quality indicators, service delivery, clinical governance and integration with existing healthcare services.

Key findings

- Across stakeholder groups, including residents, RACH staff, ACOPs and GPs, the ACOP model was viewed positively and was perceived to contribute to medication safety, clinical governance and quality improvement beyond traditional medication reviews.
- Smaller RACHs (1–99 beds) experienced limited pharmacist presence under the current 0.2 FTE/50 beds allocation, particularly in rural and remote settings.
- Credentialled pharmacists remain concentrated in metropolitan areas, limiting ACOP workforce availability in regional, rural and remote locations.
- Funding arrangements delivered through community pharmacy funding mechanisms, alongside remuneration considerations relative to RMMRs, were identified as factors influencing the attractiveness of ACOP roles, particularly in rural and remote settings. External employment arrangements could also create barriers to organisational integration.
- Provider organisations that facilitated ACOP networks, mentoring and training were viewed as valuable. Ongoing mentoring, peer support and professional development were identified as important for workforce sustainability.
- Hybrid service models, combining regular onsite pharmacist presence with remote activities, emerged as a potentially effective approach for rural and remote settings, supporting flexibility while maintaining clinical engagement and continuity of care.
- Limited awareness of the ACOP role among RACH staff, alongside inconsistent onboarding and access to clinical systems, was reported to hinder integration and reduce potential impact.
- Limited awareness of the ACOP model among some GPs, together with differing expectations regarding ACOP-led reviews and RMMRs, contributed to uncertainty regarding professional roles and the application of relevant GP MBS items.
- Stakeholders reported that progressive ACOP-led medication reviews remove the need for concurrent RMMRs, though flexibility is needed while workforce capacity develops.
- Clinical governance responsibilities and performance monitoring varied across RACHs, resulting in differing approaches to role implementation and integration into existing governance structures.
- Medication quality indicators and ACOP activity measures can support targeted improvement when selected according to local priorities and interpreted in context. Their value depends on homes' capacity to act on results, with excessive reporting diverting time from clinical care.

Policy implications

The findings suggest that while the ACOP model is contributing to safer medication use and stronger clinical governance, achieving equitable national implementation will require policy settings that address workforce distribution, service flexibility and organisational integration. Failure to address these factors risks widening disparities between metropolitan and rural aged care services.

Policy recommendations

Priority actions:

- Review ACOP FTE allocations to better reflect workload and support smaller RACHs, particularly in rural and remote locations.
- Review ACOP funding and remuneration arrangements to ensure the model remains financially sustainable and supports recruitment and retention of credentialled pharmacists in rural, regional and remote areas.
- Strengthen national implementation guidance for aged care providers, including pharmacist onboarding, multidisciplinary integration and clinical governance responsibilities.
- Clarify the relationship between ACOP-led medication reviews, RMMRs and relevant GP MBS items to minimise uncertainty and potential service duplication.

Further recommended actions:

- Recognise flexible and hybrid service delivery models, that allow appropriate ACOP activities to be undertaken remotely while maintaining essential onsite engagement.
- Support mentoring, peer-support networks and professional development opportunities for ACOPs through professional bodies and provider organisations.
- Enable Medication Advisory Committees to select supplementary medication-related quality indicators and ACOP activity measures from the standardised set recommended by OPTIMISER[3], aligned with local priorities, supported by clear guidance on interpreting and applying results while minimising additional reporting burden.
- Establish ongoing government evaluation of the ACOP model to guide implementation, monitor quality and inform refinements as the program matures.

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This policy brief was jointly developed by RMIT University and the University of Canberra as part of the OPTIMISER[3] Australia Study.

Appendix 3: Resident-Centred Medication Management in Residential Aged Care

Australian residential aged care medication management | **PRACTICE GUIDE**

Resident-Centred Medication Management In Residential Aged Care

Practice resource for aged care on-site pharmacists involved in medication management.

Key message

Resident-centred medication management goes beyond medicine safety. It means understanding how residents want to be involved, communicating clearly, respecting privacy and dignity, reducing treatment burden, and coordinating medication care around their needs and daily routines.

Purpose and scope	Who should use it
This resource translates resident perspectives into practical actions for pharmacists, clinicians and residential aged care home staff.	Aged Care On-site Pharmacists (ACOPs) and clinicians involved in medication management.

1. How to use this resource

- Use the nine resident-informed practice areas as a practical checklist when planning, delivering or reviewing medication management services.
- Use the conversation prompts during resident reviews, pharmacist introductions, resident meetings or quality improvement activities.
- Use insights from this resource to guide local quality improvement initiatives and strengthen resident-centred medication management practices.

2. Resident-informed practice areas

The following practice areas are drawn from residents' perspectives on medication management in Australian residential aged care homes.

1. Respect residents' involvement Ask how each resident wants to be involved in medicine decisions and review this preference over time.	**2. Explain medicines clearly** Use plain language, explain changes, encourage questions and offer a current medicine list or summary.	**3. Be visible and approachable** Make the pharmacist's schedule and contact process easy for residents to understand.
4. Clarify the pharmacist's role Explain the pharmacist's scope, boundaries and relationship with GPs, other prescribers, nurses and supply pharmacies.	**5. Fit timing to daily routines** Review medication timing so it is predictable and avoids disruption to meals, rest and sleep.	**6. Protect privacy and dignity** Avoid public medicine discussions and intrusive preparation practices in communal areas.
7. Reduce treatment burden Consider pill burden, swallowing difficulty, formulation choice and unnecessary tablet crushing.	**8. Coordinate medication management** Actively coordinate changes, documentation, supply, vaccination access and communication across providers.	**9. Seek and act on feedback** Make it easy for residents to say what is working and use feedback in local quality improvement.

3. Putting resident-centred medication management into practice

Practice context	Practice actions	Why it matters to residents
Introducing the ACOP role	Introduce the pharmacist by name and role; display working days; explain how residents can ask questions; explain how the pharmacist works with GPs, nurses and dispensing pharmacies.	Residents are more likely to engage when the role is visible, approachable and clearly bounded.
Medication review or medicine change	Ask how the resident or family wants to be involved; explain the reason for the review or change; explain available options where appropriate; check understanding; document preferences.	Residents and families value involvement when it matters to them, while some residents prefer to delegate decisions to clinicians.
Medication rounds and daily routines	Review timing with nurses and prescribers; identify avoidable late or inconsistent administration; consider meals, sleep and personal routines while maintaining safety.	Predictable timing supports comfort, control and sleep.
Medicine information and documentation	Offer a current medicine list or summary; explain brand, formulation or dose changes; make information available to residents, families and carers as agreed.	Residents want to know what they are taking and why, especially when medicines change.
Privacy, dignity and communal spaces	Avoid discussing personal medicine details at dining tables or in shared spaces; ask permission before discussing medicines; support discreet medication preparation.	Routine medication care can undermine dignity when private information or preparation is visible to others.
Formulation, swallowing and pill burden	Review pill burden, swallowing difficulty, crushing, altered formulations and possible alternatives; involve prescribers and speech pathologists where needed.	The practical experience of taking medicines affects comfort, acceptance and quality of life.
Supply, vaccination and continuity issues	Track unresolved supply or documentation problems; liaise with prescribers and supply pharmacies; escalate delays; communicate outcomes to residents, families and carers.	Timely resolution of issues builds confidence and reduces frustration.
Feedback and improvement	Ask residents what is working or not working well; review feedback themes through clinical governance; communicate changes made or explain why changes cannot be made.	Resident feedback helps keep medication management responsive over time.

4. Conversation prompts for residents, families and carers

Use these prompts flexibly to bring residents' priorities into everyday medication management.

☐ How involved would you like to be in decisions about your medicines?	☐ Do you know what your medicines are for, and would you like a current list or summary?
☐ Have any of your medicines, doses or administration times changed recently? Were these changes explained?	☐ Are there times when medicines interrupt your meals, rest, sleep or daily routine?
☐ Are any medicines hard to swallow, unpleasant, noisy to prepare, or too many to manage comfortably?	☐ Are you comfortable with where and how your medicines are discussed and given to you?
☐ Do you know who to ask when you have a question or a medicine supply problem?	☐ Is there anything about your medication care that you would like to see improved?

Do	Avoid
✓ Offer involvement according to the residents' preferred level of decision-making. ✓ Use plain language and check understanding. ✓ Protect privacy during medicine discussions and preparation. ✓ Regularly review medication timing, pill burden, swallowing and formulation issues. ✓ Follow up and resolve supply and documentation problems.	× Assuming all residents want the same level of information or involvement. × Discussing private medication details in communal spaces. × Treating medication timing as an operational issue only when it disrupts sleep, meals or daily routines. × Crushing or altering medicines without appropriate review and documentation. × Leaving residents unclear about who will follow up and resolve an issue.

Questions for quality improvement

1. What medication-related issues are residents raising most often?
2. Do these issues relate to timing, information, privacy, formulation, supply or role clarity?
3. What actions or changes have been made in response?
4. How have residents, staff, families and carers been informed about these changes?

5. About this resource

This resource provides practical guidance on resident-centred medication management in residential aged care. It complements existing Australian guidance, including the Guiding Principles for Medication Management in Residential Aged Care Facilities, the Aged Care On-site Pharmacist Measure guidance, and relevant Aged Care Quality Standards.

This resource was informed by findings from the OPTIMISER³ Australia study (2023–2026), which examined the implementation and sustainability of the Aged Care On-site Pharmacist model in residential aged care. Resident perspectives identified through the study underpin the practice areas, actions and conversation prompts presented in this resource.

Developed by

Professor Sam Kosari, RMIT University; Dr Bella St Clair, RMIT & University of Canberra, Dr Jennifer Sonter and Dr Claire Manning, University of Canberra; and the OPTIMISER³ Australia study team.

Suggested citation

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Australian residential aged care medication management

PRACTICE GUIDE

ACOP Onboarding and Integration Guide

Building shared understanding and agreeing on service priorities, informed by OPTIMISER[3] study

Purpose and use of this guide: This guide supports residential aged care homes (RACHs) and Aged Care On-site Pharmacists (ACOPs) to plan onboarding, clarify expectations and integrate the ACOP role into routine care. Use the checklists and templates together to agree on local priorities, responsibilities and ways of working. This guide should be used in conjunction with the OPTIMISER[3] study resources.

Key message

Plan the service together from the outset. Agree how the pharmacist's broader capabilities can address resident needs and aged care home priorities, and how the ACOP will become part of the team.

Meet before commencement or from day one. Discuss the prompts, confirm readiness and record an agreed plan. Seek staff input and resident or family feedback; refine priorities as understanding and trust develop.

1. Understand the broader ACOP role

Medication review is one component of the role. Findings from OPTIMISER[3] demonstrate broader contributions to resident care, team support and medication governance. Discuss differences in expectations between managers, staff, GPs and the ACOP.

Resident care	Team support	Governance and improvement
Medication review and optimisation, reconciliation, deprescribing support, medication advice and discussions with residents, families and GPs.	Advice on administration, crushing and timing; staff education; multidisciplinary discussions; coordination with prescribers and pharmacy providers.	Incident review, audits, quality indicators, policy review, antimicrobial stewardship and oversight of high-risk medicines, including psychotropics.

2. Share capabilities and local needs

The aged care home brings	The ACOP brings
Resident needs and medication concerns; incident or audit information; staff learning needs; existing services and improvement priorities.	Experience, capabilities and proposed contributions; training, mentoring or peer support needs.

Each party identifies high, intermediate or low initial priorities among the activities above, then compares and agrees the focus. Consider available time, resources, workforce, GP access and geography. Ratings guide local planning and do not change professional responsibilities.

3. Include resident-centred care in the plan

Agree how the service will:
• Help residents meet and contact the ACOP, raise concerns and receive clear medicine explanations. • Respect involvement preferences, care goals, privacy and dignity; involve families or representatives according to resident wishes and needs. • Address communication and cultural needs, and use resident and family feedback to improve care.

4. Agree how the team will work together

Responsibilities and participation	Communication and follow-up
Identify the RACH contact and reporting relationships. Agree governance contributions and participation in handovers, care discussions, family meetings and Medication Advisory Committee or other quality meetings.	Agree how advice and findings are documented, who follows up actions and how unresolved medication safety concerns are escalated. Share progress across resident care, education and governance work.

5. Confirm introductions and readiness

Tick only when completed or arrangements are confirmed. Mark N/A where appropriate. Record unfinished items with the person responsible and due date.

The OPTIMISER[3] study provides introduction letter templates for GPs, resident families and staff. Complete and distribute the relevant letters, then confirm the introductions below.

☐ Introduction letters	☐ GP introduction
Relevant letters completed and provided to GPs, resident families and staff.	ACOP introduced; preferred contact method and opportunities for direct discussion agreed.
☐ Residents and families	**☐ Nursing and care staff**
Role and contact arrangements explained; direct introductions arranged as appropriate.	Broader role and how to seek advice explained. Include staff across shifts and new staff as needed.

Practical arrangements

☐ Systems access	☐ Orientation and inclusion
Medication and resident records, relevant charts, incident information, policies and communication systems accessible and tested. Local systems training provided.	Medication workflows, documentation, emergency procedures and privacy covered. Access to relevant meetings and communication groups arranged.
☐ Working arrangements	**☐ Practice support**
Visible workspace, equipment, attendance, contact details and urgent escalation pathway confirmed. Agree any off-site tasks and information sharing between visits.	Templates and tools identified. Mentoring or peer support discussed and agreed where needed.

Integration takes time
Support opportunities to work alongside the clinical team and build relationships. Review access barriers, GP engagement and staff turnover as the service develops.

Planning example: Review medication incident patterns with the clinical lead, identify a recurring issue and agree an improvement action. Record who will act, a target date and what will be checked at review.

6. Record the agreed plan

Aged care home: _____ **ACOP:** _____

Date: _____ **RACH lead/contact:** _____

Start with three or four achievable priorities. Use additional rows for further or later priorities. Agree actions, support and measures that reflect the broader role and resident experience.

Agreed priority or goal	Actions and support needed	Responsible person	Progress measure and timeframe

Outstanding introduction or readiness actions

Action required	Responsible person	Due date

7. Review and adapt together

Review arrangements
Review date:..... Participants:.....
Discuss progress, resident and staff feedback, GP engagement, integration barriers and support needs. Update priorities and responsibilities together.

Developed by

Professor Sam Kosari, Dr Bella St Clair and Dr Claire Manning and the OPTIMISER[3] Australia study team.

Suggested citation

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ACOP introduction email templates

Use these email templates to introduce the new ACOP to residents, families, carers, staff and healthcare professionals, and build a shared understanding of their role and how to contact them.

Complete the dotted fields and tailor activities to the agreed ACOP role. Copy the subject line and email text into an email, omitting the template heading.

Template 1. Residents, families and carers

Subject: Introducing our Aged Care On-site Pharmacist at.....

Dear residents, families and carers,

We are pleased to introduce the Aged Care On-site Pharmacist (ACOP) at .....

Our pharmacist will work with residents, families, carers, staff, GPs and other healthcare professionals to support safe use of medicines and care that reflects each resident's needs, goals and preferences.

Pharmacist:

Contact details:

Days and hours:

The ACOP is a registered pharmacist who can explain medicines, answer questions and work with the care team to address medicine-related concerns.

Our pharmacist can help by:

- Discussing what medicines are for, how to take them and any side effects or concerns.
- Reviewing medicines with residents and their care team, including opportunities to simplify treatment.
- Helping coordinate medicines when residents move between hospital and the home.
- Joining care discussions and case conferences with residents, families and healthcare professionals.
- Working with staff to improve how medicines are given, taking residents' routines and preferences into account.

Residents are welcome to contact the ACOP or ask a staff member to arrange a discussion. Families and carers can also raise questions, with their involvement guided by the resident's wishes, consent and needs.

We welcome your feedback on how the pharmacist can support your care or the care of your family member.

Kind regards,

Name:

Position:

Home:

Template 2. Residential aged care home staff

Subject: Introducing our Aged Care On-site Pharmacist at .....

Dear colleagues,

We are pleased to introduce the Aged Care On-site Pharmacist (ACOP) at .....

The ACOP will work with residents, families, carers, staff, GPs and other healthcare professionals to improve medication safety, resident-centred care and quality use of medicines.

Pharmacist:

Contact details:

Days and hours:

The ACOP is a registered pharmacist who will work within their professional scope of practice. Their role extends beyond individual medication reviews to include team support, quality improvement and medication governance.

Activities may include:

- Identifying residents at risk of medication-related problems through clinical review and audits.
- Advising on medication management, including high-risk medicines, side effects and opportunities to simplify treatment.
- Liaising with prescribers, allied health professionals and community and hospital pharmacists, and participating in multidisciplinary case conferences.
- Supporting accurate medication documentation and medication reconciliation at transitions of care.
- Providing staff education and supporting medication administration competency assessments, as agreed with clinical leads.
- Reviewing medication rounds, including administration techniques and timing aligned with residents' needs and routines.
- Contributing to medication policies, incident reviews, audits, antimicrobial stewardship and Medication Advisory Committee activities.
- Supporting vaccination planning and coordination, and administering vaccinations where appropriately trained and authorised.

Please contact the ACOP with medication-related questions, resident concerns or suggestions for improvement. To request input or refer a resident, use .....

Kind regards,

Name:

Position:

Home:

Template 3. GPs, prescribers and healthcare professionals

Subject: Introducing our Aged Care On-site Pharmacist at.....

Dear GPs, nurse practitioners, specialists and healthcare colleagues,

We are pleased to introduce the Aged Care On-site Pharmacist (ACOP) at .....

The ACOP will work collaboratively with residents, families, carers and the multidisciplinary team to improve medication safety, resident-centred care and quality use of medicines.

Pharmacist:

Contact details:

Days and hours:

The ACOP is a registered pharmacist who will work within their professional scope of practice and provide evidence-informed recommendations aligned with residents' goals and preferences. The role combines resident-level clinical activities with education, quality improvement and medication governance.

Activities may include:

- Identifying residents at risk of medication-related problems and reviewing opportunities to optimise medicines, reduce treatment burden and support deprescribing.
- Discussing medication-related concerns and recommendations with prescribers and coordinating follow-up with the care team.
- Liaising with allied health professionals and community and hospital pharmacists to support coordinated care.
- Participating in multidisciplinary case conferences and care discussions.
- Supporting accurate medication documentation and medication reconciliation at transitions of care.
- Providing staff education and advice on medication administration.
- Contributing to clinical audits, antimicrobial stewardship, medication policies and Medication Advisory Committee activities.
- Supporting vaccination planning and coordination, and administering vaccinations where appropriately trained and authorised.

The ACOP may contact you to discuss residents' medicines and proposed recommendations. We welcome opportunities to agree on preferred communication methods and participation in rounds or case conferences. Please contact the ACOP to discuss medication-related concerns or collaborative care.

Kind regards,

Name:

Position:

Home:

Appendix 5: Pre-Implementation Co-Design Workshops

Purpose

Prior to implementation of the Aged Care On-site Pharmacist (ACOP) model, co-design workshops were conducted at participating residential aged care homes. Workshops brought together key stakeholders involved in medication management, including ACOPs, residential aged care home (RACH) managers, RACH staff, general practitioners (GPs), and community or supply pharmacy representatives.

The workshops were designed to support local adaptation of the ACOP model by:

- developing a shared understanding of the ACOP role;
- exploring stakeholder expectations of the role;
- identifying local priorities for implementation;
- identifying potential barriers and facilitators to implementation;
- considering local adaptations required to support implementation;
- exploring governance, communication and collaboration arrangements; and
- developing site-specific approaches to implementation and evaluation.

Workshop design

The workshops combined a structured co-design activity based on the Six Thinking Hats methodology with facilitated group discussion (see **Table A5.1**). The process was intended to encourage participation from all stakeholder groups and support generation of locally relevant implementation strategies.

Six Thinking Hats Co-Design Activity

The Six Thinking Hats Activity was used as a structured brainstorming process to guide discussion regarding implementation of the ACOP model (see **Table A5.2**). Participants considered the proposed model from different perspectives, including facts, expectations, opportunities, concerns and potential adaptations.

Topics explored during Co-Design Workshops

The workshop topics are summarised in (**Table A5.3**).

Table A5.1 Pre-Implementation Co-Design Workshop Structure

Workshop activity	Purpose
Presentation of the ACOP model	Introduce the ACOP model and establish a common understanding of the role and intended activities.
Six Thinking Hats exercise	Explore stakeholder understanding, expectations, perceived benefits, concerns, implementation challenges and ideas for local adaptation.
Facilitated group discussion	Explore implementation priorities and site-specific requirements in greater depth.
Workshop summary and agreement of adaptations	Identify agreed local adaptations and implementation priorities for the ACOP model.

Table A5.2 Six Thinking Hats Co-Design Activity

Perspective	Focus	Guiding question
Facts	Understanding of the model	Based on the presentation of the ACOP model, what do you understand about the role?
Emotions	Initial reactions and expectations	What is your initial reaction to introducing the ACOP model in your organisation?
Benefits	Opportunities and strengths	What aspects of the ACOP model are likely to work well in your setting?
Challenges	Risks and barriers	What aspects of implementing the ACOP model may be difficult or challenging?
Adaptations	Improvements and innovations	What changes or adaptations would improve the ACOP model for your local context?
Summary	Key priorities and next steps	What actions and adaptations should be prioritised for implementation?

Table A5.3 Key Co-Design Topics

Theme	Areas explored
Understanding and expectations of the ACOP role	Stakeholder expectations of the role and desired contributions to medication management.
Local adaptation of the ACOP model	Adaptations required to support implementation within participating RACHs.
Clinical governance	Preferred governance structures, committee participation and pharmacist contributions to governance activities.
Working relationships and collaboration	Approaches to collaboration between ACOPs, managers, nursing staff, care staff, GPs and pharmacies.
Communication pathways	Preferred methods of communication and collaboration between ACOPs and GPs and other healthcare providers.
Quality improvement and monitoring	How sites would identify and measure the impact of ACOP activities, including use of quality indicators.
Workforce and employment arrangements	Potential models for pharmacist employment and integration within residential aged care homes.
Community pharmacy involvement	Opportunities and challenges associated with community and supply pharmacy participation in the model.
Resident-centred care	Resident and family medication management needs and how ACOPs could support person-centred care.

Workshop outputs

The co-design workshops informed local implementation planning and contributed to the development of:

- site-specific adaptations to the ACOP model;
- implementation priorities;
- local clinical governance arrangements;
- collaborative working arrangements between ACOPs and other healthcare providers;
- workforce and employment considerations; and
- approaches to monitoring the impact of ACOP activities at participating sites.



Appendix 6: Composite Evaluation Interview and Focus Group Guide

This appendix provides a consolidated overview of the semi-structured interview and focus group guides used throughout the evaluation. Interview guides were developed for Aged Care On-site Pharmacists (ACOPs), residential aged care facility managers, facility staff, and external stakeholders.

While some questions were tailored to specific participant groups, the guides explored common domains relating to expectations, integration, implementation, clinical governance, education and training, and sustainability of the ACOP model. Questions and prompts were adapted according to participant role and experience (**Table A6.1**).

Table A6.1 Composite Evaluation Interview and Focus Group Guide

Domain	Key questions explored	Participant groups
Expectations	Thinking back to the beginning of the program, were your expectations of the ACOP role met or not met? Why? What aspects of the role met expectations? What aspects did not meet expectations?	*ACOPs, Facility Managers, Facility Staff, External Stakeholders*
Integration	Did the ACOP become integrated as part of the facility team? What factors supported integration? What barriers to integration were encountered? What is needed to successfully integrate an ACOP into a residential aged care home?	*ACOPs, Facility Managers, Facility Staff, External Stakeholders*
Role description and scope	Did the ACOP position description align with the work undertaken? What activities should be added, removed or changed? What are the most important components of the ACOP role? Were there activities that were not relevant or feasible?	*ACOPs, Facility Managers, External Stakeholders*
Implementation supports	Which implementation supports were useful when introducing the ACOP role? How useful were the training and support activities provided during implementation?	*ACOPs, Facility Managers*
Operationalisation of the ACOP role	What aspects of the ACOP role worked best? What aspects worked least well? What challenges were encountered during implementation? What factors contributed to success?	*ACOPs, Facility Managers, External Stakeholders*
Changes to work practices	Did any work practices change as a result of the ACOP role? Were changes made to policies, procedures, communication practices, medication management activities, or staff responsibilities?	*ACOPs, Facility Managers, Facility Staff, External Stakeholders*
Collaboration and working relationships	How did the ACOP work with staff and other stakeholders? What worked well in these relationships? What could be improved?	*ACOPs, Facility Staff, External Stakeholders*

Table A6.1 Composite Evaluation Interview and Focus Group Guide *(continued)*

Domain	Key questions explored	Participant groups
Collaboration with general practitioners	How did GPs and ACOPs communicate and collaborate? What enabled effective collaboration? What challenges existed? How did GP engagement influence implementation of the role?	*ACOPs, Facility Managers, External Stakeholders*
Collaboration with supply pharmacies	How did supply pharmacies and ACOPs work together? What aspects of the relationship worked well? What improvements could be made?	*ACOPs, Facility Managers, External Stakeholders*
Clinical governance	What clinical governance structures were utilised? How did ACOPs participate in governance activities? Did involvement of the ACOP improve governance processes? What governance activities were most valuable?	*ACOPs, Facility Managers, External Stakeholders*
Reporting structures	Who did the ACOP report to? Were reporting arrangements effective? Did reporting structures change over time? How could reporting arrangements be strengthened?	*ACOPs, Facility Managers*
Education and training for ACOPs	Did ACOPs have the education, training and support required to undertake the role? What additional education, mentoring or professional support would be beneficial?	*ACOPs, Facility Managers, External Stakeholders*
Education and training provided by ACOPs	How did ACOPs contribute to staff education and training? What educational activities were provided? What impact did these activities have on staff knowledge or practice?	*ACOPs, Facility Managers*
Resident and family education	How did ACOPs contribute to education for residents and families? What opportunities or challenges existed in this area?	*ACOPs, Facility Managers*
Hybrid models of care	How feasible was the hybrid ACOP model? Which activities were most appropriate for on-site delivery and which could be undertaken remotely? What advantages and disadvantages were associated with remote work?	*ACOPs*
Residential Medication Management Reviews (RMMRs)	Is there an ongoing need for RMMRs in addition to the ACOP role? How do RMMRs and ACOP activities complement one another? What value does each approach contribute?	*ACOPs, External Stakeholders*
Sustainability and future implementation	Would you like to see the ACOP role continue? What would be required to support sustainability? What workforce, funding, employment or implementation factors should be considered in future models?	*ACOPs, Facility Managers, Facility Staff, External Stakeholders*

Appendix 7: Proposed Performance Monitoring Framework for the ACOP Model

The evaluation identified a combination of medication quality indicators and ACOP activity indicators that are feasible to collect, meaningful to stakeholders and useful for monitoring performance and supporting quality improvement.

A key principle emerging from the evaluation was that quality monitoring should align with both national reporting requirements and local improvement priorities. Mandatory indicators provide a consistent baseline for monitoring medication management, while supplementary indicators allow services to focus on locally relevant risks and priorities.

Aligning quality monitoring with national requirements and local improvement priorities

Polypharmacy and antipsychotic use should remain the core medication and prescribing indicators monitored by residential aged care services. These indicators are already included within the National Aged Care Quality Indicator Program and provide an established foundation for monitoring medication safety and quality use of medicines.

Supplementary reporting should be driven by local priorities, identified risks and opportunities for improvement. Selection of additional indicators should be proportionate to the resources required for collection, analysis and reporting, and should support clearly defined quality improvement objectives.

Each residential aged care service should have an established process for:

- interpreting results;
- identifying improvement opportunities;
- implementing improvement activities; and
- reviewing progress over time.

Monitoring arrangements should support quality improvement while protecting ACOP time for clinical care.

Supplementary medication and prescribing indicators

At each reporting cycle, the Medication Advisory Committee (MAC) should review local medication risks and select any relevant indicator or combination of indicators from the standardised indicator set below.

The MAC should document:

- the rationale for indicator selection;
- the intended improvement objective;
- planned actions;
- outcomes of improvement activities; and
- any subsequent changes to indicator selection.

Indicators should be retained for a sufficient period to allow evaluation of change before new priorities are selected (**Table A7.1**).

Table A7.1 Recommended supplementary prescribing indicators

Indicator	Measure
Benzodiazepines	Percentage of residents prescribed regular benzodiazepines without a documented diagnosis of epilepsy or anxiety disorder, excluding residents receiving end-of-life care
Opioids	Percentage of residents prescribed regular opioids
Antimicrobials	Percentage of residents prescribed regularly scheduled antimicrobials, including short courses and topical preparations

Data collection method

Unless otherwise specified:

- data should be collected from medication charts on a single collection date;
- PRN medicines should be excluded;
- residents who are hospitalised on the collection date should be excluded; and
- the denominator should be the total number of included residents.

ACOP activity indicators

Medication and prescribing quality indicators alone do not capture the full contribution of the ACOP role. Activity indicators provide additional information regarding how ACOPs contribute to medication management, governance, workforce development and quality improvement.

The Medication Advisory Committee should select any relevant activity indicator(s) that align with local priorities and planned ACOP activities (see **Table A7.2**).

Activity measures should be collected over the agreed reporting period using consistent definitions and recording practices.

Using indicators for improvement

Indicators should not be viewed as standalone measures of performance. Their primary purpose is to support governance, quality improvement and informed decision-making.

Medication Advisory Committees should review indicators alongside local clinical context, resident characteristics, organisational priorities and service-level risks. Quality monitoring is most valuable when data are used to guide discussion, inform action and evaluate the impact of improvement activities over time.

Table A7.2 Recommended ACOP activity indicators

Indicator	Measure
Medication review coverage	Percentage of residents who received at least one comprehensive medication review involving the resident and/or their family or representative, with recommendations considered by the prescriber
Clinical audit	Number of medication-related audits completed by the ACOP, with findings and follow-up actions recorded
Staff education	Number of documented medication-related education activities delivered by the ACOP, including formal education sessions and informal workplace teaching
Quality improvement	Number of medication-related quality improvement initiatives implemented with ACOP involvement and aligned with the home's priorities and context



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