



EVALUATION OF THE QUALITY USE OF MEDICINES PROGRAM

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Table of contents

Acronyms	i
Executive Summary.....	ii
1. Introduction	1
1.1. Background to the review	1
1.2. Review Purpose.....	3
1.3. Review Scope.....	3
2. Methodology	4
2.1. Review timeline.....	4
2.2. Data sources.....	5
2.3. Data limitations and caveats.....	8
3. Key findings	9
3.1. Evidence base	9
3.2. Program reach	11
3.3. Program effectiveness and efficiency.....	14
3.4. Appropriateness.....	18
3.5. Data collection and monitoring	19
4. Discussion.....	21
4.1. Implications of key findings.....	21
4.2. Future considerations	22
Disclaimer	24
Appendix A Analysis details	
Appendix B Surveys and interview guides	
Appendix C Overview of qualitative interviews	
Appendix D Suggestions for QUM data Framework	
Appendix E References	

ACRONYMS

Acronym	Expanded Text
'the Guild'	The Pharmacy Guild of Australia
6PAC	Sixth Community Pharmacy Agreement
MAC	Medication Advisory Committee
MPS	Multi Purpose Services
PBS	Pharmaceutical Benefits Scheme
PSA	Pharmaceutical Society of Australia
RACF	Residential Aged Care Facility
RCTs	Randomised control trials
RMMR	Residential Medication Management Review
SEIFA	Socio-Economic Indexes for Areas
QUM	Quality Use of Medicines

EXECUTIVE SUMMARY

This is the final report for Urbis' review of the Quality Use of Medicines (QUM) component of the Resident Medication Management Review (RMMR) Program. The review was commissioned by the Department of Health to assess the extent to which the program is currently operating as intended and achieving its intended outcomes.

The RMMR Program, including QUM, is one of the key medication management programs funded under the Sixth Community Pharmacy Agreement (6CPA). It aims to improve medication management in Australian Government funded aged care facilities. The QUM component, which is the focus of this review, is designed to provide support at the facility level. Specifically, it aims to improve medication practices and procedures as they relate to the quality use of medicine in residential aged care facilities (RACFs).

The review is guided by four key objectives:

- Verify the evidence base behind the QUM component of the RMMR Program (including assessment of how the approach aligns to comparable international services and good practice, and identification of opportunities to strengthen this if relevant)
- Assess the reach and effectiveness of the QUM component of the RMMR Program
- Assess the adequacy of current data collection and monitoring arrangements (including assessment of how the program aligns to good practice for health program management, and identification of opportunities to strengthen this if relevant)
- Make recommendations on whether the QUM component of the RMMR Program should be modified, ceased or continued in its current form.

Key findings and future considerations emerging from this review are outlined below.

KEY FINDINGS

- In its current form, QUM is not explicitly designed to require evidence-based practice. The extent to which the program aligns with the evidence base was instead found to depend on which activities are delivered by a pharmacist each quarter. Pharmacist participation in Medication Advisory Committees (MACs) received the strongest support in the literature, as well as education when it is delivered in conjunction with a secondary QUM activity. The limited alignment of the program poses a potential risk to the program's outcomes, including a risk of inequitable outcomes across facilities. A further implication is that the Department is providing significant investment into the provision of activities, which are not always supported by the available evidence.
- Analysis of the program data revealed that the QUM program has a national reach and is currently being accessed by the full spectrum of socio-economic status. The program is also being utilised by facilities of all sizes (based on the number of beds). The strong reach of QUM indicates that that the design and implementation of the program has been appropriate, and fit-for-purpose in relation to geography, SEIFA deciles and RACF size.
- While opportunities were identified to strengthen the program, and improve accountability for service delivery, pharmacists and RACFs participating in the review largely reported that the program was effective and positively impacting on medication management practices within RACFs. In the absence of program performance indicators and data, the review team was however unable to quantify the extent to which program is leading to improvements and achieving its intended objectives.
- The flexible nature of the QUM program (in which pharmacists, in consultation with RACFs, are responsible for selecting the QUM activities delivered each quarter), is likely to result in variations in outcomes experienced by RACFs and residents, depending on what services are delivered. The review also found that program outcomes can be influenced by a range of factors, including the extent to which facilities and pharmacists engage with the program, and pharmaceutical services are embedded into a facility's practices. The funding model for QUM currently prevents monitoring for quality service delivery, as the same payment is provided to a pharmacist regardless of how many services they deliver. Again, in the absence of reporting of program performance, the review team was unable to quantify the extent of variation in service delivery impacted on program outcomes.

- The program data is extensive and has a number of strengths. However, it is currently broken into two data sets: the QUM Facility Data which lists all participating RACFs; and the QUM Claims Data which captures the details of all QUM claims made by pharmacists participating in QUM. Analysis of the program requires these data sets to be linked, which is a timely and complex process. In addition to this, the data system does not specify which type of pharmacies are participating in the program and is not designed to capture benchmarking data for pharmacists and RACFs. These gaps in reporting limit the analysis that can be undertaken and the opportunities for ongoing monitoring to drive program performance.

FUTURE CONSIDERATIONS

Having considered the evidence, the review team proposes three areas for consideration to strengthen the effectiveness of the QUM Program in the future.

1. Increase alignment of the QUM program to the evidence base

- An opportunity exists to improve the design of the QUM program so that it better aligns with the evidence base and incentivises activities that have been found to improve medication management in RACFs. This could potentially be achieved by restructuring the program funding so that pharmacists are required to deliver activities that promote interdisciplinary engagement with RACF staff and GPs, including the development of KPI for participation in RACFs.
- The program could also introduce a new requirement that education activities must be delivered in conjunction with a secondary QUM activity for a claim to be approved, and potentially new QUM activities that promote integration, such as participation in case conferences and clinical governance meetings.
- Finally, to help incentivise and ensure successful integration, the program could potentially provide funding to RACFs. This payment structure could be re-structured to have a sliding scale with reward for both greater engagement with RACFs, and delivery of those activities that are clearly promoted in the literature. The program could also introduce a dual accountability system whereby both the pharmacist and RACF must provide evidence of integration in order to submit a successful claim. This could be achieved in the form of an automated claims system in which both the pharmacist and RACF are involved in submitting and verifying a claim.

2. Implement a performance measurement system to accurately assess the effectiveness of QUM

- As previously mentioned, the QUM program is not currently designed to capture data on program outcomes. This means that the effectiveness of the program, including the impact of variations in service delivery, cannot be quantified. To overcome these limitations and allow for future monitoring of the program's effectiveness, the review team recommends that a performance system, with clear performance indicators, is introduced. Given difficulties in establishing causality and the range of factors that can impact on program outcomes, a blended model of both process and outcome indicators may be appropriate for QUM.
- In addition to this, the introduction of an activity and/or outcomes-based funding model may allow the Department to influence the quality and level of care provided under the program. Significant time and effort would need to be spent setting appropriate activity and outcomes-based key performance indicators (KPIs) for pharmacists. These would then need to be mapped to a financially viable remuneration schedule that accounts for variations in the service complexities across facilities. It is likely that expert advice will be required to develop this model.

3. Improve the existing data system to enable timely and cost-effective analysis and reporting

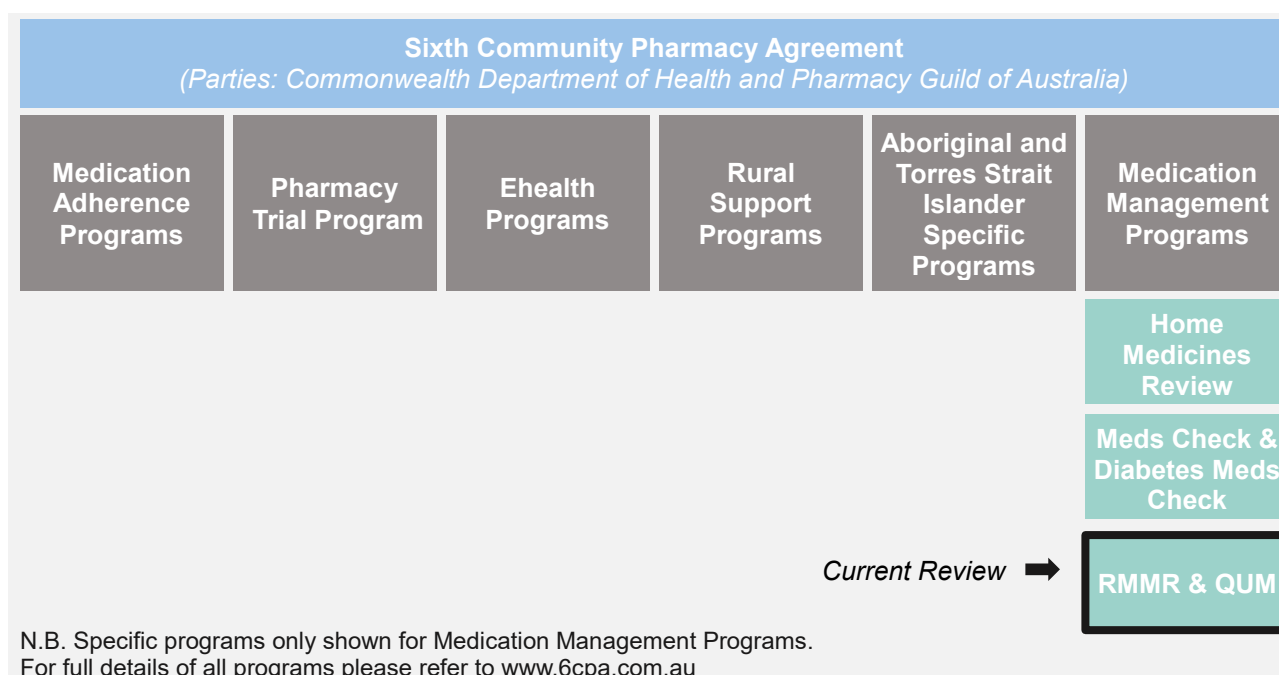
- The current data system could be improved to enable timely and efficient program data analysis and reporting moving forward. Specifically, the existing data files could be linked or consolidated so that the Department will not need to undertake the timely and costly matching process that was required for this review.
- Once this is complete, the review team recommends that a regular monitoring process is introduced to assess claims patterns on an ongoing basis, including changes over time. This will also allow for the identification and monitoring of changes in the number and type of QUM providers over time, which may identify changes in patterns of service provision.

1. INTRODUCTION

1.1. BACKGROUND TO THE REVIEW

The Australian Government Department of Health is conducting a review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program under the Sixth Community Pharmacy Agreement (6CPA). Australia’s Community Pharmacy Agreements, which are an arrangement between the Commonwealth of Australia and the Pharmacy Guild of Australia (‘the Guild’), traditionally establish pharmacy location rules and the remuneration pharmacists receive for dispensing medicines under the Pharmaceutical Benefits Scheme (PBS). Across time, they have ‘increased in scope and now also provide for professional pharmacy programs and services’ (6CPA, 2015). The 6CPA encompasses six areas of practice, which each have funded programs (see Figure 1). The RMMR Program, including QUM, is one of the key programs under the agreement. The program seeks to address the distinct medication management needs and challenges faced by government funded aged care facilities.

Figure 1 – 6CPA program details (adapted from www.6cpa.com.au)



Medication management in aged care facilities

Across Australia, the aged care sector is undergoing a period of significant change. As was noted in a recent Community Affairs Reference Committee (2017), a range of factors are placing ‘significant pressure on the aged care workforce’ and presenting challenges to service delivery (Commonwealth of Australia, 2017: 1). These factors include Australia’s ageing population, growing diversity in resident populations, the increased complexity of resident’s health care needs, and shifting consumer expectations, including the move towards consumer directed care (Commonwealth of Australia, 2017). At the same time, the care workforce in these settings is also changing, with an ageing workforce and increased diversity among staff and in skill mix. These changes have implications for medication practices in residential aged care facilities (RACFs). For example, given the complex needs of residents, the Guiding Principles for Medication Management in RACFs note that ‘the use of multiple medicines by residents is common,’ with polypharmacy a ‘significant risk factor for adverse medicines events and poor outcomes in medicines use’ (Commonwealth of Australia, 2012: 3).

The QUM component of the RMMR program

The RMMR program, including the QUM component, aims to improve medication management in Australian Government funded aged care facilities. Under the RMMR program, residents of eligible facilities can have their medications reviewed by a pharmacist, in consultation with their GP, to ‘identify, resolve and prevent medication related problems’ (6CPA, 2015). While the RMMR program is focused on direct pharmacist to

resident support, the QUM component provides support at the facility level. Specifically, the program focuses on improving medication practices and procedures as they relate to pharmacotherapy in aged care facilities.

Figure 2 – RMMR and QUM program details (adapted from www.6cpa.com.au)

RMMR			
Medication Support Service for Residents	QUM		
	<ul style="list-style-type: none"> Comprehensive review to identify, resolve and prevent medication-related problems 	Medication Advisory <ul style="list-style-type: none"> Drug Use Evaluation Medication advice to health care team Policy & procedure development 	Education <ul style="list-style-type: none"> Delivering education to staff on medications Delivering education to residents, carers and staff on medication management

The objectives of the QUM Program are to:

- advise members of the Facility’s healthcare team on a range of medication management issues in order to meet the healthcare needs of residents
- provide medication information and education to residents, carers and other healthcare providers involved in the resident’s care
- assist the Facility to undertake continuous improvement activities, including ensuring medication management accreditation standards are met and maintained (Australian Government and Pharmacy Guild of Australia 2017: 4).

The role of pharmacists in QUM involves ‘promotion of appropriate treatment choices, effective communication with residents, prescribers and medicine administration staff, and assisting communication and collaboration between these parties’ (Pharmaceutical Society of Australia 2011:10).

Participating pharmacists are funded to provide services to RACFs on a quarterly basis. The type activities that pharmacists can claim against are outlined in Table 1 below.

Table 1 – QUM Claiming Activities Abbreviations and Details

Abbreviation	Description
ACCRED	Assist the facility to meet and maintain medication management accreditation standards and to comply with regulatory requirements
ASSESS	Assess competency of residents to self-administer medications
DRUG	Provide drug information for medical practitioners and RACF staff including provision of newsletters
DUE	Participate in drug usage evaluation
EDUCAT	Advise members of the health care team on a range of issues, including storage, administration, dose forms, compatibilities, therapeutic and adverse effects and compliance
INSERV	Provide in-service session for all nursing staff and carers or residents on medication therapy, disease state management or prescribing trend issues
MAC	Participate in Medication Advisory Committees
MAUDIT	Conduct medication administration audits and surveys on medication errors, altered dosages forms and psychotropic drug use
MEDMGT	Assist in the development of policies and procedures to address medication management concerns (e.g. sleep, bowel or pain management or infection control)
NIM	Assist in the development of nurse-initiated medication lists

Abbreviation	Description
PPDEV	Participate in policy and procedure development activities
QUAL	Assist with the development of, and report on, quality indicators and other quality measures
STORE	Advise on and assess medication storage requirements, monitoring and standards, including storage and labelling, expired stock, security of medication storage areas and safe disposal of unwanted medications

Remuneration is standardised irrespective of how many activities are provided per quarter, but at least one activity must be provided per quarter in order for the pharmacist to be eligible for funding.

An analysis of the program data undertaken for this review revealed that 2,795 facilities received QUM support between 2015 and 2017. Across this same period, a total of 19,145 claims were submitted, with 33% of these claims coming from three contract providers.

1.2. REVIEW PURPOSE

Urbis was commissioned by Department of Health to undertake this review in July 2017. The review concluded in February 2018. This report contains the final key findings of the review and recommendations for the future of the QUM program, as well as the details of all data collection and analysis undertaken in the course of this review.

The review aims to inform and assess the extent to which the program is operating as intended and achieving its intended outcomes, and to provide advice on the benefits of continuing the program (either in its current or a modified form). It is guided by four key objectives:

- Verify the evidence base behind the QUM component of the RMMR Program (including assessment of how the approach aligns to comparable international services and good practice, and identification of opportunities to strengthen this if relevant)
- Assess the reach and effectiveness of the QUM component of the RMMR Program
- Assess the adequacy of current data collection and monitoring arrangements (including assessment of how the program aligns to good practice for health program management, and identification of opportunities to strengthen this if relevant)
- Make recommendations on whether the QUM component of the RMMR Program should be modified, ceased or continued in its current form.

1.3. REVIEW SCOPE

The scope of this review had the potential to include all RACFs and pharmacists participating in QUM between September 2015 to September 2017.

Program data relating to all RACFs engaged with the QUM program between September 2015 and September 2017 was available and utilised in this review.

Participation in the consultations was voluntary and, as a result, this sample of stakeholders may not be representative of all stakeholders participating in the QUM program during the September 2015 to September 2017 period.

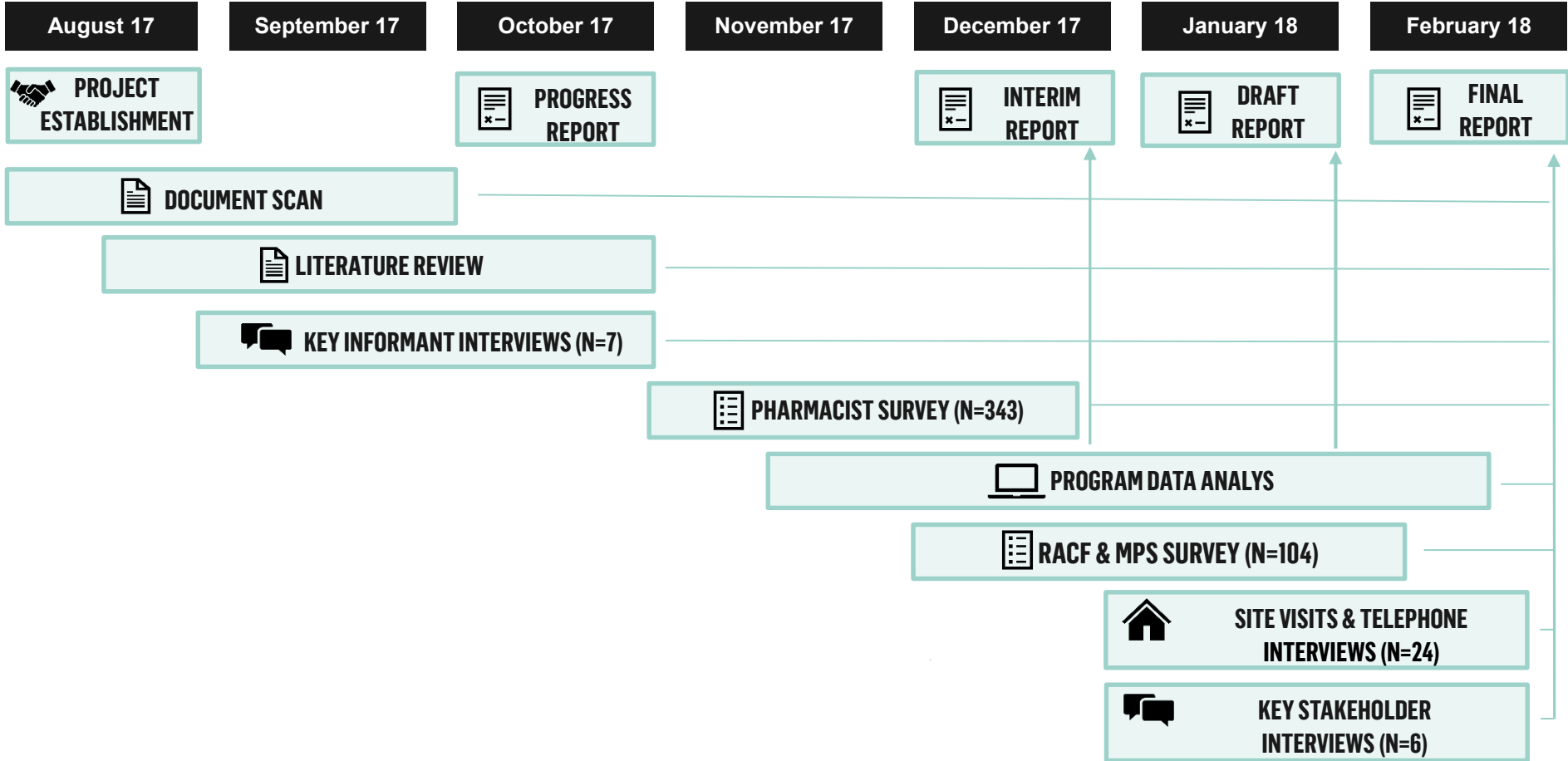
A full list of data sources, limitations and caveats is provided on Table 2.

2. METHODOLOGY

2.1. REVIEW TIMELINE

The overall research approach comprised thirteen key research elements and reporting deliverables, which are outlined in Figure 3 below.

Figure 3 – QUM Review timeline



2.2. DATA SOURCES

The review utilised eight key data sources to capture the experiences and perspectives of a range of stakeholders. All data utilised in this review are outlined in Table 2.

Table 2 – Data utilised in QUM review

Data source	Overview	Stakeholders	Documents/data	Timing
1. Document Scan	To prepare for the project, our research team conducted an initial scan of key program documentation.	N/A	Program documentation reviewed included: <ul style="list-style-type: none"> 6CPA RMMR & QUM Program Rules (effective from 1 July 2017) The Evaluation of RMMR by Health Consult The PSA Guidelines for Pharmacists Providing RMMR and QUM services The National Medicines Policy The National Strategy for QUM The National Review of Pharmacy Remuneration and Regulation 	August – September 2017
2. Key informant interviews (n=7)	To inform the development of the research instruments, we conducted interviews with 7 key informants who provided additional context for the review. This helped us to hone key review questions and to identify literature and data sources that could contribute depth to the review.	Representatives from the following organisations: <ul style="list-style-type: none"> The Department of Health The Pharmacy Guild of Australia (the Guild) The Pharmaceutical Society of Australia (PSA) 	Refer to Appendix B for the discussion guides.	September – October 2017
3. Literature review	We completed a literature review to identify the evidence base for providing QUM support by pharmacists to RACF staff. This included identifying which QUM activities are considered best practice. The review findings have been integrated throughout this report.	N/A	Refer to Appendix E for a full list of the references that informed the literature review.	August – October 2017

Data source	Overview	Stakeholders	Documents/data	Timing
4. Survey of pharmacists (n=343)	We developed and issued a survey to pharmacists across Australia who have participated in QUM. The survey invited respondents to provide feedback on the effectiveness of the QUM program, as well as future improvements.	Pharmacists, including: <ul style="list-style-type: none"> Community pharmacy owners Community pharmacy employees Consulting pharmacists (self-employed and employees) Hospital pharmacists Academic pharmacists 	Refer to Appendix A and Appendix B for the pharmacist survey and analysis details.	November – December 2017
5. Survey of RACF staff (n=104)	Our research team developed and issued a survey to RACF and MPS staff across Australia who have participated in QUM. The survey invited respondents to provide feedback on the effectiveness of the QUM program, as well as future improvements.	RACF and MPS representatives, including: <ul style="list-style-type: none"> Directors of Nursing Managers Registered nurses 	Refer to Appendix A and Appendix B for the RACF survey and analysis details.	December 2017 – January 2018
6. Program data	N/A	N/A	Urbis was provided with QUM claims data for 2,863 RACFs, and their QUM activity between 2015 and 2017. Data cleaning processes were undertaken, and resulted in valid data for 2,795 facilities and 19,145 claims. Refer to Appendix A for data and analysis details	November 2017 – January 2018
7. Site visits and telephone interviews (n=24)	Our research team undertook site visits and telephone interviews with RACFs and pharmacists across Australia. Facilities were selected using a matrix to ensure that views are captured across facilities of different sizes and in different locations. The interviews provided an opportunity for in-depth discussion regarding the key research questions.	Pharmacists and RACF and MPS representatives, including: <ul style="list-style-type: none"> Directors of Nursing Managers Registered nurses Clinical Care Managers 	Refer to Appendix B for the discussion guides.	January – February 2018

Data source	Overview	Stakeholders	Documents/data	Timing
8. Key Stakeholder Interviews (n=6)	Interviews were undertaken with a selection of key program stakeholders. The interviews explored the key research objectives, including the extent to which stakeholders believe the program is achieving its intended outcomes and any recommendations for program improvement.	Representatives from the following organisations: <ul style="list-style-type: none"> ▪ The Guild ▪ PSA ▪ Society of Hospital Pharmacists Australia ▪ Australian Association of Consultant Pharmacy ▪ Health Consumers Forum ▪ The Australian Aged Care Quality Agency 	Refer to Appendix B for the discussion guide.	January – February 2018

2.3. DATA LIMITATIONS AND CAVEATS

The following data limitations and caveats should be taken into consideration when reading this report.

- The data relating to RACFs and QUM Activities (source 6 above) are independent data sources to the QUM feedback data from participating pharmacists (source 4) and participating facilities (source 5).
- That is to say, there is no guarantee that the facility data reported relates specifically to the same facilities where respondent pharmacists and staff have been engaged in QUM services. This means that the facility and claiming data cannot be directly linked to any findings in the pharmacist and facility survey results, and vice versa.
- Due to data limitations, it is not known to what extent the sample of pharmacists is representative of the total population of pharmacists who are, or have been, delivering QUM across Australia. For this reason, it is also not known to what extent any sample biases may have affected the results.
- The responses of pharmacists to the survey were strongly positive in relation to the effectiveness of the QUM program and the extent to which the program is meeting the needs of RACFs. We acknowledge that responding pharmacists have a vested interest in the continuation of the program and this may have resulted in a positive skew in their survey responses.
- Similarly, due to data limitations, it is also not known to what extent the sample of RACF respondents is representative of the total population of RACFs who are receiving QUM across Australia. For this reason, it is also not known to what extent any sample biases may have affected the results and some care should be taken in interpreting the results of the pharmacist survey.
- The responses of RACF representatives to the survey suggested some level of confusion in distinguishing the QUM component of RMMR from RMMR itself and other QUM activities. We have noted in the report where care should be taken in interpreting the results of the RACF survey.

3. KEY FINDINGS

3.1. EVIDENCE BASE

Summary of the literature review findings

A substantial review of literature relating to pharmacy interventions in RACFs was conducted for this review, with key findings incorporated throughout this report. The review identified limitations in the available evidence base; specifically, researchers point to the current evidence for pharmacy interventions in aged care settings often being of low quality. This was found to lead to, at best, variable evidence concerning the impact of specific interventions relating to pharmacy services in RACFs.

The literature suggests that a key reason for the low quality of the evidence for these interventions is the difficulty faced by researchers in establishing stronger levels of causality between a specific intervention and a specific outcome. This is due, in part, to the multi-faceted, heterogeneous nature of the role of pharmacists, and the diversity of outcome measures applied in the studies.

Despite these limitations in the available literature, two key areas of evidence-based practice have been identified that are relevant to the QUM program:

1. Team integration of clinical pharmacy expertise

Active integration of clinical pharmacy expertise within a multi-disciplinary team has the strongest support in the literature. Research suggests that prescribers may be more responsive to changes recommended by a multi-disciplinary team, and that such teams can make use of mechanisms such as medication reviews, case conferences and systemic drug use evaluations as part of a holistic, embedded approach to improving prescribing.

2. Pharmacy education for treating teams

There is also evidence for the efficacy of educational interventions, such as educational outreach and problem-based education sessions with nurses, when conducted in tandem with at least one other intervention, such as providing information, participating in the elaboration of guidelines and protocols, or participation in health promotion programs. Specifically, the delivery of education with one other intervention has been found to lead to improved prescribing.

Alignment of the evidence base to the *design* of QUM

QUM has some alignment to these two key areas of evidence-based practice: of the 13 types of activities funded by the QUM program (see page 5 for details), three were found to have strong alignment to the literature:

1. **MAC:** participation in Medication Advisory Committees (MAC);
2. **INSERV:** delivery of training sessions for RACF staff on medication therapy, disease state management or prescribing trend issues;
3. **EDUCAT:** Advising RACF staff on a range of issues

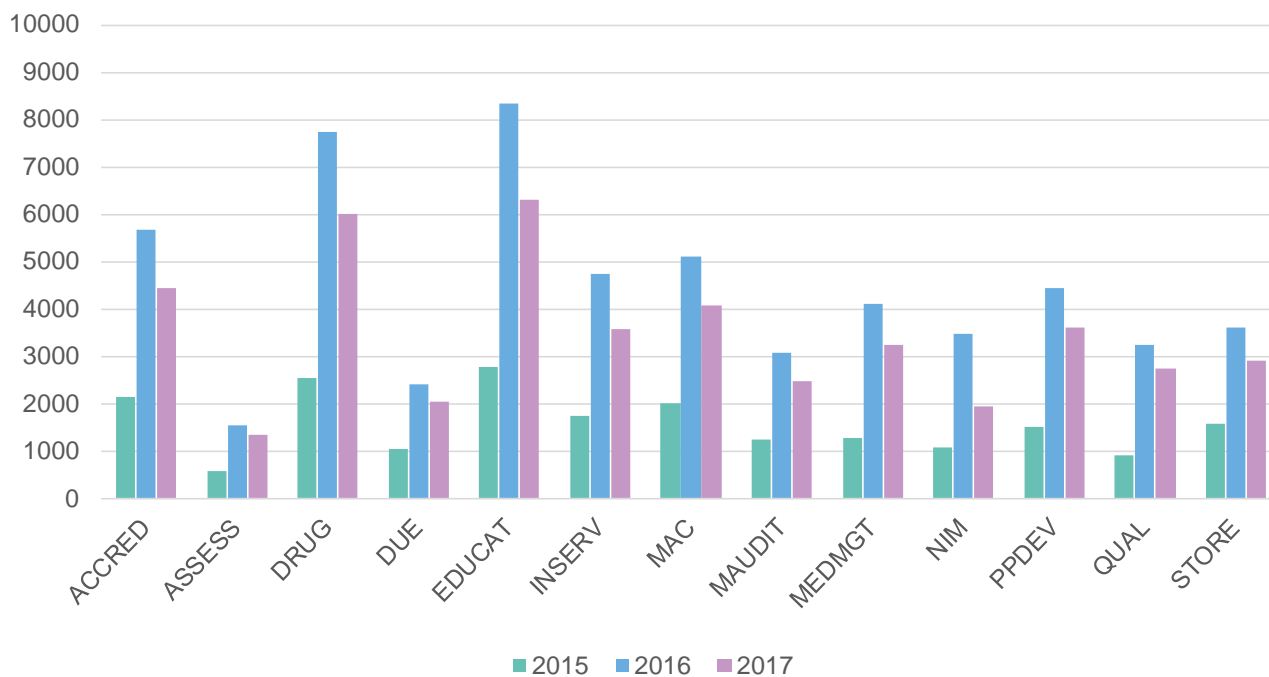
The MAC item aligns to the evidence for integrating pharmaceutical expertise into a multi-disciplinary team, while the INSERV and EDUCAT items, when delivered with another activity, both align to the evidence for pharmacists providing medication management related education services to RACF staff.

The remaining 10 QUM activities were not found to have strong alignment to the literature, unless they are delivered in conjunction with education.

Alignment of the evidence base to the *delivery* of QUM

The delivery of QUM was also found to have some alignment to the evidence base, with education being the most frequently delivered QUM activity from 2015-17 (see chart 5).

Chart 1 – QUM 2015 – 2017 Total Claims Made



Notably, further analysis of the program data revealed that 99.7% of pharmacists who delivered education also provided at least one other intervention (e.g. a newsletter, providing advice to RACF staff members on medication issues, and participating in MAC meetings). This combined delivery of education with a secondary intervention is in line with best practice.

The review also examined the program’s alignment to the evidence base through reviewing participating pharmacists’ and facilities’ views regarding the links between evidence-based practice and QUM. Interview feedback from pharmacists, facilities and other stakeholders showed support for the integration of clinical pharmacy expertise, with interview participants reporting that the program is most beneficial when the pharmacist is an active member of a resident’s care team.

“...a lot of the time they [facility staff] won’t specifically ring you or contact you about questions, but I know myself, I was in a facility yesterday, and they ask you a lot of questions just because you’re there. So the more time that you’re there, the more input you have... I’d like to see more involvement of a pharmacist actually in the facility. I don’t think this can be done remotely” (Pharmacist and Stakeholder)

“...having that pharmacist there on site and having that ability to talk to the pharmacist helps the staff and helps improve their knowledge” (Pharmacist)

There was also an appetite for increasing the alignment between QUM and the evidence base, with 53% of pharmacists surveyed reporting that there should be a stronger link between the funded activities, and the evidence base for pharmaceutical interventions in RACFs.

Overall, the review found that QUM has some alignment to the evidence base, however, in its current form, the program does not necessarily encourage or facilitate evidence-based practice. This is largely due to QUM’s flexible design, including the payment structure which is not aligned to the number and type of activities undertaken.

Notably, this does not mean that pharmacists are failing to deliver evidence-based practice under the program. Rather, the QUM program does not require the delivery of evidence-based interventions for pharmacists to be remunerated, nor does it collect data that enable the monitoring of quality of service.

3.2. PROGRAM REACH

Program reach was evaluated in relation to the geographies and socio-economic status of areas serviced, as well as the size of the participating RACFs (based on number of beds).

The QUM program has a national reach, with a greater presence in NSW, QLD and VIC, and in major cities. This reach broadly aligns with the 2016 ABS Census data on place of usual residence by state. It also broadly aligns with the 2011 ABS Census data on place of usual residence by remoteness, with a slight over representation of Inner Regional areas in the claims data.¹ Details of the geographic reach of QUM can be seen in Chart 2 and Chart 3 below.

Chart 2 – Proportion of RACFs using QUM by state

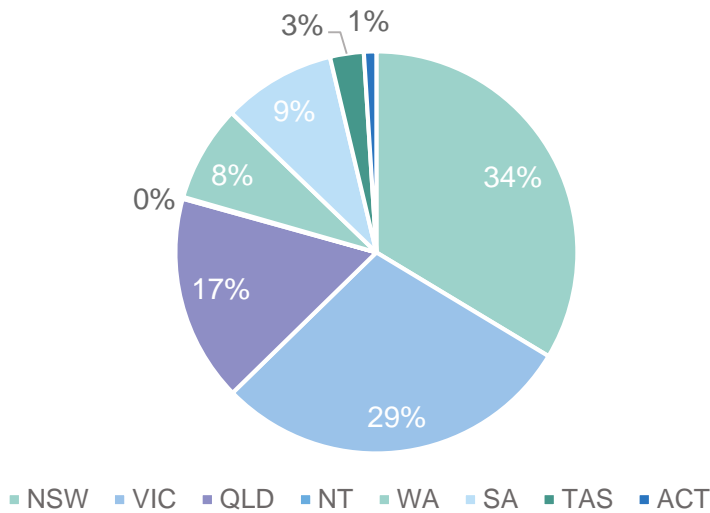
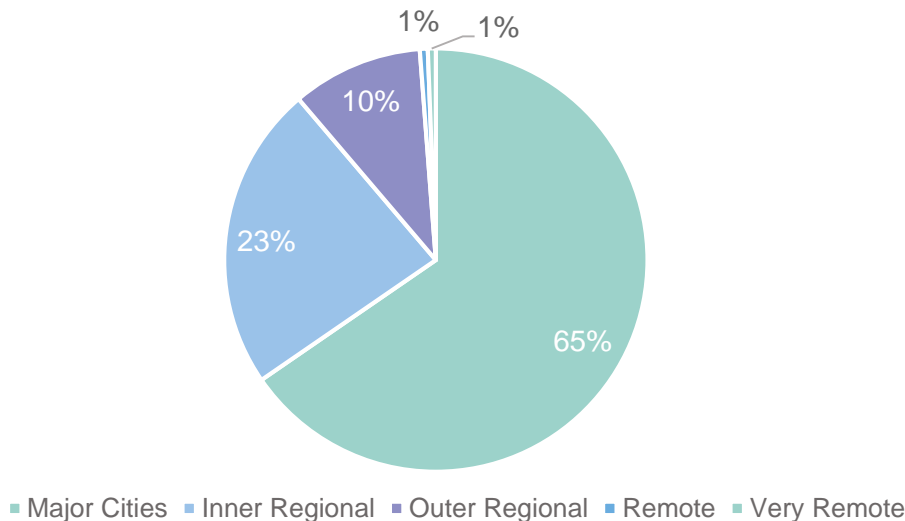


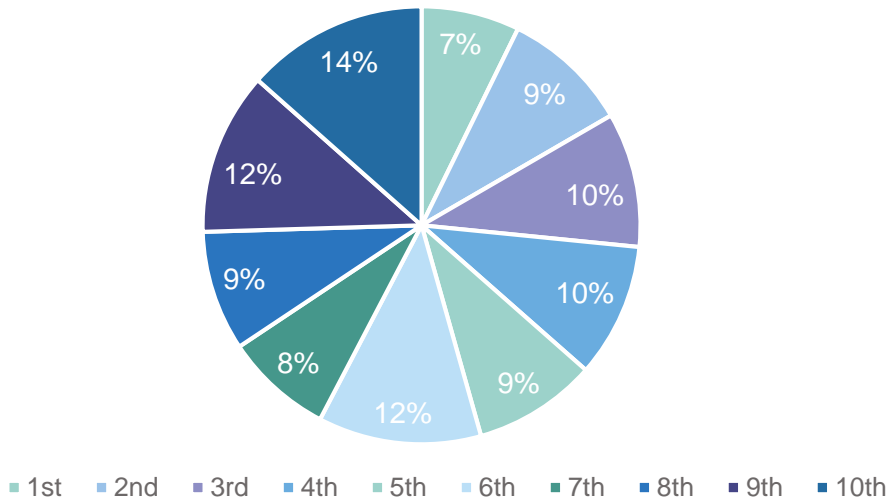
Chart 3 – Proportion of RACFs using QUM by region



The program is being accessed by the full spectrum of socio-economic status, as measured by the Social Economic Index for Areas (SEIFA). The SEIFA deciles were calculated using post-code data for the facilities. SEIFA deciles closer to 1 indicate areas of higher socio-economic status, whilst deciles closer to 10 indicate areas with lower social economic status. Analysis found that QUM is being utilised across all SEIFA deciles, with the 10th decile showing the greatest proportion of facilities. However, it should be noted that variability between deciles was relatively low. Detailed proportions of facilities by SEIFA decile can be seen in Chart 4 below.

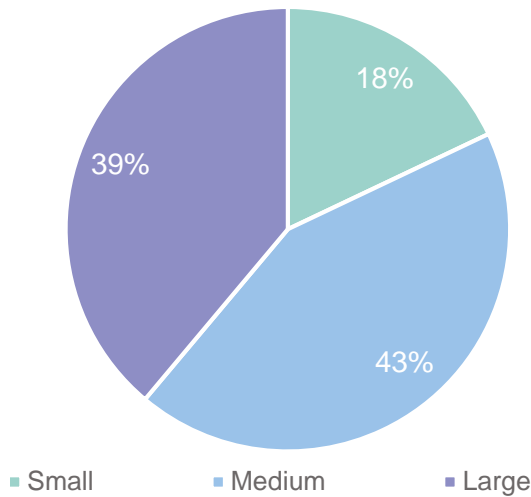
¹ 2016 Census - Counting Persons, Place of Usual Residence, State and 2011 Census - Counting Persons, Place of Usual Residence, Remoteness. At the time of writing, 2016 data for Remoteness had not been released by the ABS.

Chart 4 – Proportion of RACFs using QUM by SEIFA decile



The program is also being utilised by facilities of all sizes. Size of facility was calculated based on number of beds (Small < 40; Medium 41 – 80, Large >80). Both Large and Medium facilities were well represented in the data, with smaller facilities found to account for less than 20% of total facilities. The full data for facility size can be seen in Chart 5.

Chart 5 – Proportion of RACFS using QUM by size



The location of the RACF, as well as the socio-economic status of the area in which it resided, were found to be key drivers of the differences in claiming activities between facilities. Specifically, New South Wales and Victoria were the highest claiming states across all 13 QUM activities, and facilities in the 6th, 9th and 10th SEIFA Decile were the highest claiming deciles across all 13 QUM activities.

Chart 6 – Claiming Activity by State and Claim Type

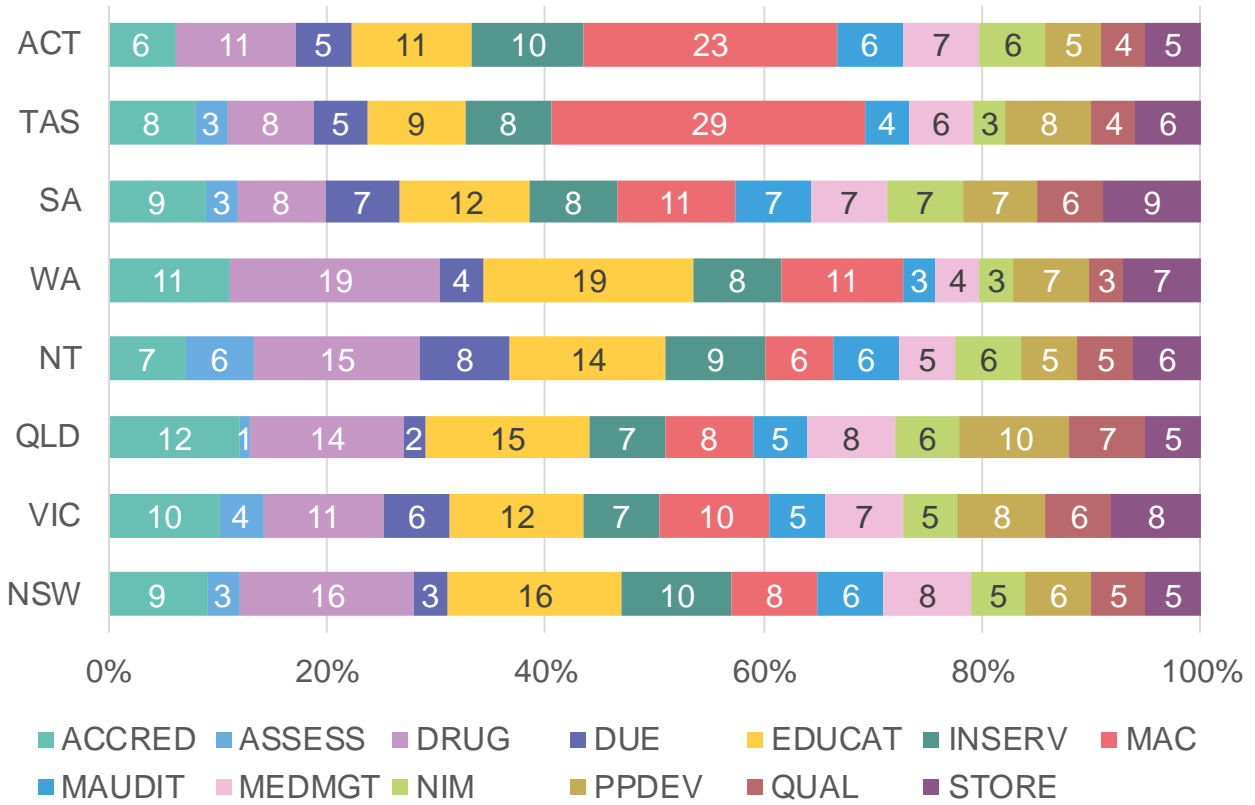
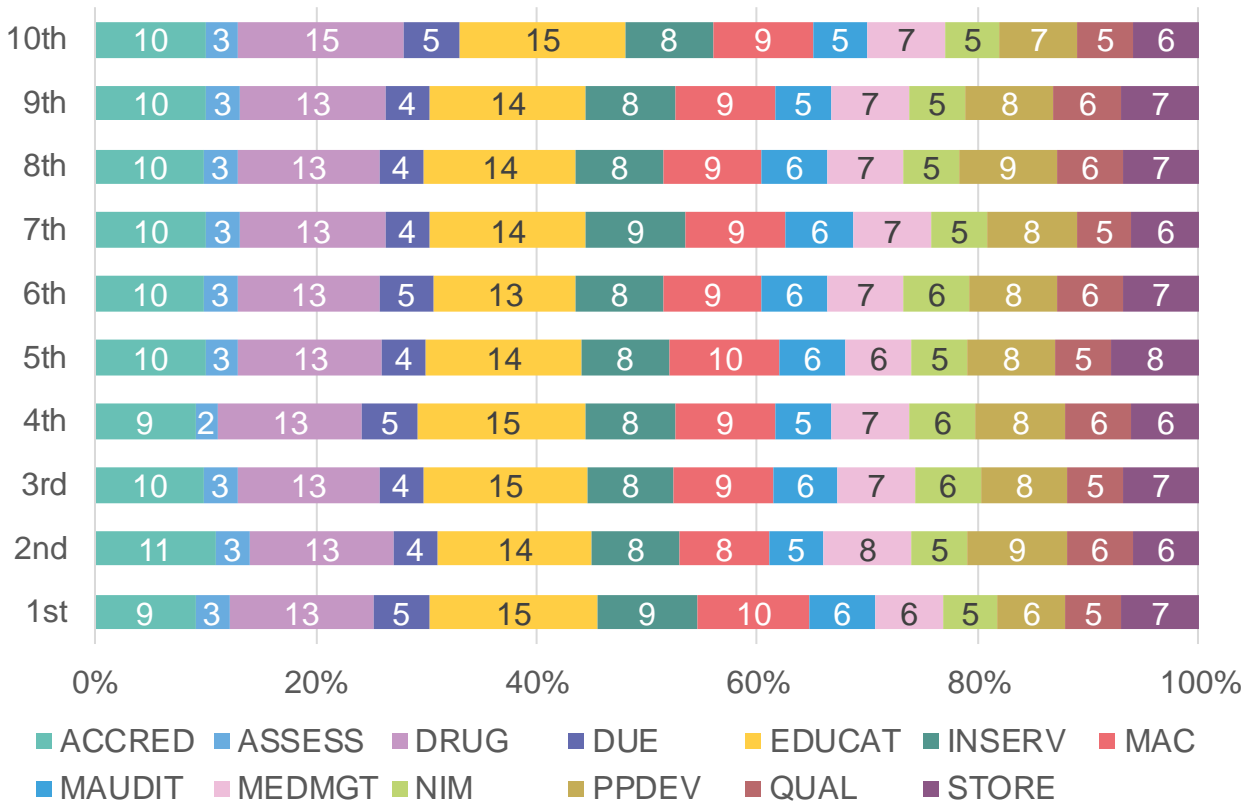


Chart 7 – Claiming Activity by SEIFA and Claim Type



3.3. PROGRAM EFFECTIVENESS AND EFFICIENCY

The effectiveness and efficiency of the QUM program has been assessed at an all of program level, as well as at an individual QUM activity level, based on feedback from participating pharmacists and RACFs.

Summary of feedback received regarding the effectiveness and efficiency of QUM program overall

The pharmacist survey found that around three quarters (71%) of respondents believed that QUM has significantly improved medication management in RACFs. This was further supported by the interviews, with pharmacists commonly reporting that QUM can be effective in driving medication management improvements in RACFs.

Specifically, many pharmacists observed that QUM had led to a range of positive changes in the facilities they worked with including improvements in:

- staff knowledge
- understanding and confidence around medication management
- staff ability to identify and respond to issues
- the facility's medication practices, such as the storage, administration and use of medications.

"...QUM does help to inform them and to upskill and educate. Talking to the very good clinical nurses who run the units that I've worked with forever, there's a major issue they're experiencing in the skill set of the nursing staff that they're able to get in aged care"
(Pharmacist)

"...when it's provided in accordance with the aims of the program, I think it can provide a number of benefits to the aged care facilities, and also can provide prescriber education"
(Pharmacist)

These results are supported by feedback received from RACFs, with over 75% of respondent facilities reporting that QUM has led to improvements in their facility's ability to maintain accreditation standards, medication management policies and practices, and their staff's ability to identify and address medication management issues. The survey responses are supported by feedback from RACF staff who were interviewed for this project.

"I think it's really improved knowledge on a disease, how the medications work for that disease and I guess it gives people a better understanding so you do hear staff talking about it and... I think these education sessions have been quite valuable for increasing their knowledge and their confidence." (RACF)

Respondent RACFs also provided information regarding their satisfaction with the QUM program. It was identified that over 82% of respondent facilities were satisfied with the following aspects of the program:

- skills and expertise of the pharmacist providing QUM
- frequency and level of contact with QUM pharmacist
- alignment of QUM support with their medication management needs
- level of coordination between pharmacists providing RMMR and QUM
- level of coordination between QUM pharmacist and GP
- range and types of support provided by QUM pharmacist.

The positive impact of the QUM program was also reported, with over 70% of respondent RACFs reporting that QUM has improved residents' health outcomes. These outcomes include reduced polypharmacy, reduced use of sedatives and psychotropics, and reduced falls.

RACFs interviewed similarly reported a range of benefits from participating in QUM. These included professional development of staff, improved medication practices and increased ability to identify and respond to medication issues.

“...I think probably one of the biggest positive results we’ve had out of the relationship is the use of psychotropic medications because we have a high level of advanced dementia which neurological disease is part of our profile so one of the huge projects we did apart from pain and the usage of analgesia is the appropriate use of psychotropic medications” (RACF)

“...Broadly speaking I think it makes a difference in regards to raising awareness of poly pharmacy and making sure that those occasions are regularly reviewed... [it] actually gives the staff some guidelines in regards to being proactive and looking at things rather than waiting until the pharmacist comes in and does the two yearly review” (RACF)

When pharmacists were asked about the specific aspects of QUM that are the most effective, the majority of survey respondents reported that all QUM activities were either effective or extremely effective. The three activities reported by respondent pharmacists to be the most needed by RACFs, as well as the most effective, were:

- advice on medication management issues
- in-service sessions for staff
- participation in Medication Advisory Committees (MACs).

These results were partially supported by survey responses from RACFs, with the top three activities reported by RACFs as making the most significant change being drug use evaluation or medication audits, MACs and in-service sessions for staff. Further exploration may be warranted as to why respondent pharmacists did not report drug use evaluations to be as highly effective as RACFs.

Many of the pharmacists and RACFs interviewed similarly identified education and MACs to be the most effective QUM activities. In line with the literature, there was strong support for the role of MACs as a means for facilitating collaboration between a resident’s care team, particularly where the GP and supply pharmacist are involved.

“Our consultant pharmacist is involved in our internal Medication Advisory Committee... assisting us... with making decisions around medication management, developing our knowledge, helping us to minimise medication errors where possible, [and] identifying trends in that area.” (RACF)

“The medication advisory committees are very, very important... identifying errors and identifying the causes of errors is an important component. Looking at quality improvement activities, perhaps we might discuss audits and what the audits have identified and how we’re going to change practice to minimise risk of those errors or findings occurring again, things like that. I think also just getting together in a, in an open way to discuss how to improve care overall.” (RACF)

To further strengthen this collaboration, many pharmacists, RACFs and stakeholders recommended that case conferencing should be added as an additional QUM activity.

The three activities reported by the surveyed pharmacists to be least effective included:

- assessing resident competency to self-administer medication
- development of QUM quality indicators and measures
- assistance in development nurse-initiative medication lists.

This feedback was supported by the RACF survey respondents, who also reported these activities to be low in affecting significant change. RACFs also reported that support with developing policy and procedures and

the provision of advice on medication storage requirements, monitoring and standards were low in effecting significant change.

Barriers and enablers to the program’s effectiveness and efficiency

Notably, some of the pharmacists, stakeholders and RACFs interviewed observed that the flexibility embedded into QUM’s program design, and differences in service delivery, were likely to lead to variation in the program’s effectiveness.

“If I consider the whole program across the country, I’d say it’s partially successful. It’s been done very well in some areas, and in some places... it’s been done very, very well. It’s just a bit of a lack of consistency due to I suppose the variables in delivering the program.” (Stakeholder)

Similarly, many respondents also identified a range of barriers and enablers that contribute to the effectiveness of the program, outlined below.

<p>The level of engagement and time constraints among facility staff</p>	<p><i>“it’s sometimes not a focus from the facilities’ point of view... some of them just get a bit tied up in their own day to day things, so you’ve got to be proactive.” (Pharmacist)</i></p> <p><i>“I think education is not always as useful as it might seem, particularly if you can’t get good numbers of staff to attend” (Pharmacist)</i></p>
<p>Program understanding among facility staff, including awareness of the scope of available supports</p>	<p><i>“the knowledge of the facility manager or the administrator... [about the] QUM service is a barrier, because they need education [on] what they should get and what kind of resources they can... obtain for assistance” (RACF)</i></p> <p><i>“Facilities need to be made aware of the services the QUM program can offer” (Pharmacist)</i></p>
<p>The engagement of other members of a resident’s care team, particularly the involvement of GPs in MACs</p>	<p><i>“We have to encourage collaborative care, we’re too much, we’re still working in our silos” (Pharmacist)</i></p> <p><i>“because you’ve got that GP there [at the MAC], who then can talk to the other GPs, it becomes more powerful than just the facility and the pharmacist saying ‘hey we’ve got this idea that we’d like to do’” (Pharmacist)</i></p>
<p>The level of support provided by the QUM provider, including the amount of time they spend at each facility</p>	<p><i>“I guess what drives activities is the commitment of the pharmacist and their relationships with the facilities, but also to a certain degree the funding.” (Stakeholder)</i></p>
<p>Staff turnover within facilities, and the use of rostered work schedules</p>	<p><i>“QUM seems to be a revolving door. I can go and educate staff on a particular area and they will understand that, but aged care has a very high turnover of staff so it’s a constant thing. there are issues that I’m still talking to people about now that I was talking to them about 5, 10 years ago because it’s new staff.” (Pharmacist)</i></p>

The engagement of GPs in QUM activities, or lack of engagement, was raised by some stakeholders. The majority of RACFs surveyed (80%) reported they were satisfied with the level of coordination between their

QUM pharmacists and GP, and certainly almost all respondents who commented on GP involvement stressed their importance in medication management. As this review was focused on the relationship between RACFs and QUM service providers, the impact of GPs on the quality use of medicines in RACFs was not explicitly explored. It should be noted that while the review team had intended to engage with GPs when speaking with facilities, it proved not to be feasible to interview GPs regarding their views on the role of the pharmacist in providing QUM-funded activities.

Review findings regarding the effectiveness and efficiency of QUM

While anecdotally many pharmacists and RACFs reported that they perceive QUM to be an effective program, assessment of effectiveness for this review was limited by the lack of program performance indicators and data for QUM. Specifically, in the absence of reporting on program outcomes, the review findings are limited to an analysis of the feedback provided by the pharmacists, RACFs and stakeholders who participated in this review.

Several considerations must be taken into account when relying on this feedback to assess the effectiveness of the program. As previously noted, the pharmacist survey and interviews demonstrated a strong positive bias. This result may have been influenced by the fact that respondent pharmacists draw an income from the program, and potentially believed that any negative review results could impact on future QUM funding decisions.

This potential bias is somewhat mitigated by the positive survey and interview feedback provided by respondent RACFs, who would not have experienced this same conflict of interest when contributing to the review. That is, RACFs are unlikely to perceive negative consequences for reporting that QUM is not achieving its objectives and meeting their needs.

In addition to these data limitations, as was highlighted throughout the consultation, the effectiveness of the program is invariably impacted by the fact that QUM has an inherently flexible design. It has been suggested that this was intended to allow pharmacists to respond to local needs. Variances in the delivery of QUM have however meant that the performance of the program differs across facilities and is dependent on the individual pharmacists and RACFs engaged. As one stakeholder observed,

“How well do I feel it functions? Well, I think it’s variable depending on the facility, and the willingness of all the staff in the facility and the visiting health professionals to engage in quality use of medicine.” (Stakeholder)

Throughout the consultations, some stakeholders expressed concerns regarding a perceived lack of consistency in the delivery of QUM. This feedback was largely anecdotal and could not be verified due to the absence of program performance data.

“I have seen and done reports where the facilities appreciate and value the service provider to them, I also hear complaints that they’re not getting anything for their money as well or from the program... so it’s a bit patchy the response... the whole program generally is a bit patchy in outcomes.” (Stakeholder)

For these reasons, it is not possible to accurately determine the effectiveness of the QUM program. However, overall the feedback received throughout this review was positive, with the responses from RACFs indicating that QUM is generally well received, valued by facilities and considered to be beneficial by recipients.

“We, and our GPs, find the support from our pharmacist invaluable. Her advice makes a definite impact and improvement to our resident’s lives” (RACF)

3.4. APPROPRIATENESS

Summary of feedback received regarding the appropriateness of the QUM program

The pharmacist survey found that 71% of pharmacist respondents feel that QUM is meeting or exceeding the objectives in the facilities they are engaged with. Additionally, 70% of pharmacists indicated that they believed the QUM activities they provide adequately meet the medication needs of the facilities that they work with.

The majority of RACFs (84%) who responded to the survey similarly reported that they believe the QUM program aligns with their medication needs. Many also agreed that the program is improving residents' health outcomes (68%), reducing the number and frequency of adverse medication management usage (59%) and, to a slightly lesser extent, reducing the number and frequency of hospital admissions relating to adverse medication events (46%).

On interview, some respondents reported the program is meeting a need in their facilities, and providing a service that would not otherwise readily available to them.

"It's definitely meeting the objectives and it would be a huge deficit if it was pulled out"
(RACF)

"...I think there can be some tweaking of the model to improve it, but... if the funding wasn't there, it really would create a gap which nobody can fulfil really in quality use of medicines and safety in aged care facilities" (Pharmacist)

Opportunities were identified (both in the surveys and interviews) to strengthen the program. Participation in case conferences received the strongest support from surveyed pharmacists as an additional activity that should be added to the QUM program. This was further reflected in the interviews, with some of the RACFs and pharmacists also suggesting that QUM would be improved by including funding for this activity. Case conferencing was viewed as a means for further embedding pharmacists into a resident's care team and building closer working relationships between pharmacists and GPs in particular.

"...if there's something that I would like to see being funded under that QUM, [it] would actually be fund[ing] to attend case conferences. I think there would be huge benefit to that" (Pharmacist)

As part of the assessment of the appropriateness of the program, the review considered the extent to which the QUM component aligns with the RMMR program. Generally, the pharmacists and RACFs interviewed were of the view that the programs complimented each other well, with RMMRs used to identify broader medication management issues that could be addressed by the QUM component. Where the two components were not delivered by the same service provider, strong collaboration and communication between the two providers was viewed to be critical.

"...I think that RMMR program and the QUM program should dovetail really well from what you're seeing doing the RMMRs should then be able to create a focus under the QUM program because you're looking at both sides" (Pharmacist)

Review findings regarding the appropriateness of the QUM program

As with the assessment of QUM's effectiveness and efficiency, in the absence of program performance data, the review's analysis of the appropriateness of the program is limited to the feedback received during the consultations. In considering this feedback, the same caveats need to be placed around the responses provided by pharmacists.

It is also important to note that the RACF survey responses indicated that there may have been some level of confusion among respondents regarding the distinction between: QUM support as a component of RMMR, the RMMR program, as well as other QUM services that may be being delivered at a RACF. It is also not possible to ascertain to what degree the RACF respondents had a strong understanding of the QUM

program, and the scope of activities that are available to facilities. For these reasons, care must be taken in interpreting these responses.

Additionally, the extent to which the program is meeting the needs of the participating RACFs is also influenced by QUM's flexible design and variations in service delivery. The review team is thus unable to quantify the extent to which QUM is achieving its objectives, as this effectiveness can only be judged at the individual service level.

While recommendations were made for strengthening the program, the feedback received does however indicate that RACF staff are of the view that the program is helping them to address their medication management needs. The participating RACFs identified a range of challenges that their facility's face when it comes to medication management, and appeared to value the support they received under the program to improve their practices.

3.5. DATA COLLECTION AND MONITORING

Summary of feedback received regarding data collection and monitoring

This review examined whether the data processes utilised by the QUM program were appropriate, and whether there were opportunities for improvement.

The QUM data system comprises two data sources: the QUM Facility Data which lists all participating RACFs; and the QUM Claims Data which captures the details of all QUM claims made by pharmacists participating in QUM.

The QUM data system was found by the evaluators to have the following strengths:

- Facility data includes location and contact details. This enables detailed analysis of the reach of the program, as well as the opportunity to communicate with participating RACFs.
- Claims data is available at an individual claims level, and includes specification of individual QUM activities delivered within each claim. This level of detail enables comprehensive analysis of the QUM program in terms of activity levels and trends.
- Collection of claims data is integrated with the payment system for pharmacists. This integration supports complete and timely data entry for the program.
- There are no data entry requirements placed on RACFs, which may support their willingness to participate in the program.

Largely in response to concerns regarding consistency in service delivery, in the absence of performance measures, some stakeholders, pharmacists and RACFs reported that they would like to see greater accountability built into the QUM program. This would help to maintain service quality across facilities and improve program outcomes.

"I'd like to see a much more structured audit and review process. And it almost needs a central agency to actually approach the facility, approach the pharmacy and... maybe approach the patients from time to time and then carers to get their assessment of... what they think is happening and is it working... and then try and collect some outcomes data."
(Stakeholder)

"I think people need to be made a little bit more accountable, but I don't know how you do that without making it too onerous at the same time. It needs to be flexible enough to provide service that that particular facility needs." (Pharmacist)

Additionally, a limited number of stakeholders also expressed some concern as to whether the claims data matches the actual services delivered in RACFS each quarter.

"...we want to be able to see and have that visibility that that compliance is going on and people are actually being audited." (Stakeholder)

“...there is a table of sort of activities, but it’s not I guess audited very well as to what is provided. So currently the pharmacists can tick a box when they’re claiming every 3 months, but what actually happens who knows really.” (Stakeholder)

Review findings regarding data collection and monitoring

The review team were unable to verify variations in service delivery, and the extent to which the claims data matches the services delivered each quarter. The findings did, however, suggest that there is an opportunity to strength and improve program accountability through an audit and compliance system. Such a system could include a focus on monitoring claims data for irregularities in claiming, as well as a process of auditing service activities. It was suggested that the facilities receiving QUM support would be well-placed to support this process.

“...That report [an audit] should be transparent to the facility, so that if then you're auditing the pharmacist... that report should be going to the facility... the best check and balance probably for the Department would be the facility them self who they are providing the service for.” (RACF)

Additionally, the review team also identified opportunities for improvements to the current data system. Specifically, the following limitations were identified in the current data sets:

- To analyse the program data, the facility and claims data must be linked. This process is complex and time consuming as there are many discrepancies in the RACF names and facility IDs used in the two data sets.
- The available claims data does not specify which type of pharmacies are participating in the program. This limits the amount of analysis that can be undertaken, particularly around the extent to which independent pharmacists are delivering QUM compared to larger corporate pharmaceutical companies.
- The system is not currently being used to provide benchmarking data to pharmacists and RACFs to help drive the performance of the program.

4. DISCUSSION

4.1. IMPLICATIONS OF KEY FINDINGS

The key findings of this review have several implications for the QUM program, as follows.

Limitations in the alignment of QUM to the evidence base presents risks to residents, RACFs and the Department

In its current form, QUM is not explicitly designed to require evidence-based practice. This poses potential risks to program outcomes. Specifically, without a requirement for evidence-based practice in the program rules, there is the possibility that participating pharmacists will deliver services that are not evidence-based (and by extension, potentially ineffective or detrimental to facility practices and RACF residents).

The flexibility embedded into the program (in which pharmacists, in consultation with RACFs, are responsible for selecting the QUM activities delivered each quarter), also poses a risk of inequitable outcomes being achieved across RACFs, depending on whether the selected QUM activity/ies align with the evidence base or not. That is, assuming quality in service delivery is achieved, residents and RACFs receiving evidence-based interventions (such as pharmacist participation in MACs) are more likely to benefit from the program than those receiving other QUM activities.

A further implication is that the Department is providing significant investment into the provision of activities, not all of which are supported by the available evidence. This may provide an opportunity for the Department to recalibrate its investment to encourage the provision of evidence-based QUM support to ensure the best value for money.

Finally, the program's limited alignment to the evidence base may also present potential risks to the future of the program, if it impacts the ability of the QUM program to deliver on its objectives. The extent to which QUM services are evidence-based and achieving positive outcomes should be subject to ongoing monitoring.

Strong program reach indicates appropriate implementation of QUM, and offers opportunities to increase impact by aligning reach to community needs

The strong reach of QUM indicates that the design and implementation of the program has been appropriate, and fit-for-purpose in relation to geography, full spectrum of SEIFA deciles and RACF size.

Effectiveness and efficiency of the program could not be accurately measured, but is likely to be affected by flexibility in delivery requirements

As previously noted, the flexible nature of QUM means that pharmacists can provide any combination and quantity of activities to RACFs, provided a minimum of one activity is provided per quarter. This is a strength of the program as it allows for pharmacists and RACFs to determine 'localised solutions to localised issues' and tailor the QUM program to meet the specific needs of each RACF.

However, this ability to tailor services is also likely to result in variations in outcomes experienced by RACFs and residents, depending on what services are provided by the pharmacist each quarter. Outcomes are also likely to depend on the extent to which the RACFs engage with the service and their QUM provider, including the role they play in enabling the pharmacist to integrate their practices into those provided by the rest of residents' care team (e.g. nursing staff, GPs, and allied health professionals).

The funding model for QUM also prevents monitoring for quality service delivery, as the same payment is provided to a pharmacist regardless of whether they provide one service or 17. This model also does not encourage more than a very minimum of engagement with a facility, which also does not suggest an evidence-based model, as the evidence suggests that close engagement and relationships within a multi-disciplinary team are more likely to lead to improved quality use of medicines.

Similar to the discussion regarding evidence-based practice above, these variations in outcomes do not necessarily mean that RACFs and residents will experience negative outcomes as a result of the program. However, it does mean that the program's design inherently supports differential access to levels of pharmaceutical support, and by extension, positive outcomes. That is to say, RACFs and residents in receipt of services from pharmacists who choose to supply minimal support are less likely to experience positive outcomes than those in receipt of comprehensive service delivery from pharmacists.

The current data system is adequate, but there are opportunities for improvement

The structure of the current QUM data system as two separate data files requires timely and complex data matching in order to review the QUM program (as completed for this review). This process is likely to require a high level of resourcing by the Department for any future reviews and evaluations. Improvements could be made to the data system to better align the data files and avoid the time and costs involved with the current matching processes.

Additionally, whilst the program data currently available is extensive, it does not include any information relating to the program's effectiveness, or outcomes. The inclusion of appropriate outcome measurements in the QUM data system would enable the Department to evaluate the ongoing effectiveness and impact of the program. This information could also be utilised to inform continuous improvement activities for the QUM program. Any performance benchmarking would need to be linked to agreed KPIs.

4.2. FUTURE CONSIDERATIONS

Having considered the evidence, the review team proposes three areas for consideration to strengthen the effectiveness of the QUM Program in the future.

1. Increase alignment of the QUM program to the evidence base

A key review question regarded the extent to which QUM is aligned to the evidence base. The review team considers that although the program does not restrict pharmacists from providing evidence-based practice, it also does not provide incentives to encourage such practice.

The QUM program could be improved by strengthening the alignment of the program's design and delivery to evidence-based practice. Potentially, this could be achieved by changes to the requirements of the program, such as the two suggested below.

- Requiring participating pharmacists to increase their interdisciplinary engagement with RACF staff and GPs. As noted above, the evidence suggests that including pharmacists within the health care team has improved medication management. What this might look like in practice could look different for different settings; again, this is one of the strengths and challenges of the program's current structure but could be resolved by establishing a KPI for participation within the RACF.
- Establishing a new requirement so that educational activities will only be eligible for remuneration when provided in conjunction with a secondary QUM activity would also enhance good practice in terms of ensuring that education is translated into practice.

For these new requirements to be successful, there may also be a need to amend the financial incentives for good practice, for instance by:

- providing funding for activities which promote the integration of pharmacists into care teams, such as their participation in case conferences and clinical governance meetings. One of the major limitations to the promotion of good practice is the provision of one payment regardless of how many activities are conducted by the pharmacist. This payment structure could be re-structured to have a sliding scale with reward for greater engagement with RACFs, and with greater reward for those activities that are clearly promoted in the literature.
- introducing a dual accountability system whereby both the participating pharmacist and the RACF are required to report and provide evidence of integrated clinical pharmaceutical services in order for claims to be eligible for remuneration. This could be done through an automated claims system which required the RACF to endorse a claim before it can be paid. Such a system would also safeguard against fraudulent claims (noting that this review has not identified evidence of such fraudulent claims taking place).

Finally, we suggest that it may be most valuable to reassess the 13 activities currently funded under QUM to determine whether funding fewer, evidence-based activities, might promote better outcomes.

2. Implement a performance measurement system to accurately assess the effectiveness of QUM

The QUM program currently collects data on activity, but does not capture data on program outputs or outcomes. Because of this, the effectiveness of QUM cannot be accurately quantified. To increase the ability to measure the effectiveness of the QUM program, we suggest that a performance measurement system could be developed and implemented which would allow for the collection of data on agreed performance indicators.

A performance system based on performance indicators would be relatively straightforward to design and implement, and there may be potential to design an outcomes-based performance system. Outcomes reporting would be a complex task, as some outcomes (e.g. improved resident health or staff medication management capacity) could not be attributed solely to the input of a pharmacist, and would be affected by many factors outside of the provision of QUM. To overcome these challenges, a blended model of both process and outcome indicators may be appropriate for QUM.

In conjunction with a performance measurement system, it would be beneficial to adopt an activity and/or outcomes-based funding model; this would also require the setting of appropriate activity and outcomes-based key performance indicators (KPIs) for pharmacists. The KPIs would then need to be mapped to a financially viable remuneration schedule. There may also be a need to incorporate the complexities of the RACFs serviced into such a funding model (e.g. proportion and number of residents who require high or complex care). The evidence from this review suggests that substantial differences in effort are required depending on the levels of complex care provided by the RACF.

The design and implementation of a new funding model is likely to require expert advice; however, such a model may allow the Department to influence the quality and level of care provided under the program. At the very least, it would increase the level of accountability in being able to accurately measure and audit the activities funded by the Department, and their impact within the residential aged care setting.

3. Improve the existing data system to enable timely and cost-effective analysis and reporting

The current QUM data system is collecting detailed data which allows for reasonably detailed analysis of the program activities; however, the two key data sources for the program (RACF details, and individual claims data) are not linked or consolidated. Having two separate data sources requires that a complex and time-consuming data matching process between the two data sets is required before the program data can be analysed. The manual data matching process is a barrier to ongoing program evaluation, and makes it difficult to engage in regular monitoring and audit.

Moving forward, we recommend that the Department link these two data sources or consolidate them into one database to enable timely and efficient program data analysis and reporting. Once this is done, we suggest that a regular monitoring process be established which will allow for regular monitoring of claims data to assess claims patterns and changes over time. It will also allow for assessment of changes in the number and type of QUM providers over time, which may identify changes in patterns of service provision.

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APPENDIX A ANALYSIS DETAILS

LITERATURE REVIEW ANALYSIS DETAILS (1 OF 2)

LITERATURE REVIEW DATA SOURCE DETAILS

Data Overview

A narrative literature review was undertaken in August - September 2017. The literature review aimed to address two key research questions:

1. What is the evidence base for providing QUM support by pharmacists to residential aged care facilities?
2. What activities are identified as best practice?

Databases

The databases used to identify relevant literature included, but were not limited to:

- Academic Search Complete
- SocINDEX with Full Text
- Health Policy Reference Centre
- Google Scholar
- Social Work Reference Centre.

Criteria for literature selection

Literature was assessed against five selection criteria, outlined below.

Particular emphasis was placed on studies that measured the impact of pharmacist interventions in RACFs in a rigorous way including, but not limited to, randomised controlled trials (RCTs).

Criterion	Inclusion Details
Focus	Services provided by pharmacists to aged care residential facilities, including, but not limited to, medication advisory activities, education activities and continuous improvement activities
Language	Published in, or translated into, English
Time-span	Material published from 2000 to 2017
Nature of publication	Emphasis on peer-reviewed publications, but also other program and service documentation that may be available
Jurisdiction	Australia and other OECD countries

LITERATURE REVIEW ANALYSIS DETAILS (2 OF 2)

KEY INSIGHTS OF LITERATURE REVIEW

Low or mixed quality of available research

Although there is a substantial literature on pharmacy interventions in residential aged care facilities, researchers point to the current evidence being of 'low' or 'very low' quality, leading to, at best, 'mixed' evidence concerning the impact of specific interventions. A key reason for the low quality of the evidence is difficulty in establishing stronger levels of causality between a specific intervention and a specific outcome, primarily due to the multi-faceted heterogeneous nature of the role of pharmacists, and the diversity of outcome measures applied in the studies.

Strong evidence for team integration of clinical pharmacy expertise

The intervention that enjoys the strongest support in the literature is active integration of clinical pharmacy expertise within a multi-disciplinary team. Research suggests that prescribers may be more responsive to changes recommended by a multi-disciplinary team, and that such teams can make use of mechanisms such as medication reviews, case conferences and systemic drug use evaluations as part of a holistic, embedded approach to improving prescribing.

In keeping with the active, team-embedded role for pharmacists supported in the literature, studies point to this role being viewed as multi-faceted and needing to incorporate an organisational and structural character. This suggests that QUM interventions should be designed as part of an overall managerial approach to optimising care for residents, and that it should also include a focus on the use of computerised clinical decision support systems.

Pharmacy education for treating teams is also an effective intervention

There is evidence for the efficacy of educational interventions such as educational outreach and problem-based education sessions with nurses, conducted in tandem with at least one other intervention, such as providing information, participating in the elaboration of guidelines and protocols, and participation in health promotion programs.

Future interventions should leverage the multi-disciplinary strength of pharmacists

Looking towards the future, the multi-faceted role of pharmacists, and the diversity of outcome measures applied in studies, could be viewed as a strength. Rather than examining discrete interventions, emphasis could be given to designing, implementing and evaluating models of practice that successfully integrate the medication advisory, education and continuous improvement activities that are at the core of QUM services, as well as integrating pharmacist-led medication reviews as part of the overall intervention package.

In particular, studies should be designed so as to more accurately measure multidisciplinary collaboration; to explicitly take into account contextual factors, for example through adoption of case study research designs; and to focus on outcomes that are of most concern to residents and their family members. These may include a reduction in hospital admissions; fewer medication-related problems; limits to the number and the cost of drugs that are necessary to remain healthy; improved overall quality of life; and reduced mortality.

PHARMACIST SURVEY ANALYSIS DETAILS (1 OF 2)

PHARMACIST SURVEY DATA SOURCE DETAILS

Data Overview

Urbis developed and issued a survey to pharmacists across Australia who have participated in QUM. The survey required respondents to provide feedback on the effectiveness of QUM and potential future improvements for the program.

Valid Data Utilised

There were 349 responses to the survey. Data cleaning processes undertaken resulted in valid data for **343 survey responses** from pharmacists. Of these, 199 respondents completed the full survey (58%), while 144 respondents partly completed the survey (42%).

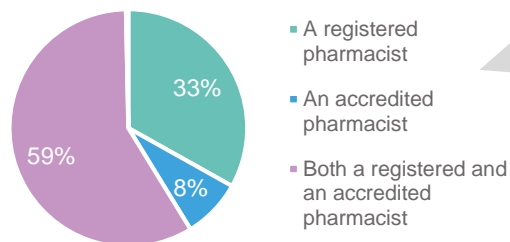
Data Limitations

Responses should also be considered in light of the number of responses to each question, as not every responding pharmacist provided an answer to every question.

Sample Characteristics

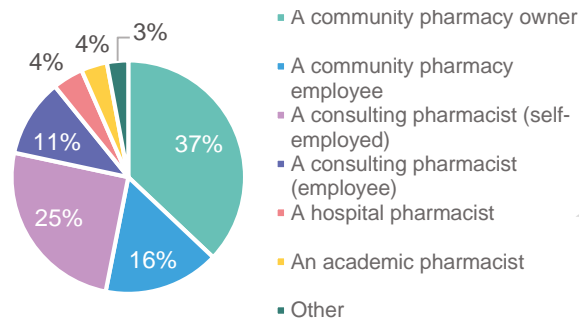
The following charts outline key characteristics of the sample.

Proportion of Pharmacists by Qualification (n=308)



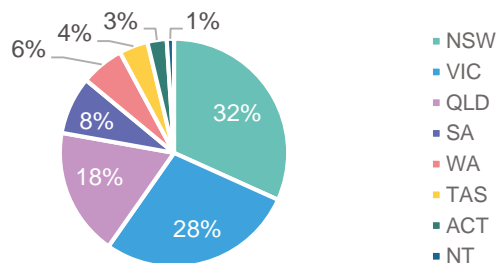
Nearly 60% of all participating pharmacists are both registered and accredited

Proportion of Pharmacists by Employment (n=308)



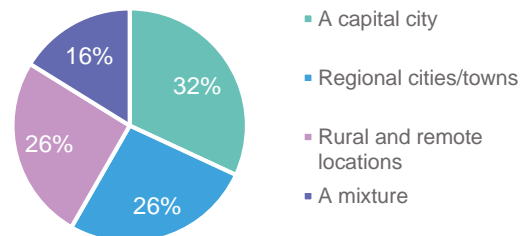
Around half of participating pharmacists are either employed by or own a community pharmacy

Proportion of Pharmacists by State (n=296)



Pharmacists in New South Wales, Victoria and Queensland collectively made up 78% of all participating pharmacists

Proportion of Pharmacists by Region (n=296)



All regions were well represented (capital cities, regional towns, rural and remote locations)

PHARMACIST SURVEY ANALYSIS DETAILS (2 OF 2)

PHARMACIST SURVEY ANALYSIS RESULTS

The survey found that **48% of pharmacist respondents feel that QUM is meeting or exceeding the objectives** of the facilities they are engaged with. The **majority of respondents** reported that all **QUM activities were either effective or extremely effective**.

Overall the respondents reported that **the QUM program is needed**, that the **RACFs are receptive to the program**, and that the **work conducted by the respondents meets the needs of the facilities supported**.

MOST NEEDED AND EFFECTIVE ACTIVITIES



Conducting in-services sessions for staff on medication therapy/disease state management/ prescribing trend issues



Providing advice on medication management issues



Participation in Medication Advisory Committees

LEAST EFFECTIVE ACTIVITIES



Assessment of residents' medication competency



Development of QUM quality indicators and measures



Assistance in developing nurse-initiated medication lists

SUGGESTED IMPROVEMENTS THROUGH ADDITIONAL ACTIVITIES



Care and case conferencing (including with General Practitioners)



Travel to rural and remote locations



Follow up of medication review and QUM recommendations



Increased frequency of medication reviews



Attendance at clinical governance meetings (not just MACs)



Provision of annual mandatory medication competency training for nurses and carers



Provision of benchmarking analysis in relation to Drug Use Evaluation audits and drug usage trends



Provision of evaluation and outcomes data to client facility management relating to QUM and RMMR activities

PHARMACIST SURVEY RESULTS (1 OF 6)

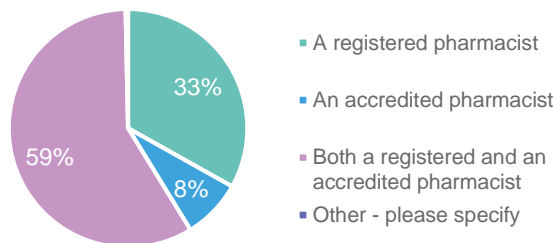
PHARMACIST SURVEY ANALYSIS RESULTS

Overall, there were 349 responses to the survey.

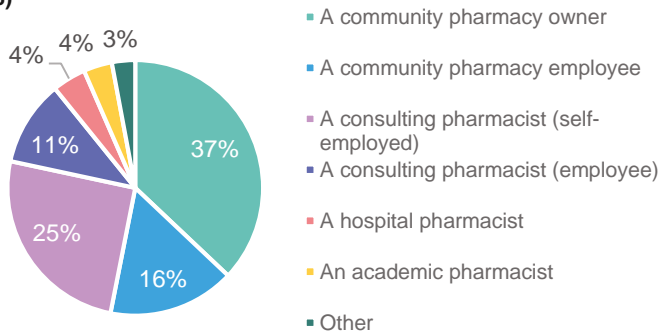
Data cleaning processes undertaken resulted in valid data for **343 survey responses** from pharmacists. Of these, 199 respondents completed the full survey (58%), while 144 respondents partly completed the survey (42%).

A SUMMARY OF THE SURVEY RESULTS FOLLOWS:

Question 1: Which of the following best describes you? (n=308)



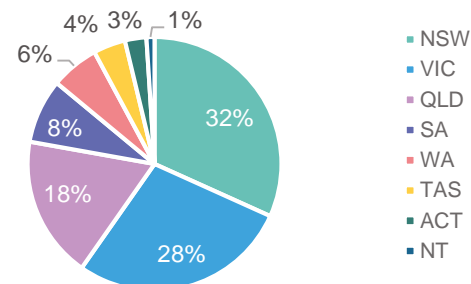
Question 2: Which of the following best describes your current position? (n=308)



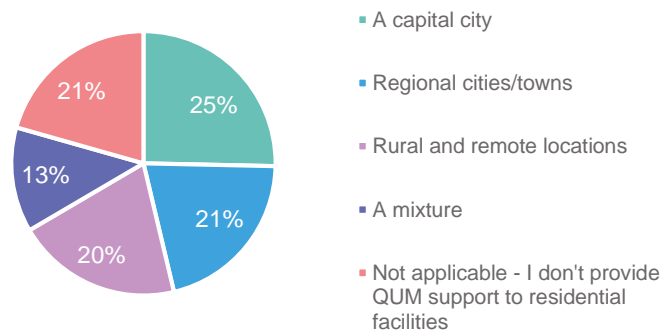
Question 3: Does your community pharmacy supply medicine to the residents in the RACFs and/or MPSs where you provide RMMR QUM support? (n=162) (n.b. question 3 relates to question 2)

- Just over half (51%) the community pharmacy owners and employees reported that their pharmacy supplied medication to the residents in the facilities they provided RMMR QUM support to.

Question 4: In which State/Territory do you do most of your work? (n=296)



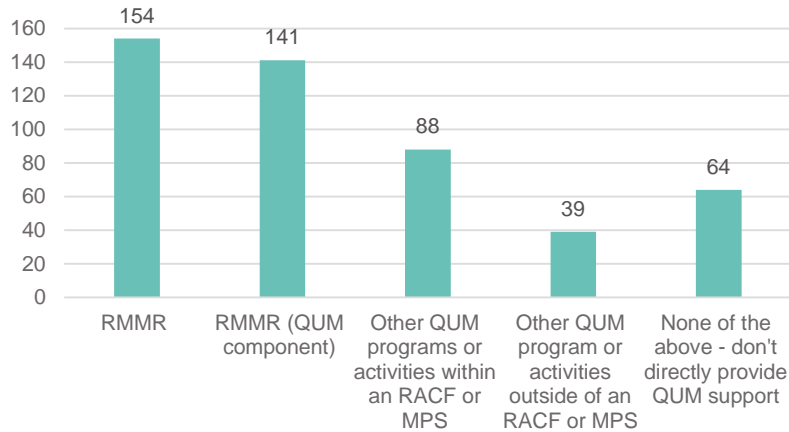
Question 5: Are the residential facilities you provide QUM support to mainly located in? (n=296)



PHARMACIST SURVEY RESULTS (2 OF 6)

PHARMACIST SURVEY ANALYSIS RESULTS

Question 6: Which of the following QUM programs and activities are you currently engaged in?

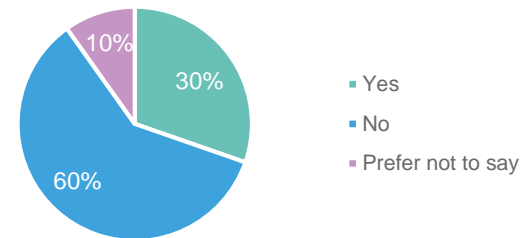


Question 7: How many RACFs or MPSs do you currently support under the QUM component of RMMR? (n=141) (n.b. question 7 relates to question 6)

- The **top four** number of facilities respondent pharmacists supported, included:

Number of facilities	Percentage
1	21%
2	16%
3	9%
30	6%

Question 8: Have you been a provider of QUM support under the RMMR in the past? (n=122) (n.b. question 8 relates to question 6)



Question 9: What are the main reasons you are no longer providing this support? (n=37) (n.b. question 9 relates to question 8)

- Reasons for no longer providing QUM services included:

New employment

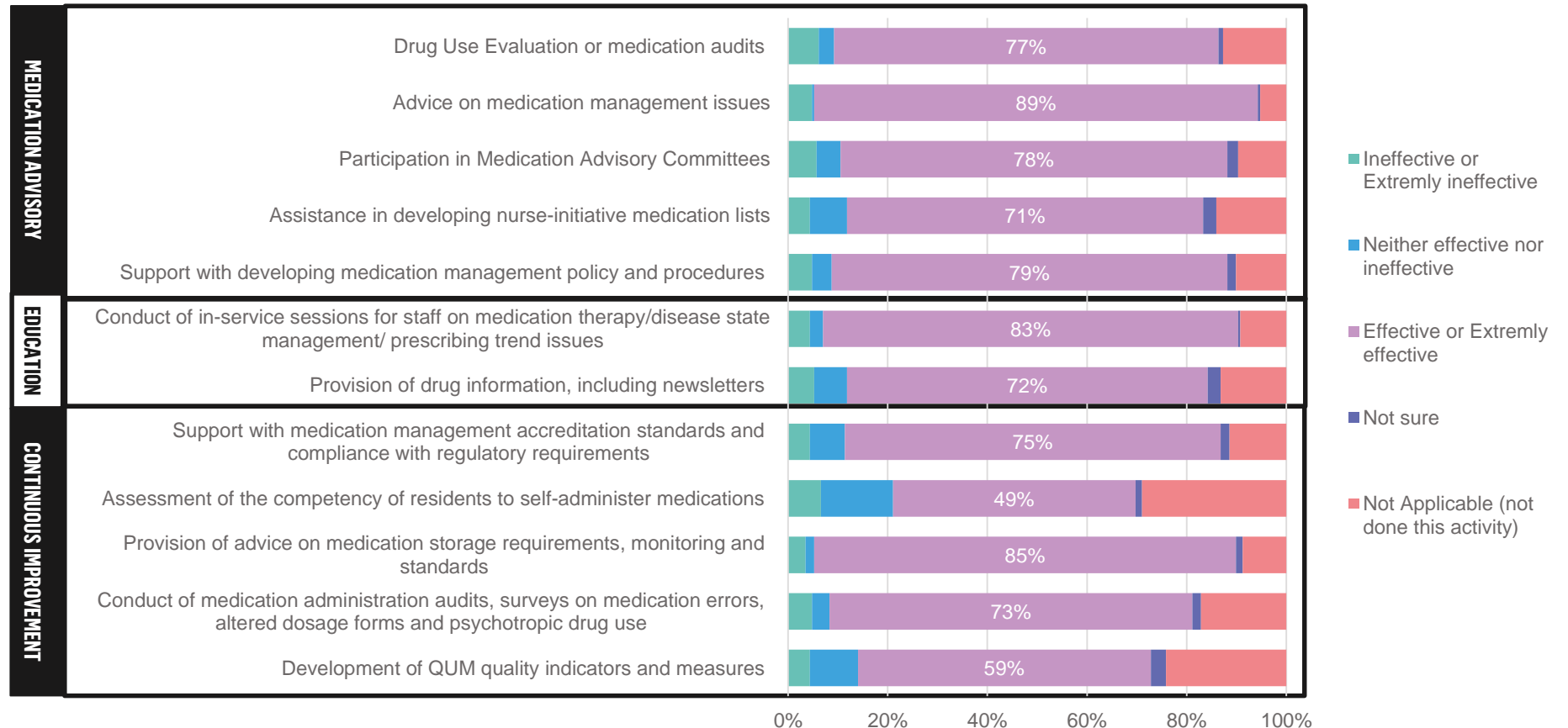
Contract being awarded to another provider

Belief that pharmacists didn't receive enough funding to deliver the program i.e. it was not cost-effective for them to participate

PHARMACIST SURVEY RESULTS (3 OF 6)

PHARMACIST SURVEY ANALYSIS RESULTS

Questions 10 - 12: Based on your experience, please indicate the extent to which you think the following QUM activities are generally effective in improving medication management in the RACFs and MPSs you work with. (n=228)



PHARMACIST SURVEY RESULTS (4 OF 6)

PHARMACIST SURVEY ANALYSIS RESULTS

Question 13: In your experience, across the facilities you support, which three QUM activities are most needed?

Activity	Number of responses
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	119
Participation in Medication Advisory Committees	117
Advice on medication management issues	104
Drug Use Evaluation or medication audits	60
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	57
Support with developing medication management policy and procedures	42
Provision of advice on medication storage requirements, monitoring and standards	34
Provision of drug information, including newsletters	29
Support with medication management accreditation standards and compliance with regulatory requirements	29
Development of QUM quality indicators and measures	18
Assistance in developing nurse -initiative medication lists	13
Assessment of the competency of residents to self-administer medications	10

Question 14: In your experience, across the facilities you support, which three QUM activities are most effective in improving medication management in facilities?

Activity	Number of responses
Advice on medication management issues	111
Participation in Medication Advisory Committees	107
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	104
Drug Use Evaluation or medication audits	62
Support with developing medication management policy and procedures	57
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	56
Provision of advice on medication storage requirements, monitoring and standards	36
Provision of drug information, including newsletters	32
Support with medication management accreditation standards and compliance with regulatory requirements	26
Assistance in developing nurse -initiative medication lists	15
Development of QUM quality indicators and measures	15
Assessment of the competency of residents to self-administer medications	11

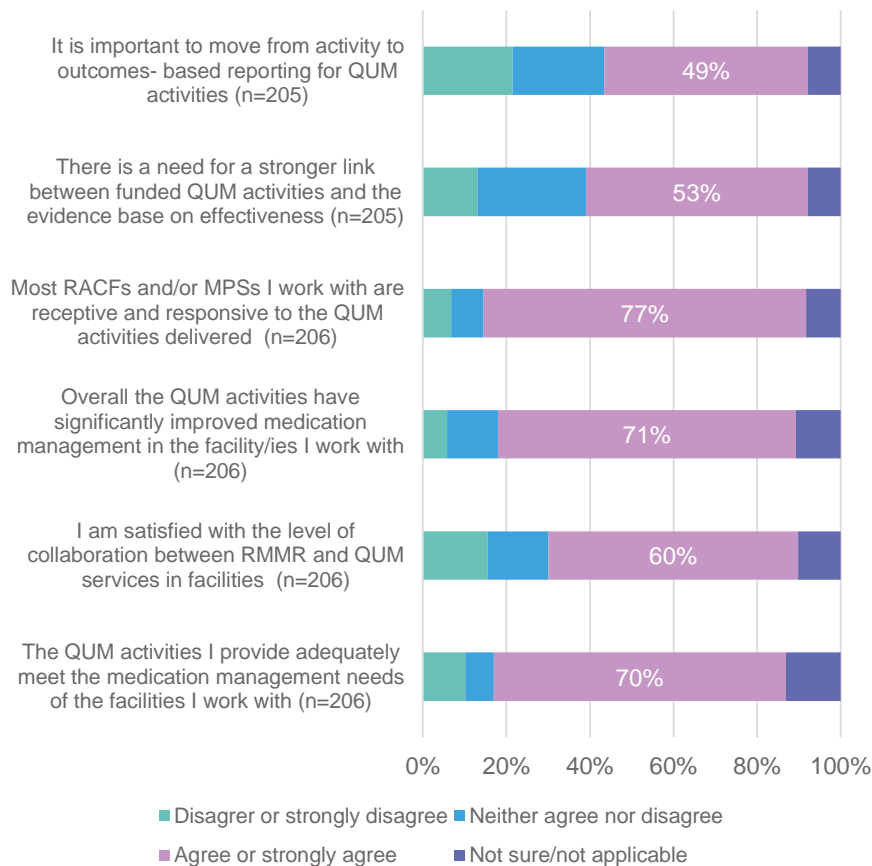
Question 15: In your experience, across the facilities you support, which, if any, QUM activities are largely ineffective?

Activity	Number of responses
None of the above	105
Assessment of the competency of residents to self-administer medications	53
Development of QUM quality indicators and measures	35
Assistance in developing nurse -initiative medication lists	27
Drug Use Evaluation or medication audits	22
Provision of drug information, including newsletters	22
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	20
Support with medication management accreditation standards and compliance with regulatory requirements	17
Participation in Medication Advisory Committees	15
Support with developing medication management policy and procedures	14
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	9
Provision of advice on medication storage requirements, monitoring and standards	6
Advice on medication management issues	4

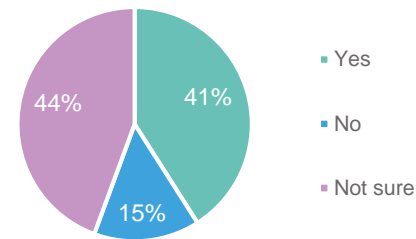
PHARMACIST SURVEY RESULTS (5 OF 6)

PHARMACIST SURVEY ANALYSIS RESULTS

Question 16: To what extent do you agree or disagree with each of the following statements about QUM? (n=205-206)



Question 17: Do you think there are any activities under QUM that are not funded, but should be? (n=205)



Question 18: Which ones and why? (n=81) (n.b. question 18 relates to question 17)

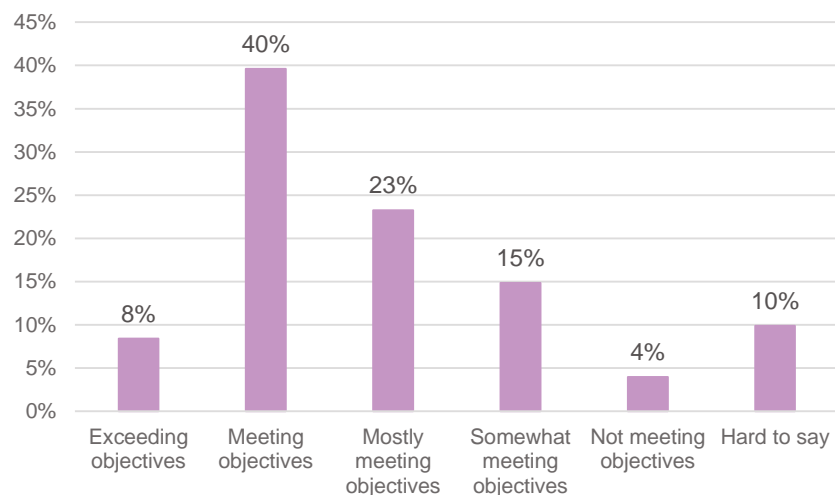
- Recommendations for additional activities that should be funded include:

- Care and case conferencing (including with General Practitioners)
- Travel to rural and remote locations
- Follow up of medication review and QUM recommendations
- Increased frequency of medication reviews
- Attendance at clinical governance meetings (not just MACs)

PHARMACIST SURVEY RESULTS (6 OF 6)

PHARMACIST SURVEY ANALYSIS RESULTS

Question 19: Overall, to what extent do you think the current QUM program is meeting its objectives in the facilities you are working with? (n=204)



Question 20: Based on your experience, what key changes to the current QUM program are required to promote best practice in RACFs and MPSs? (n=39)

- Recommended changes for achieving best practice in the QUM Program included:

Increased remuneration for QUM service providers

Restructuring of QUM remuneration to better reflect pharmacist effort, including support to different size facilities and outcomes delivered

Quality assurance measures, including review and audit of the activities delivered by pharmacists

Greater emphasis on measuring the effectiveness of the QUM program, building evidence base

Address barriers to participation at the facility level e.g. time constraints, willingness to take part and high staff turnover

Greater collaboration between pharmacists and a resident's primary care team, particularly General Practitioners

Greater collaboration between pharmacists and facility staff, including increased time at facilities and consultation regarding each facility's QUM support needs

QUM PROGRAM DATA ANALYSIS DETAILS (1 OF 3)

QUM CLAIMS DATA SOURCE DETAILS

Data Overview

The following QUM Claims data was available for analysis:

1. details of Residential Aged Care Facilities (RACFs) and Multi-Purpose Services (MPS') which have participated in QUM between 2015 and 2017, and
2. QUM claiming activity for the above RACFs and MPS' between 2015 and 2017.

Valid Data Utilised

The data cleaning processes undertaken resulted in valid data for:

- 2,795 facilities
- 19,145 claims

Sample Characteristics

The following charts outline key characteristics of the sample.

QUM Claim Data Details

The QUM Claim Data in this report utilises abbreviations to represent QUM funded activities. The following table shows the full details of all abbreviations used in the reporting of QUM Activities.

Abbreviation	Description
ACCRED	Assist the facility to meet and maintain medication management accreditation standards and to comply with regulatory requirements
ASSESS	Assess competency of residents to self-administer medications
DRUG	Provide drug information for medical practitioners and ACF staff including provision of newsletters
DUE	Participate in drug usage evaluation
EDCUCAT	Advise members of the health care team on a range of issues, including storage, administration, dose forms, compatibilities, therapeutic and adverse effects and compliance
INSERV	Provide in service session for all nursing staff and carers or residents on medication therapy, disease state management or prescribing trend issues
MAC	Participate in Medication Advisory Committee
MAUDIT	Conduct medication administration audits and surveys on medication errors, altered dosages forms and psychotropic drug use
MEDMGT	Assist in the development of policies and procedures to address medication management concerns (e.g. sleep, bowel or pain management or infection control)
NIM	Assist in the development of nurse initiated medication lists
PPDEV	Participate in policy and procedure development activities
QUAL	Assist with the development of, and report on, quality indicators and other quality measures
STORE	Advise on and assess medication storage requirements, monitoring and standards, including storage and labelling, expired stock, security of medication storage areas and safe disposal of unwanted medications

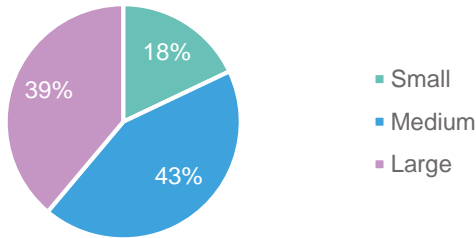
QUM PROGRAM DATA ANALYSIS DETAILS (2 OF 3)

QUM CLAIMS DATA SOURCE DETAILS

Sample Characteristics

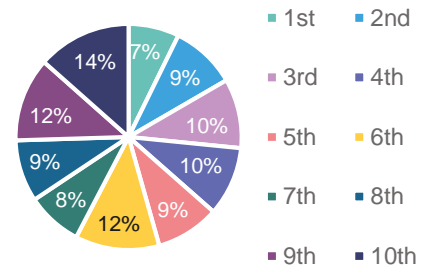
The following charts outline key characteristics of the sample. Please note that size of facility was calculated based on number of beds (Small < 40; Medium 41 – 80, Large >80). Further, the Social Economic Index for Areas (SEIFA) deciles was calculated using post-code data for the facilities. SEIFA deciles closer to 1 indicate areas of higher socio-economic status, whilst deciles closer to 10 indicate areas with lower social economic status.

Proportion of RACFs using QUM by Size



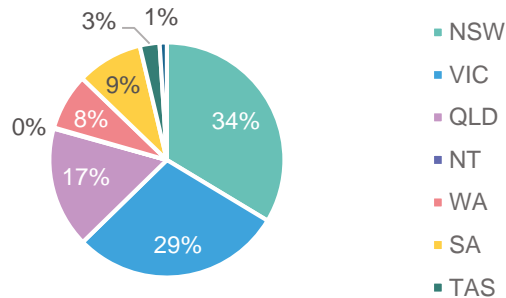
Both Large and Medium facilities were well represented in the data, with smaller facilities found to account for less than 20% of total facilities

Proportion of Pharmacists by SEIFA



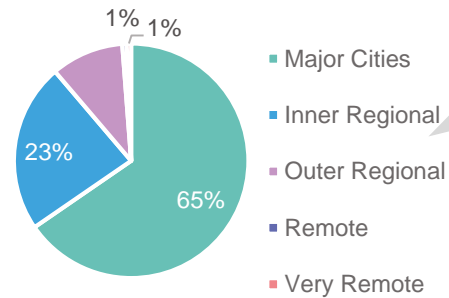
QUM is being utilised across all SEIFA deciles, with the 10th decile showing the greatest proportion of facilities

Proportion of RACFs using QUM by State



RACFs in New South Wales, Victoria and Queensland collectively made up 79% of all RACF facilities who engaged with QUM between 2015 and 2017

Proportion of Pharmacists by Region



RACFs in Major Cities were strongly represented, accounting for 65% of all participating facilities

QUM PROGRAM DATA ANALYSIS DETAILS (3 OF 3)

QUM CLAIMS DATA ANALYSIS RESULTS

Analysis Details

The program data of claims activity. Data for 19,145 claims were analysed to identify:

- Factors which influence QUM claiming levels and types across facilities; and
- Trends in QUM activities claimed for

The claims data were first analysed to identify the frequency of total claims between 2015 to 2017, across the 13 QUM activities. This analysis found that EDUCAT, DRUG and ACCRED were the most frequently claimed activities cumulatively over the three years. It was also found that QUM claiming activity was highest in 2016.

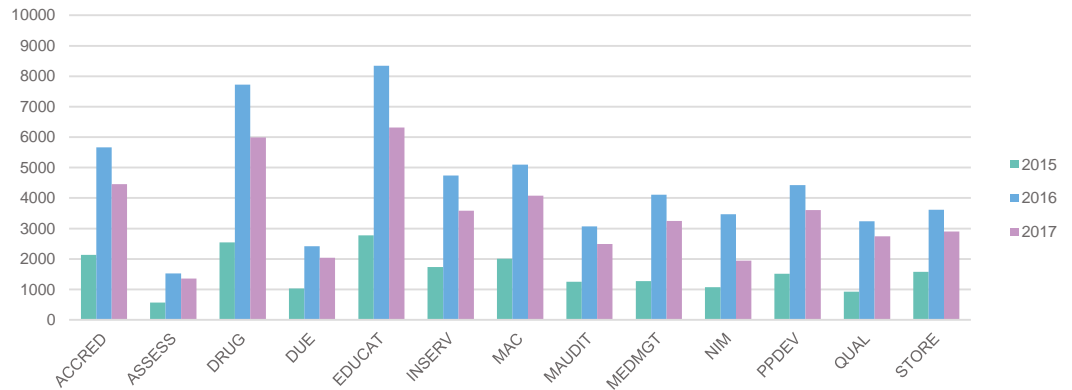
Analysis of variance was then conducted to identify what factors accounted for differences in total claims made between facilities. This analysis identified that state ($F=114.52, p<.01$) and SEIFA ($F=8.28, p<.01$) accounted for a significant proportion of the variance found in total claims made between facilities. Region and size of facility were not found to account for a significant proportion of the variance in total claims made between facilities.

Further analysis was also undertaken to review the influence of state and SEIFA on claim types. It was found that:

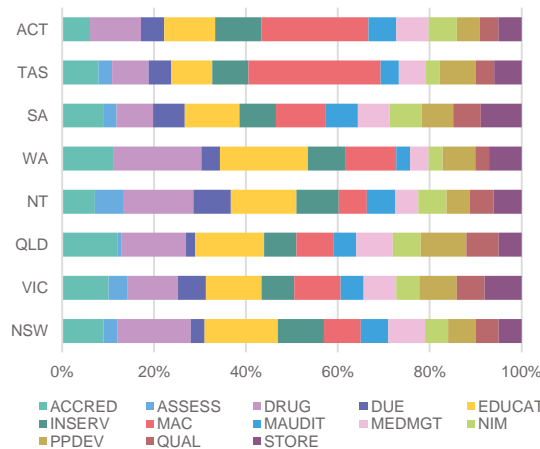
- Facilities in New South Wales and Victoria were the highest claiming states across all 13 QUM activities; and
- Facilities in the 6th, 9th and 10th SEIFA Decile were the highest claiming deciles across all 13 QUM activities

Results of this analysis can be seen in charts on the right.

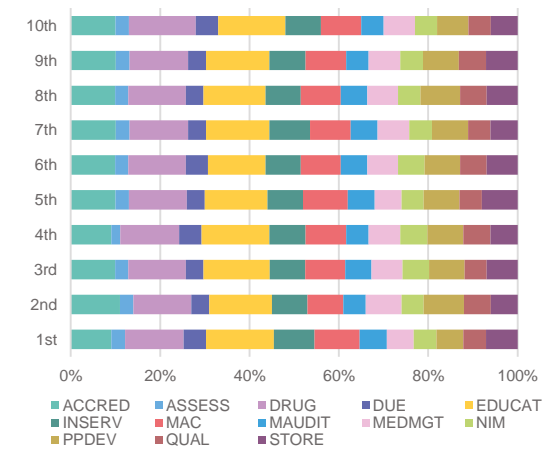
QUM 2015 – 2017 Total Claims Made



Claiming Activity by State and Claim Type



Claiming Activity by SEIFA and Claim Type



RACF SURVEY AND INTERVIEWS ANALYSIS DETAILS (1 OF 2)

RACF SURVEY AND INTERVIEWS – DATA SOURCE DETAILS

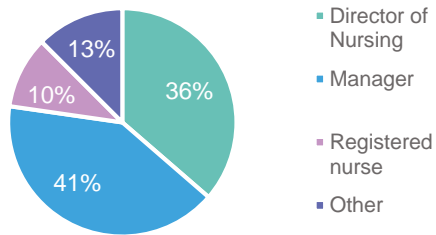
Data Overview

Urbis developed and issued a survey to RACF and MPS staff across Australia who have participated in QUM. The survey required respondents to provide feedback on the effectiveness of QUM and potential future improvements for the program. The survey questions can be seen in Appendix C.

Valid Data Utilised

There were **104 responses** to the survey. Of these, 63 respondents had completed the full survey (61%), while 41 respondents had partly completed the survey (39%).

Proportion of Facility Staff by Role (n=88)



Over 75% of the participating Facility Staff were a Director of Nursing or Manager

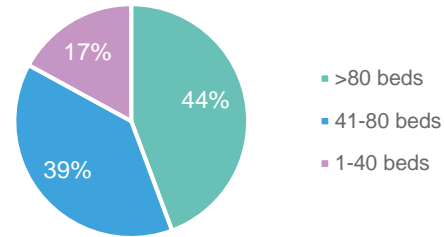
Data Limitations

Survey responses indicate there may have been some level of confusion among RACF respondents regarding the distinctions between: QUM support as a component of RMMR, the RMMR program, as well as other QUM services that may be being delivered at a RACF. Care should therefore be taken in interpreting the below results. Responses should also be considered in light of the number of responses to each question.

Sample Characteristics

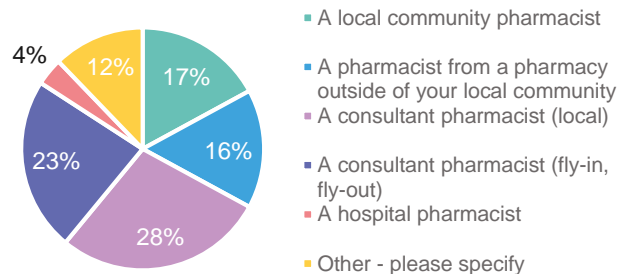
The following charts outline key characteristics of the sample. Almost all (98%) of the respondents were currently working in a RACF.

Proportion of Facilities by Size (n=88)



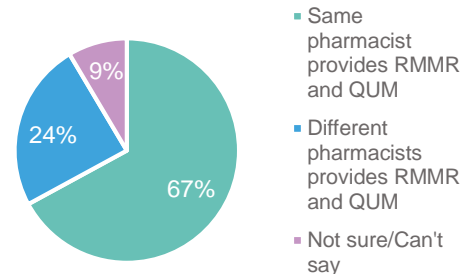
Large and medium sized facilities were well represented in the survey responses

Proportion of Facilities by QUM (RMMR) Provider (n=82)



Around half (45%) of the participating facilities are serviced by a local pharmacist or consultant pharmacist

Proportion of Facilities by RMMR and QUM (RMMR) Provider (n=82)



The majority (67%) of the participating facilities receive RMMR and QUM support from the same pharmacist

RACF SURVEY AND INTERVIEWS ANALYSIS DETAILS (2 OF 2)

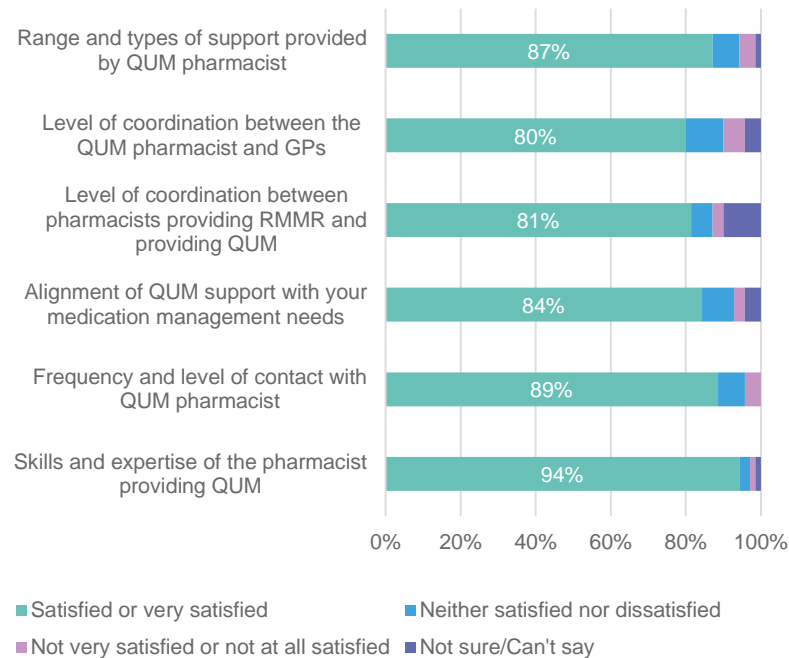
RACF SURVEY AND INTERVIEWS – ANALYSIS DETAILS

The survey found that **67% of RACFs believe the majority of QUM activities are helpful**, with **87% of RACFs** reporting they were **satisfied with the QUM support** their facility received.

Facilities also reported strong levels of satisfaction against six key areas, including the skills and expertise of their QUM pharmacist, the frequency and level of contact with their pharmacist and the alignment of the program with their facility’s medication management needs.

While many respondents expressed support for the program in its current form, several respondents identified opportunities to strengthen and improve the program.

Facility Rated Satisfaction with QUM (n=70)



Top four recommendations in response to the question ‘what one change or improvement would you like to see in the QUM program guidelines, implementation or activities?’ (n=63)

- Integration of the QUM pharmacist into a resident’s care team, with a particularly emphasis on increased collaboration with General Practitioners
- Improved and/or increased frequency of education support and training for staff in relation to key medication management issues
- Increased opportunities for staff education, including through the provision of online materials
- Increased frequency and number of visits by a QUM Pharmacist to a facility

RACF SURVEY RESULTS (1 OF 7)

RACF SURVEY- ANALYSIS DETAILS

At the time of writing, there were **104 responses** to the survey. Of these, 63 respondents had completed the full survey (61%), while 41 respondents had partly completed the survey (39%).

Data Limitations

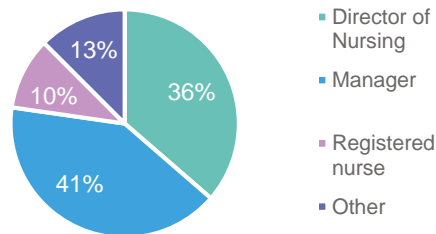
Survey responses indicate there may have been some level of confusion among RACF respondents regarding the distinctions between: QUM support as a component of RMMR, the RMMR program, as well as other QUM services that may be being delivered at a RACF. Care should therefore be taken in interpreting the below results. Responses should also be considered in light of the number of responses to each question.

A SUMMARY OF THE SURVEY RESULTS FOLLOWS:

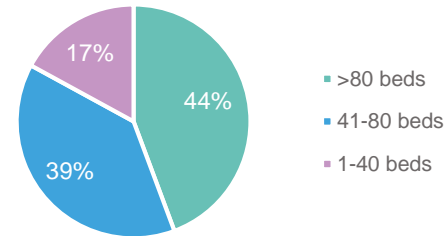
Question 1: Which type of facility do you work in? (n=88)

- Almost all (98%) of the respondents indicated they were currently working in a RACF, with almost no respondents indicating they worked in an MPS.

Question 2: What is your current role in the facility? (n=88)



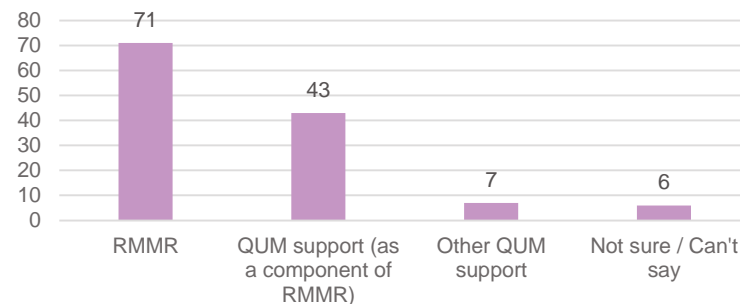
Question 3: How many beds does your facility have? (n=88)



Question 4: What is the postcode of your facility? (n=87)

- The respondents who completed this question worked in facilities located across 74 different postal locations.

Question 5: Which medication support services are provided in your facility? (n=127)



Data Caveat for Question 5

Only 43 respondents indicated that 'QUM support (as a component of RMMR)' is provided in their facility. This number is inconsistent with later responses, such as question 9 where 75 respondents indicated that the same pharmacist either was or wasn't providing both RMMR and QUM (RMMR) in their facility. As noted above, this may suggest there is some level of confusion in distinguishing between QUM and related activities.

RACF SURVEY RESULTS (2 OF 7)

RACF SURVEY- ANALYSIS DETAILS

Question 6: If you receive other QUM support, please describe which other QUM support you receive. (n=7) (n.b. question 16 relates to question 5)

- Examples of other QUM services identified by respondents, included:

Staff training and education

Participation in MACs

Falls prevention

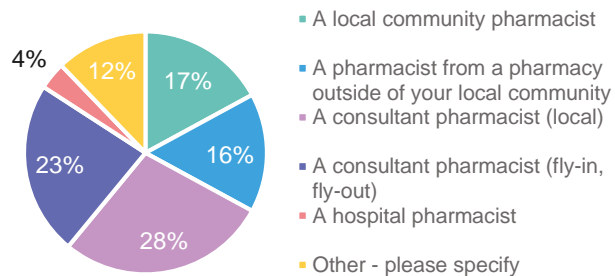
Review by supplying pharmacist of medication charts

Advice on medication management policies and procedures

Monthly reports on medication usage, such as psychotropic medication

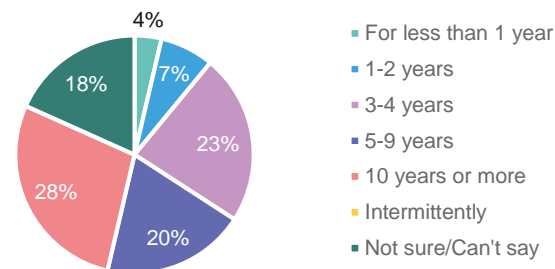
Responses to Question 6 suggest that there may be duplication between the QUM program and *other* QUM services being provided at some facilities and/or there is some level of confusion regarding which activities are delivered as part of the QUM program.

Question 7: Who currently provides QUM (RMMR) support to your facility? (n=77)

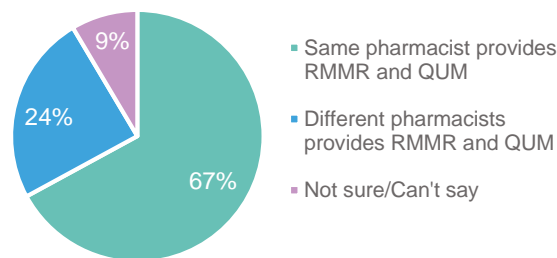


Responses provided in the 'other' category for Question 7 (n=10) included Meditrax, independent consultant pharmacists, and other pharmacists contracted by the facility or a local pharmacy. Some of these responses may crossover with the other categories listed above.

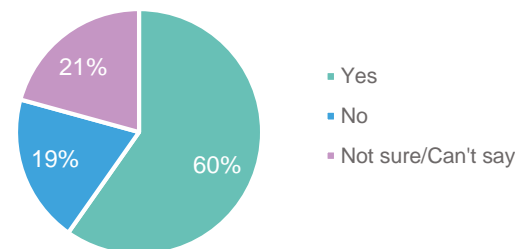
Question 8: How long has your facility been receiving QUM (RMMR) support? (n=82)



Question 9: Does the same pharmacist currently provide both RMMR and QUM (RMMR) in your facility? (n=82)



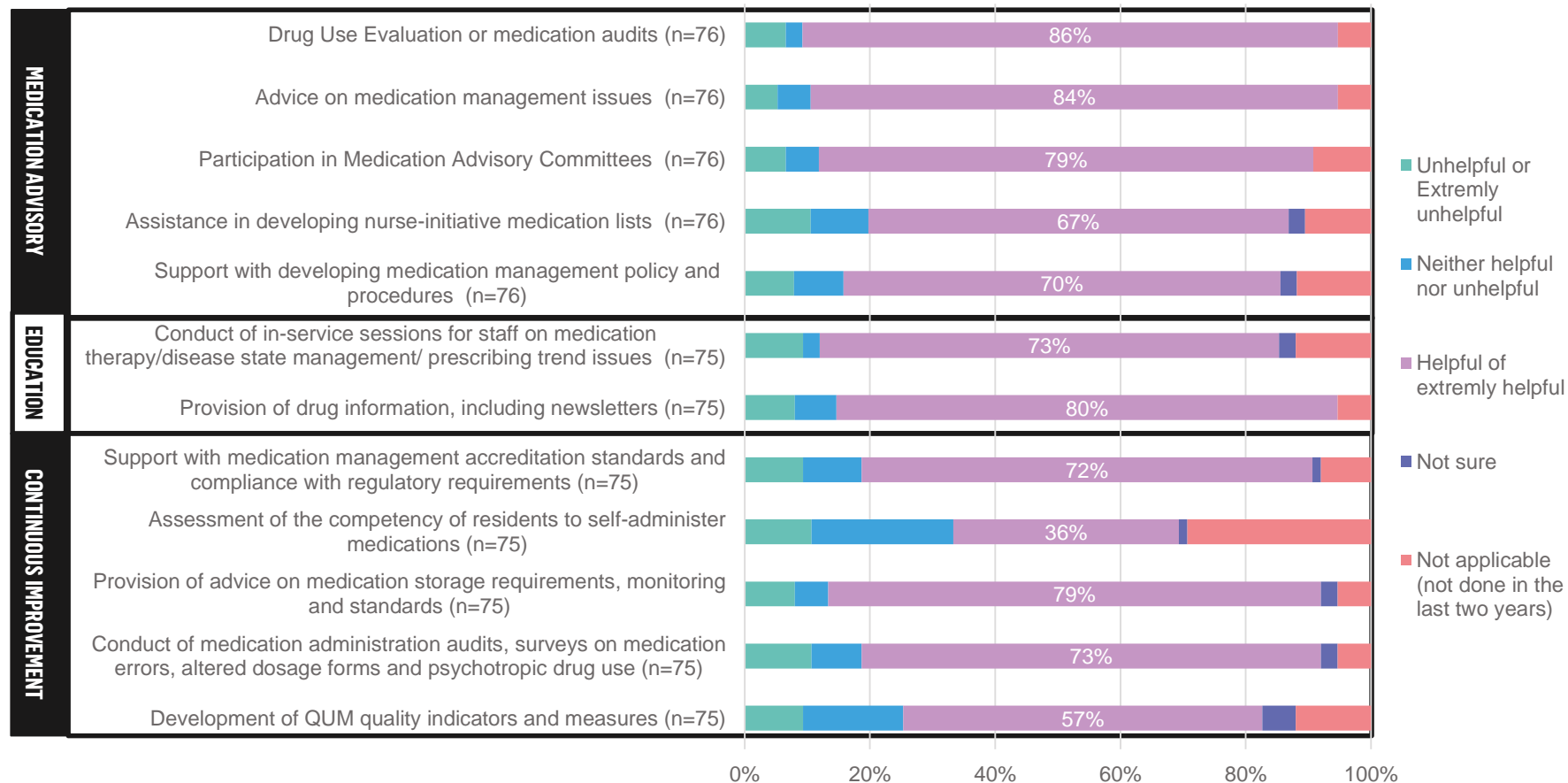
Question 10: Do you have a current workplan that describes the agreed activities the QUM pharmacist is providing to your facility? (n=82)



RACF SURVEY RESULTS (3 OF 7)

RACF SURVEY- ANALYSIS DETAILS

Questions 11-13: Thinking back over the last two years, how helpful have the following QUM pharmacist activities been in your facility? (n=75-76)



RACF SURVEY RESULTS (4 OF 7)

RACF SURVEY- ANALYSIS DETAILS

Question 14: Which QUM activity has resulted in the most significant change or improvement in your facility over the last two years? (n=72)

QUM Activity	Percentage
Drug Use Evaluation or medication audits	25.0%
Medication Advisory Committee	15.3%
In-service sessions for staff	12.5%
Provision of drug information, including newsletters	12.5%
Advice on medication management issues	11.1%
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	8.3%
Support with medication management accreditation standards and compliance with regulatory requirements	6.9%
Assess resident competency to self-administer medications	2.8%
Assistance in developing nurse -initiative medication lists	1.4%
Support with developing policy and procedures	1.4%
Provision of advice on medication storage requirements, monitoring and standards	1.4%
Development of QUM quality indicators and measures	1.4%

Question 15: What has changed or improved as a result? (n=72)

- Common examples of changes and improvements that were reported included:

Increased education and access to up to date information on QUM best practices

Improved knowledge about key QUM medication management issues

Greater understanding of, and a reduction in, polypharmacy

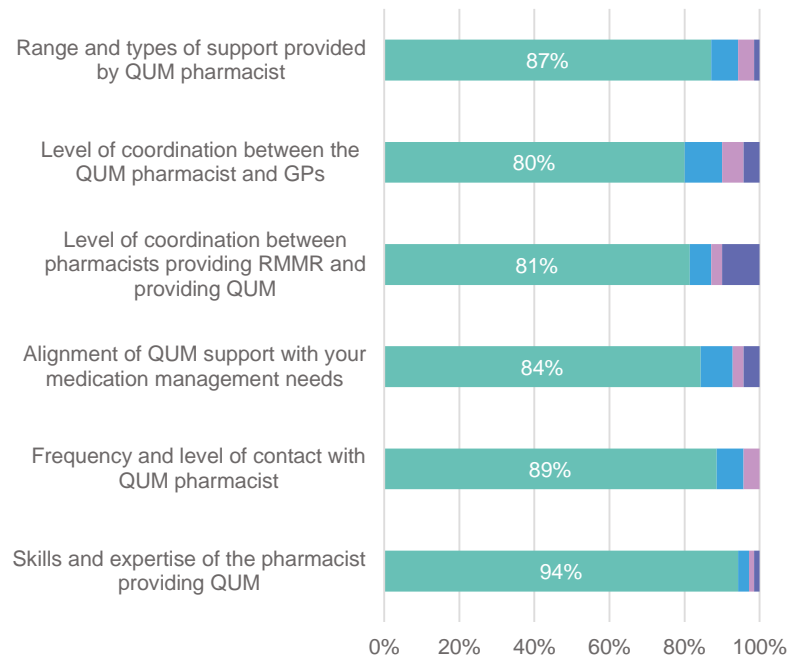
Reduced use, and minimised risk around usage, of certain drugs, such as psychotropics and antipsychotic medication

Increased skills and performance regarding medication management among staff

RACF SURVEY RESULTS (5 OF 7)

RACF SURVEY- ANALYSIS DETAILS

Question 16: Overall, how satisfied is your facility with each of the following aspects of QUM support? (n=70)



■ Satisfied or very satisfied ■ Neither satisfied nor dissatisfied
■ Not very satisfied or not at all satisfied ■ Not sure/Can't say

Question 17: If you are not very or not at all satisfied with any of the above, why is that? (n=7) (n.b. question 17 relates to question 16)

- A lack of coordination between pharmacists and General Practitioners was commonly cited as a reason these respondents weren't satisfied with the program.

Question 18: What could be done to improve this? (n=7) (n.b. question 18 relates to question 17)

Recommendations for improving the issues identified in the previous question included:

Promoting better relationships and coordination between pharmacists and General Practitioners

Developing new ways of educating staff, such as online education platforms

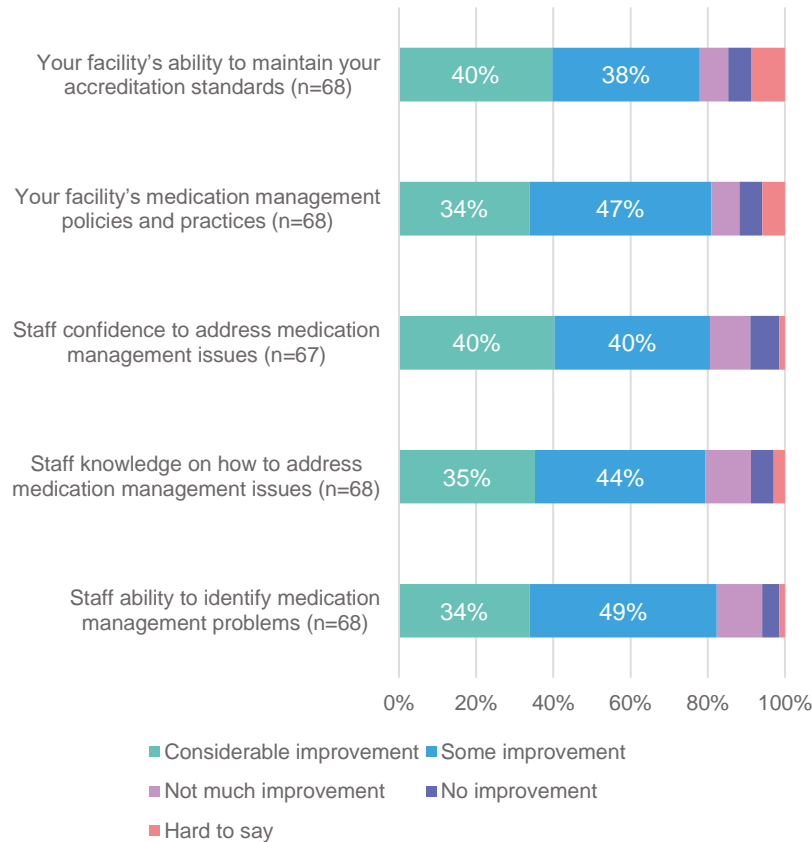
Greater collaboration between pharmacists and facilities, including planning to ensure QUM services are selected based on a facility's needs

Increased frequency and number of visits by a QUM Pharmacist to a facility

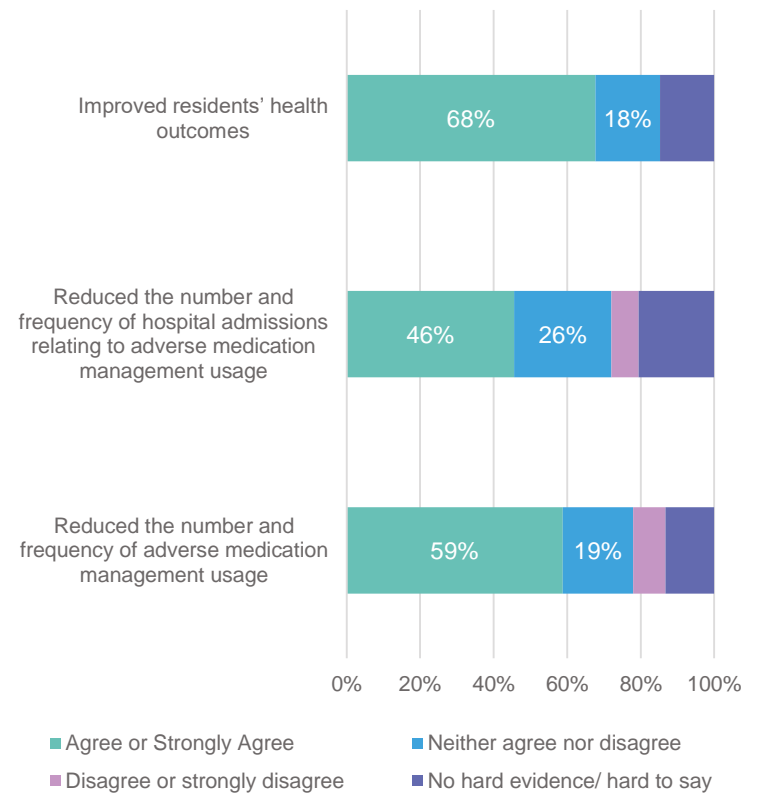
RACF SURVEY RESULTS (6 OF 7)

RACF SURVEY- ANALYSIS DETAILS

Question 19: To what extent has QUM support lead to improvements in your facility in each of the following areas over the last two years? (n=67-68)



Question 20: To what extent do you agree or disagree with each of the following statements about the impact of QUM support in your facility? (n=68)



RACF SURVEY RESULTS (7 OF 7)

RACF SURVEY- ANALYSIS DETAILS

Question 21: What one change or improvement would you like to see in the QUM program guidelines, implementation or activities? (n=63)

- A number of respondents indicated they felt the program was working well and thus did not have any recommendations.
- Among those who suggested improvements, **the top four recommendations** included:

Integration of the QUM pharmacist into a resident's care team, with a particularly emphasis on increased collaboration with General Practitioners

Improved and/or increased frequency of education support and training for staff in relation to key medication management issues

Increased opportunities for staff education, including through the provision of online materials

Increased frequency and number of visits by a QUM Pharmacist to a facility

Question 22: Have you any other comments that you would like to make?

- The majority of the respondents expressed support for the QUM program, which they viewed to be a valuable service.

'We, and our GP's, find the support from our Pharmacist invaluable. Her advice makes a definite impact and improvement to our resident's lives'

'Wonderful proactive support with good learning outcomes for Health providers .'

'We have found that additional reviews (requested by resident's doctor) in regard to changes in medical conditions and particularly increased FALLS, have been extremely useful in assisting the doctor in reviewing medications to better manage successful fall prevention measures for the residents.'

APPENDIX B SURVEYS AND INTERVIEW GUIDES



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Discussion guide for General Practitioners (GPs)

Explanatory notes

This document provides a guide to the range of issues that will be discussed with GPs as part of Urbis' review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program. Separate guides have been produced for participating pharmacists, staff of residential aged care facilities (RACFs) and multi-purpose services (MPSs), and general stakeholders.

The guide does not represent a complete list of the questions that will be explored in each interview. The extent and flow of discussion will be informed by the participants and guided by the researchers. Participants may not be asked every question, depending on the participant's experience and level of engagement with the QUM component of the RMMR Program.

All questions are open-ended to encourage conversational depth.

Introduction

Urbis has recently been engaged by the Department of Health to review the QUM component of the RMMR Program, part of the suite of Medication Management Programs funded under the Sixth Community Pharmacy Agreement (6CPA).

The review will explore the extent to which the program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness, efficiency and appropriateness of the program through consultations with QUM service providers, staff of RACFs and MPSs, GPs and other key stakeholders.

The purpose of the interview today is to gather your views on the QUM component of the RMMR program.

The content of these discussions is confidential. No information provided during this interview will be attributed to you or your organisation without prior consent.

The interview will last for around **45 minutes**.

Do you have any questions before we start?

To assist with our internal analysis, would you mind if I record our interview today? This recording will be used only by our research team and will not be shared externally.

[If yes] Thank you.

[when the tape is on, confirm that the participant has given consent to be recorded.]



Background

1. How long have you been practicing as a GP?
2. How many RACFs and/or MPSs do you regularly visit?
3. What has been the nature of your involvement with the QUM component of the RMMR Program to date?

Appropriateness

4. The objectives of the QUM Program are to:
 - Advise members of the Facility's healthcare team on a range of medication management issues in order to meet the healthcare needs of residents;
 - Provide medication information and education to residents, carers and other healthcare providers involved in the resident's care; and
 - Assist the Facility to undertake continuous improvement activities, including ensuring medication management accreditation standards are met and maintained.

(from 6CPA RMMR QUM Program Rules July 2017, p.4)

How well do you feel the QUM service of the RMMR Program is designed to meet these objectives? What aspects of the QUM service best help to achieve the objectives?

(Probe for evidence/examples)

5. In what ways, if any, could the program be improved to build capacity for quality use of medicines within RACFs and MPSs?
6. From your perspective, what are the most pressing challenges facing RACFs and MPSs when it comes to medicine management?
7. How, if at all, could the program be developed to better meet the needs of RACFs and MPSs?

Implementation and efficiency

8. To what extent are QUM activities under the RMMR readily recognisable within the facility (as separate from other QUM activities)? How so?
9. In what ways do pharmacists engage with you regarding QUM? What is most helpful to you? Least helpful?
10. From your perspective, how well is the QUM component of the RMMR program currently operating?
11. To what extent does the support provided through this QUM service help you to support your patients? How, if at all, could this be improved?

Effectiveness

12. From your perspective, what impact has the QUM component of the RMMR Program had within RACFs/MPSs?

(Probe for evidence/examples, eg increased knowledge and understanding of medicine management among staff, increased staff confidence in medicine management, improved practices and procedures for medicine management, improved health outcomes, reduction in adverse events, reduction in unplanned hospital admissions or medical presentations)



13. What do you see as the main benefits of the QUM component of the RMMR program for your patients?
14. What aspects of QUM, if any, should the QUM component emphasise in order to improve health outcomes?

(Probe for evidence/examples)

Conclusion

15. The overall purpose of the QUM component of the RMMR is to improve capacity within RACFs and MPSs for medication management through supporting the quality use of medicines designed to reduce adverse events and associated hospital admissions or medical presentations. From your perspective what key changes to the current QUM program, if any, are required to promote safe medication management within facilities?
16. Is there anything else you would like to add?

Thanks and close.



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Discussion guide for key stakeholders

Explanatory notes

This document provides a guide to the range of issues that will be discussed with key stakeholders as part of Urbis' review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program. Separate guides have been produced for participating pharmacists, staff of residential aged care facilities (RACFs) and multi-purpose services (MPSs), and general practitioners (GPs).

The guide does not represent a complete list of the questions that will be explored in each interview. The extent and flow of discussion will be informed by the participants and guided by the researchers. Participants may not be asked every question, depending on the participant's experience and level of engagement with the QUM component of the RMMR Program.

All questions are open-ended to encourage conversational depth.

Introduction

Urbis has recently been engaged by the Department of Health to review the QUM component of the RMMR Program, part of the suite of Medication Management Programs funded under the Sixth Community Pharmacy Agreement (6CPA).

The review will explore the extent to which the program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness, efficiency and appropriateness of the program through consultations with QUM service providers, staff of RACFs and MPSs, GPs and other key stakeholders.

The purpose of the interview today is to gather your views on the QUM component of the RMMR program.

The content of these discussions is confidential. No information provided during this interview will be attributed to you or your organisation without prior consent.

The interview will last for around **45 minutes**.

Do you have any questions before we start?

To assist with our internal analysis, would you mind if I record our interview today? This recording will be used only by our research team and will not be shared externally.

[If yes] Thank you.

[when the tape is on, confirm that the participant has given consent to be recorded.]



Background

1. To begin with, please tell me a little about your position and role. How long have you been in this role?
2. What has been the nature of your/your organisation's involvement, if any, with the QUM component of the RMMR Program to date?

Appropriateness:

3. The objectives of the QUM Program are to:
 - Advise members of the Facility's healthcare team on a range of medication management issues in order to meet the healthcare needs of residents;
 - Provide medication information and education to residents, carers and other healthcare providers involved in the resident's care; and
 - Assist the Facility to undertake continuous improvement activities, including ensuring
 - medication management accreditation standards are met and maintained.

(from 6CPA RMMR QUM Program Rules July 2017, p.4)

How well do you feel the QUM service of the RMMR Program is designed to meet these objectives? What aspects of the QUM service best help to achieve the objectives?

(Probe for evidence/examples)

4. In what ways, if any, could the program be improved to build capacity for quality use of medicines within RACFs and MPSs?

Implementation and efficiency:

5. From your perspective, how well does the QUM service of the RMMR program currently function?
6. To what extent do the current program rules for the QUM service help QUM providers to undertake the work efficiently? What, if anything, gets in the way? What could be improved?

(probe for operational, administrative and governance aspects of the QUM service)

7. I would like to ask you about four different components of the rules. How well do these aspects of the rules work? What could be improved?
 - a. Funding arrangements
 - b. Eligibility criteria for service providers
 - c. The identified list of QUM activities
 - d. The minimum number of QUM activities to be performed each quarter
8. How well do you think the RMMR and the QUM services align with one another? What examples have you seen of RMMR and QUM complementing one another? Conversely, what factors get in the way of RMMR and QUM activities contributing together to good medication management outcomes?



Effectiveness:

9. From your perspective, what impact has the QUM component of the RMMR Program had within RACFs/MPSs?

(Probe for evidence/examples, eg increased knowledge and understanding of medicine management among staff, increased staff confidence in medicine management, improved practices and procedures for medicine management, improved health outcomes, reduction in adverse events, reduction in unplanned hospital admissions or medical presentations)

10. What QUM activities are most effective, from your perspective? Least effective? What aspects of QUM, if any, should the QUM component emphasise in order to improve health outcomes?

(Probe for evidence/examples)

Measurement and monitoring

11. What indicators do you think need to be measured in order to demonstrate the impact of the QUM service?
12. From your perspective, how useful is the available program data? What, if anything, could be improved?

Conclusion

13. The overall purpose of the QUM component of the RMMR is to improve capacity within RACFs and MPSs for medication management through supporting the quality use of medicines designed to reduce adverse events and associated hospital admissions or medical presentations. What key changes, if any, to the current QUM program are required to promote safe medication management within facilities?
14. Is there anything else you would like to add?

Thank you and close



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Discussion guide for Pharmacist

Explanatory notes

This document provides a guide to the range of issues that will be discussed with pharmacists as part of Urbis' review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program. Separate guides have been produced for participating general practitioners (GPs), staff of residential aged care facilities (RACFs) and multi-purpose services (MPSs), and general stakeholders.

The guide does not represent a complete list of the questions that will be explored in each interview. The extent and flow of discussion will be informed by the participants and guided by the researchers. Participants may not be asked every question, depending on the participant's experience and level of engagement with the QUM component of the RMMR Program.

All questions are open-ended to encourage conversational depth.

Introduction

Urbis has recently been engaged by the Department of Health to review the QUM component of the RMMR Program, part of the suite of Medication Management programs funded under the Sixth Community Pharmacy Agreement (6CPA).

The review will explore the extent to which the program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness, efficiency and appropriateness of the program through consultations with QUM service providers, staff of RACFs and MPSs, GPs and other key stakeholders.

The purpose of the interview today is to gather your views on the QUM component of the RMMR program.

The content of these discussions is confidential. No information provided during this interview will be attributed to you or your organisation without prior consent.

The interview will last for around **45 minutes**.

Do you have any questions before we start?

To assist with our internal analysis, would you mind if I record our interview today? This recording will be used only by our research team and will not be shared externally.

[If yes] Thank you.

[when the tape is on, confirm that the participant has given consent to be recorded.]



Background

1. To begin with, could you please tell me your position and role?

[If not disclosed] Can I please confirm whether you are...?

- (a) a pharmacist working in a community pharmacy
- (b) a pharmacist who owns a community pharmacy
- (c) an independent consulting pharmacist

[If (a) or (b)] Does your community pharmacy also supply medicines to the residents at the RACFs and/or MPSs where you provide QUM services?

2. How long have you been providing QUM services under the RMMR program?
3. How many RACFs and/or MPSs do you currently visit for this QUM service?

Appropriateness:

4. The objectives of the QUM Program are to:
 - Advise members of the Facility's healthcare team on a range of medication management issues in order to meet the healthcare needs of residents;
 - Provide medication information and education to residents, carers and other healthcare providers involved in the resident's care; and
 - Assist the Facility to undertake continuous improvement activities, including ensuring medication management accreditation standards are met and maintained.

(from 6CPA RMMR QUM Program Rules July 2017, p.4)

How well do you feel the QUM service of the RMMR Program is designed to meet these objectives? What aspects of the QUM service best help to achieve the objectives?

(Probe for evidence/examples)

5. In what ways, if any, could the program be improved to build capacity for quality use of medicines within RACFs and MPSs?

Implementation and efficiency

6. What QUM activities do you typically provide to a facility each quarter? Who generally takes part in these activities?
7. How do you determine the QUM activities you provide to a facility each quarter? How do you and the facility determine the workplan? What factors inform the kinds of activities you provide?
 - e.g. needs of the facility, size of the facility, level and type of care residents require, knowledge, experience and interest among staff etc.
8. From your perspective, how well does the QUM component of the RMMR program currently operate? What are the benefits or challenges of having this service separate from RMMR itself?



9. What barriers, if any, do you encounter that prevent the program from being implemented as effectively as possible? How could these barriers be mitigated?
10. I would like to ask you about four different components of the rules. How well do these aspects of the rules work? What could be improved?
 - Funding arrangements
 - Eligibility criteria for service providers
 - The identified list of QUM activities
 - The minimum number of QUM activities to be performed each quarter
11. What are the benefits for you in being a QUM service provider?

Effectiveness

12. From your perspective, what impact has the QUM component of the RMMR Program had within RACFs/MPSs?

(Probe for evidence/examples, eg increased knowledge and understanding of medicine management among staff, increased staff confidence in medicine management, improved practices and procedures for medicine management, improved health outcomes, reduction in adverse events, reduction in unplanned hospital admissions or medical presentations)
13. What QUM activities are most effective, from your perspective? Least effective? What aspects of QUM, if any, should the QUM component emphasise in order to improve health outcomes?

(Probe for evidence/examples)
14. What do you see as the main benefits of the QUM component of the RMMR program for patients?

Relationship with the RMMR Program

15. How well do you think the RMMR and the QUM services align with one another? What examples have you seen of RMMR and QUM complementing one another? Conversely, what factors get in the way of RMMR and QUM activities contributing together to good medication management outcomes?

Measurement and monitoring

16. What indicators do you think need to be measured in order to demonstrate the impact of the QUM service?

Conclusion

17. The overall purpose of the QUM component of the RMMR is to improve capacity within RACFs and MPSs for medication management through supporting the quality use of medicines designed to reduce adverse events and associated hospital admissions or medical presentations. What key changes, if any, to the current QUM program are required to promote safe medication management within facilities?
18. Is there anything else you would like to add?

Thank you and close.



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Discussion guide for RACF and MPS staff

Explanatory notes

This document provides a guide to the range of issues that will be discussed with staff of residential aged care facilities (RACFs) and multi-purpose services (MPSs) as part of Urbis' review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program. Separate guides have been produced for participating pharmacists, staff of RACFs and MPSs, and general stakeholders.

The guide does not represent a complete list of the questions that will be explored in each interview. The extent and flow of discussion will be informed by the participants and guided by the researchers. Participants may not be asked every question, depending on the participant's experience and level of engagement with the QUM component of the RMMR Program.

All questions are open-ended to encourage conversational depth.

Introduction

Urbis has recently been engaged by the Department of Health to review the QUM component of the RMMR Program, part of the suite of Medication Management Programs funded under the Sixth Community Pharmacy Agreement (6CPA).

The review will explore the extent to which the program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness, efficiency and appropriateness of the program through consultations with QUM service providers, staff of RACFs and MPSs, GPs and other key stakeholders.

The purpose of the interview today is to gather your views on the QUM component of the RMMR program.

The content of these discussions is confidential. No information provided during this interview will be attributed to you or your organisation without prior consent.

The interview will last for around **45 minutes**.

Do you have any questions before we start?

To assist with our internal analysis, would you mind if I record our interview today? This recording will be used only by our research team and will not be shared externally.

[If yes] Thank you.

[when the tape is on, confirm that the participant has given consent to be recorded.]



Background

1. To begin with, could you please tell me your position and role?
2. What do you understand QUM – quality use of medicines – to mean? What examples can you give of how it makes a difference to residents?
3. How long has your facility received QUM support through the QUM component of the RMMR Program?
4. Please describe the range of QUM activities that are typically delivered at your facility each quarter. Who generally takes part in these activities?

Appropriateness

5. The objectives of the QUM Program are to:
 - Advise members of the Facility's healthcare team on a range of medication management issues in order to meet the healthcare needs of residents;
 - Provide medication information and education to residents, carers and other healthcare providers involved in the resident's care; and
 - Assist the Facility to undertake continuous improvement activities, including ensuring medication management accreditation standards are met and maintained.

(from 6CPA RMMR QUM Program Rules July 2017, p.4)

How well do you feel the QUM service of the RMMR Program is designed to meet these objectives? What aspects of the QUM service best help to achieve the objectives?

(Probe for evidence/examples)

6. In what ways, if any, could the program be improved to build capacity for quality use of medicines within RACFs and MPSs?

Implementation and efficiency

7. What QUM activities does your QUM pharmacist provide each quarter? Which staff of your facility generally take part in these activities? Where do your QUM pharmacist provide services?
8. How does your facility decide what QUM activities are needed? What factors influence the kinds of activities that are required?
(e.g. needs of the facility, size of the facility, level and type of care residents require, knowledge, experience and interest among staff etc.)
9. From your perspective, how well does the QUM component of the RMMR program currently operate? What are the benefits or challenges of having this service separate from RMMR itself?
10. What barriers, if any, do you encounter that prevent the program from being implemented as effectively as possible? How could these barriers be addressed?

Effectiveness

11. From your perspective, what impact has the QUM component of the RMMR Program had within your facility?

(Probe for evidence/examples, eg increased knowledge and understanding of medicine)



management among staff, increased staff confidence in medicine management, improved practices and procedures for medicine management, improved health outcomes, reduction in adverse events, reduction in unplanned hospital admissions or medical presentations)

12. What QUM activities are most effective, from your perspective? Least effective? What aspects of QUM, if any, should the QUM component emphasise in order to improve health outcomes?

(Probe for evidence/examples)

13. What do you see as the main benefits of the QUM component of the RMMR program for patients?

Relationship with the RMMR Program (note: the facility may not have both programs)

14. How well do you think the RMMR and the QUM services align with one another? What examples have you seen of RMMR and QUM complementing one another? Conversely, what factors get in the way of RMMR and QUM activities contributing together to good medication management outcomes?

Measurement and monitoring

15. What do you think should be a measure of success for QUM? What measurement would tell you that the QUM support service had made a difference to your staff and residents?

Conclusion

16. The overall purpose of the QUM component of the RMMR is to improve capacity within RACFs and MPSs for medication management through supporting the quality use of medicines designed to reduce adverse events and associated hospital admissions or medical presentations. What key changes, if any, to the current QUM program are required to promote safe medication management within facilities?
17. Is there anything else you would like to add?

Thank you and close.



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Discussion guide for key informant interviews

Explanatory notes

This document provides a guide of the range and coverage of issues that will be discussed in the early consultations for the review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program.

It does not represent a complete list of the discussion points that will be covered in each interview. The coverage and flow of issues will be guided by the researchers and informed by the participant's experience and level of engagement with the QUM component of the RMMR Program. Participants will not be expected to respond to each question.

Background

Urbis has recently been engaged by the Department of Health to review the QUM component of the RMMR Program under the Sixth Community Pharmacy Agreement (6CPA).

The RMMR Program aims to improve QUM for residents in government funded aged care facilities. Under the program, residents can have their medications reviewed by a pharmacist, in consultation with their GP, to identify, resolve and prevent medication related problems.

QUM is a separate component of the RMMR program, which focuses on the improvement of practices and procedures relating to medicine use in residential aged care facilities (RACFs). Key services under the QUM component include medication advisory, education and continuous improvement activities.

Urbis' review will explore the extent to which the QUM component of the RMMR Program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness and efficiency of the program.

Key informant interviews

At this early stage of the project, Urbis is planning to consult with key stakeholders to hear their ideas and perspective on the QUM component of the RMMR Program, as well as the review itself.

The feedback you provide will be used to guide the review. This includes helping Urbis' research team to refine key review questions, highlight considerations for fieldwork, and identify literature and data sources that may contribute depth to the review.

The content of these discussions is confidential. While we may report data items, any information provided in these consultations will not be attributed to any particular individual or organisation without prior consent.

The interview will go for around 45 minutes.

Key discussion points

- Introduction
- Level of engagement with the QUM component of the RMMR Program



- Policy context for the QUM component of the RMMR Program
- Role of QUM activities, particularly within the context of the QUM component of the RMMR Program and/or RACFs
- Strength of QUM activities, particularly within the context of the QUM component of the RMMR Program and/or RACFs
- Key challenges to implementing QUM activities, particularly within the context of the QUM component of the RMMR Program and/or RACFs
- Ideas and perspectives on Urbis' review of the QUM component of the RMMR Program e.g. key stakeholders to engage, themes to explore and available data sources



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Discussion guide for key informant interviews

Explanatory notes

This document provides a guide of the range and coverage of issues that will be discussed in the early consultations for the review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review (RMMR) Program.

It does not represent a complete list of the questions that will be asked or covered in each interview. The coverage and flow of issues will be guided by the researchers and informed by the participants.

All questions are fully open-ended. Participants will not be expected to respond to each question. The interview will instead be informed by the participant's experience and level of engagement with the QUM component of the RMMR Program.

Introduction

Urbis has recently been engaged by the Department of Health to review the QUM component of the RMMR Program under the Sixth Community Pharmacy Agreement (6CPA).

The review will explore the extent to which the program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness and efficiency of the program.

At this early stage of the project, we are keen to consult with key stakeholders to hear their ideas and perspective on the QUM component of the RMMR Program, as well as the review itself.

The feedback you provide will be used to guide our review. This includes helping us to refine key review questions, highlight considerations for fieldwork and consultations, and identify literature and data sources that may contribute depth to the review.

The content of these discussions is confidential. While we may report data items, any information provided in these consultations will not be attributed to any particular individual or organisation without prior consent.

The interview will go for around 45 minutes.

To assist with our internal reporting, would you mind if I record our interview today?

[If yes] Thank you.

Background

- To begin with, could you please tell me your position and role? How long have you been in this role?
- What has been the nature of **your/your organisation's** involvement, if any, with the QUM component of the RMMR Program to date?



Policy context

- What is your understanding of the priority needs and issues that the QUM component of the RMMR Program was designed to address?
- How does the QUM component of the RMMR Program address these needs?
- How does the QUM component align with the broader objectives of the Medication Management Programs funded under 6CPA, specifically reducing adverse events and associated hospital admissions or medical presentations?
- How was the QUM component of the RMMR Program developed? What evidence-base was used to inform the program?
- From your perspective, how is the QUM component different from the other components of the RMMR Program? Do you think these differences are well understood?

Program implementation and outcomes

- Overall, what do you see as the intended objectives of the QUM component of the RMMR Program? Do you think these objectives are well understood?
- What data and evidence is currently available to measure progress towards the objectives of the RMMR Program? From your perspective, how useful is the available data?
 - Quality of information
 - Level of access
- From your perspective, what do you see as the strengths of QUM component of the RMMR Program?
- Based on your experience, what do you see as the key challenges for implementation of the QUM component of the RMMR Program? How can these challenges be mitigated?

The evaluation

- What would you like to see come out of the review Urbis is undertaking of the QUM component of the RMMR Program?
- What do you think will be the key challenges for assessing whether the program is achieving its intended outcomes? In what way could these challenges be addressed?
- Is there anything else you suggest we should take into consideration in undertaking the review of the QUM component of the RMMR Program?
 - a. existing data, documentation or research that may be useful – and access to data that might not be publicly available
 - b. key issues or sensitivities to be aware of
 - c. considerations for fieldwork and consultations
 - d. key representatives/staff within the residential aged care facilities (RACFs) that would be best to speak with
 - e. other key stakeholders to consult with



f. stakeholder engagement and communications

g. cross-jurisdictional issues

- What suggestions, if any, do you have for maximising the survey response rate among RACFs and QUM service providers?

Thanks and close.



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Online survey for Pharmacists

Review of the Quality Use of Medicines (QUM) component of the Residential Medication Management Review Program (RMMR)

Urbis has been engaged by the Department of Health to review the Quality Use of Medicines (QUM) component of the Residential Medication Management Review Program (RMMR).

The review will explore the extent to which the program is operating as intended and achieving its intended outcomes. This will include gathering evidence of the effectiveness and efficiency of the program.

Consultation with pharmacists is an essential part of the review and your feedback is important to us.

The perspectives and experiences of pharmacists participating in the QUM component of the RMMR are critical in helping us to assess how well the program is working. Your responses will help to inform our advice to the Department regarding future medication management in Residential Aged Care Facilities (RACF) and Multi-Purpose Services (MPS).

You are receiving this survey because you are a RMMR QUM Service Provider, a RMMR provider or have a strong interest in QUM and have a valuable perspective to share.

The survey should take about 10 minutes to complete, and will close on **Tuesday 12 December 2017**.

Your feedback is completely voluntary and confidential, and will only be used for the purpose of this review. The information collected in this survey will not be used to identify you personally, or your facility.

Thank you for your contribution to this important review.

Introduction

In order to place your responses in context, we would like to ask some questions about your role in relation to QUM.

1. Which of the following **best** describes you?

Please select one response only

- ₁ A registered pharmacist
- ₂ An accredited pharmacist
- ₃ Both a registered and an accredited pharmacist
- ₄ Other, please specify _____



2. Which of the following **best** describes your current position? (Please select one response only)

- ₁ A community pharmacy owner
- ₂ A community pharmacy employee
- ₃ A consulting pharmacist (self-employed)
- ₄ A consulting pharmacist (employee)
- ₅ A hospital pharmacist
- ₆ An academic pharmacist
- ₇ Other, please specify _____

3. [If answer 1 or 2]

Does your community pharmacy supply medicine to the residents in the RACFs and/or MPSs where you provide RMMR QUM support?

- ₁ Yes
- ₂ No

4. In which State/Territory do you do **most** of your work?

Please select one response only

- ₁ New South Wales
- ₂ Victoria
- ₃ Queensland
- ₄ South Australia
- ₅ Western Australia
- ₆ Tasmania
- ₇ The ACT
- ₈ The Northern Territory

5. Are the residential facilities you provide QUM support to **mainly** located in?

Please select one response only

- ₁ Capital cities
- ₂ Regional cities/towns
- ₄ Rural and remote locations
- ₅ A mixture
- ₆ Not applicable – I don't provide QUM support to residential facilities



Your involvement in QUM

6. Which of the following QUM programs and activities are you currently engaged in?

Please select all that apply

- ₁ RMMR
- ₂ RMMR (QUM component)
- ₃ Other QUM programs or activities within an RACF or MPS
- ₄ Other QUM program or activities outside of an RACF or MPS
- ₅ None of the above – don't directly provide QUM support

7. [If answer 2 to Q5] How many RACFs or MPS do you currently support under the QUM component of RMMR? _____

8. [If answer 1, 3, 4 or 5 to Q6] Have you been a provider of QUM support under the RMMR in the past?

- ₁ Yes
- ₂ No
- ₃ Prefer not to say

9. [If yes to Q8 above] What are the main reasons you are no longer providing this support?

Based on your experience, please indicate the extent to which you think the following QUM activities are generally effective in improving medication management in the RACFs and MPSs you work with?

	Not Appli	Extr emel	Unh elofu	Neit her	Help ful	Extr emel	Not
10. Medication Advisory Activities							
Drug Use Evaluation or medication audits	1	2	3	4	5	6	7
Advice on medication management issues	1	2	3	4	5	6	7
Participation in Medication Advisory Committees	1	2	3	4	5	6	7
Assistance in developing nurse-initiative medication lists	1	2	3	4	5	6	7
Support with developing medication management policy and procedures	1	2	3	4	5	6	7
11. Education Activities							
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	1	2	3	4	5	6	7
Provision of drug information, including newsletters	1	2	3	4	5	6	7



	Not Appli	Extr emel	Unh elnfu	Neit her	Help ful	Extr emel	Not
12. Continuous Improvement Activities							
Support with medication management accreditation standards and compliance with regulatory requirements	1	2	3	4	5	6	7
Assessment of the competency of residents to self-administer medications	1	2	3	4	5	6	7
Provision of advice on medication storage requirements, monitoring and standards	1	2	3	4	5	6	7
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	1	2	3	4	5	6	7
Development of QUM quality indicators and measures	1	2	3	4	5	6	7

13. In your experience, across the facilities you support, which three QUM activities are **most needed**?

Please select three responses only.

Drug Use Evaluation or medication audits	1
Advice on medication management issues	2
Participation in Medication Advisory Committees	3
Assistance in developing nurse -initiative medication lists	4
Support with developing medication management policy and procedures	5
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	6
Provision of drug information, including newsletters	7
Support with medication management accreditation standards and compliance with regulatory requirements	8
Assessment of the competency of residents to self-administer medications	9
Provision of advice on medication storage requirements, monitoring and standards	10
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	11
Development of QUM quality indicators and measures	12
None of the above	13



14. Which three QUM activities are **most effective** in improving medication management in facilities?

Please select three responses only.

Drug Use Evaluation or medication audits	1
Advice on medication management issues	2
Participation in Medication Advisory Committees	3
Assistance in developing nurse -initiative medication lists	4
Support with developing medication management policy and procedures	5
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	6
Provision of drug information, including newsletters	7
Support with medication management accreditation standards and compliance with regulatory requirements	8
Assessment of the competency of residents to self-administer medications	9
Provision of advice on medication storage requirements, monitoring and standards	10
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	11
Development of QUM quality indicators and measures	12
None of the above	13

15. Which, if any, QUM activities are largely **ineffective**?

Please select all that apply.

Drug Use Evaluation or medication audits	1
Advice on medication management issues	2
Participation in Medication Advisory Committees	3
Assistance in developing nurse -initiative medication lists	4
Support with developing medication management policy and procedures	5
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	6
Provision of drug information, including newsletters	7
Support with medication management accreditation standards and compliance with regulatory requirements	8
Assessment of the competency of residents to self-administer medications	9
Provision of advice on medication storage requirements, monitoring and standards	10
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	11



Development of QUM quality indicators and measures	12
None of the above	13

16. To what extent do you agree or disagree with each of the following statements about QUM?

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree	No sure/ not applicable
The QUM activities I provide adequately meet the medication management needs of the facilities I work with	1	2	3	4	5	6
The facilities I work with face similar challenges with medication management	1	2	3	4	5	6
Overall the QUM activities have significantly improved medication management in the facility/s I work with	1	2	3	4	5	6
Most RACF and/or MPS I work with are receptive and responsive to the QUM activities delivered	1	2	3	4	5	6
There is a need for a stronger link between QUM activities funded and the evidence base on effectiveness	1	2	3	4	5	6
It is important to move from activity to outcomes-based reporting for QUM activities	1	2	3	4	5	6

17. Do you think there are any activities under QUM that are not funded, **but should be**?

- ₁ Yes
- ₂ No
- ₃ Not sure

18. [If 1 to Q16] Which ones and why?

19. Overall, to what extent do you think the current QUM program is meeting its objectives?

- ₁ Exceeding objectives
- ₂ Meeting objectives
- ₃ Mostly meeting objectives
- ₄ Somewhat meeting objectives
- ₅ Not meeting objectives
- ₆ Hard to say, I'm not familiar with the program.



20. Based on your experience, what key changes to the current QUM program are required to promote best practice in RACFs and MPSs?

e.g. Changes to implementation, program design or guidelines.

Thank you for taking our survey. Your response is very important to us.



REVIEW OF THE QUALITY USE OF MEDICINES (QUM) COMPONENT OF THE RESIDENTIAL MEDICATION MANAGEMENT REVIEW (RMMR) PROGRAM UNDER THE SIXTH COMMUNITY PHARMACY AGREEMENT

Online survey for RACF and MPS Staff

Urbis has been engaged by the Department of Health to review the Quality Use of Medicines (QUM) component of the Residential Medication Management Review Program (RMMR). Herein referred to as QUM (RMMR).

The review will explore the extent to which the quality use of medicines has improved as a result of the QUM service within residential aged care facilities (RACF) and multi-purpose services (MPS). This will include hearing from RACF and MPS staff about how well the QUM service has worked in their facility.

You are receiving this survey because your facility participates in the QUM component of the RMMR. The perspectives and experiences of staff working within RACFs and MPSs are an essential part of the review and your feedback is important to us.

You may consult with others in your organisation before completing the survey. Only one survey is to be completed for each facility.

Your responses will help to inform our advice to the Department regarding future medication management in RACFs and MPSs.

The survey should take about 10 minutes to complete, and will close on **Friday 2 February 2018**.

Your feedback is completely voluntary and confidential, and will only be used for the purposes of this review. The information collected in this survey will not be used to identify you personally, or your facility.

Thank you for your contribution to this important review.

Background information:

What does QUM look like in a RACF/MPS?

QUM activities are those that help to improve facility wide policies, procedures and practices for medication management. They focus on medication advisory, education and continuous improvement activities.

How is QUM different to the other medication review services under the RMMR program?

The QUM service is a separate program provided by a pharmacist and focuses on improving the quality use of medicines facility wide. The RMMR programs focus on improving medicine management for an individual patient. An accredited pharmacist may provide both RMMR and QUM services to your facility.



YOUR FACILITY

To place your responses in context, we'd like to ask some questions about your facility.

1. Which type of facility do you work in? (Please select one response only)

- ₁ Residential Aged Care Facility (RACF)
- ₂ Multi-purpose Service (MPS)
- ₃ Other, please specify _____

2. What is your current role in the facility? (Please select one response only)

- ₁ Director of Nursing
- ₂ Manager
- ₃ Registered Nurse
- ₄ Other, please specify _____

3. How many beds does your facility have? (Single response)

- ₁ 1-40
- ₂ 41-80
- ₃ >80

4. What is the postcode of your facility?

QUM ACTIVITIES IN YOUR FACILITY

5. Which medication support services are provided in your facility? (Please select all that apply)

- ₁ RMMR
- ₂ QUM support (as a component of RMMR)
- ₃ Other QUM support.
- ₄ Not sure/Can't say

6. [If answer Other QUM support], please describe which other QUM supports you receive

7. Who currently provides QUM (RMMR) support to your facility? (Please select one response only)

- ₁ A local community pharmacist
- ₂ A pharmacist from a pharmacy outside of your local community
- ₃ A consultant pharmacist (local)
- ₄ A consultant pharmacist (fly-in, fly-out)
- ₅ A hospital pharmacist



₆ Other, please specify _____

8. How long has your facility been receiving QUM (RMMR) support? (Please select one response only)

₁ For less than a year

₂ 1-2 years

₃ 3-4 years

₄ 5-9 years

₅ 10 years or more

₆ Intermittently

₂ Not sure/Can't say

9. Does the **same** pharmacist currently provide both RMMR and QUM (RMMR) in your facility? (Please select one response only)

₁ Yes

₂ No, different pharmacists provide RMMR and QUM

₃ Not sure/Can't say

10. Do you have a workplan that describes the agreed activities the QUM pharmacist is providing to your facility? (Please select one response only)

₁ Yes

₂ No

₃ Not sure/Can't say



YOUR ASSESSMENT OF THE QUM ACTIVITIES IN YOUR FACILITY

Thinking back over the last two years, how helpful have the following QUM pharmacist activities been in your facility? (Please select one response for each item)

	Not Applicable- Not done in the last two years	Extremely unhelpful	Unhelpful	Neither helpful nor unhelpful	Helpful	Extremely helpful	Not sure
11. Medication Advisory Activities							
Drug Use Evaluation or medication audits	1	2	3	4	5	6	7
Advice on medication management issues	1	2	3	4	5	6	7
Participation in your Medication Advisory Committee	1	2	3	4	5	6	7
Assistance in developing nurse -initiative medication lists	1	2	3	4	5	6	7
Support with developing medication management policy and procedures	1	2	3	4	5	6	7
12. Education Activities							
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	1	2	3	4	5	6	7
Provision of drug information, including newsletters	1	2	3	4	5	6	7
13. Continuous Improvement Activities							
Support with medication management accreditation standards and compliance with regulatory requirements	1	2	3	4	5	6	7
Assessment of the competency of your residents to self-administer medications	1	2	3	4	5	6	7
Provision of advice on medication storage requirements, monitoring and standards	1	2	3	4	5	6	7
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	1	2	3	4	5	6	7
Development of QUM quality indicators and measures	1	2	3	4	5	6	7



14. Which QUM activity has resulted in **the most significant change or improvement in your facility over the last two years?** (Please select one response only)

15. Drug Use Evaluation or medication audits	1
Advice on medication management issues	2
Participation in Medication Advisory Committees	3
Assistance in developing nurse -initiative medication lists	4
Support with developing medication management policy and procedures	5
Conduct of in-service sessions for staff on medication therapy/disease state management/ prescribing trend issues	6
Provision of drug information, including newsletters	7
Support with medication management accreditation standards and compliance with regulatory requirements	8
Assessment of the competency of residents to self-administer medications	9
Provision of advice on medication storage requirements, monitoring and standards	10
Conduct of medication administration audits, surveys on medication errors, altered dosage forms and psychotropic drug use	11
Development of QUM quality indicators and measures	12

16. What has changed or improved as a result? Please describe.

17. Overall, how **satisfied** is your facility with each of the following aspects of QUM support?

	Very Satisfied	Satisfied	Neither satisfied nor dissatisfied	Not very satisfied	Not at all satisfied	Not sure/ Can't say
The skills and expertise of the pharmacist providing QUM	1	2	3	4	5	6
The frequency and level of contact your facility has with the pharmacist	1	2	3	4	5	6
The alignment of QUM support with your medication management needs	1	2	3	4	5	6
The level of coordination between pharmacists	1	2	3	4	5	6



	Very Satisfied	Satisfied	Neither satisfied nor dissatisfied	Not very satisfied	Not at all satisfied	Not sure/ Can't say
providing RMMR and providing QUM						
The level of coordination between the QUM pharmacist and General Practitioners attending your facility	1	2	3	4	5	6
The range and types of support provided by your QUM pharmacist	1	2	3	4	5	6

18. If you are **not very or not at all satisfied** with any of the above, why is that?

19. What could be done to improve this?

We'd now like to ask you some questions about the **effectiveness** of the current QUM support provided to your facility.

20. To what extent has QUM support lead to improvements in your facility each of the following areas over the last two years?

	Considerable improvement	Some improvement	Not much improvement	No improvement	Hard to say
Staff ability to identify medication management problems	1	2	3	4	5
Staff knowledge on how to address medication management issues	1	2	3	4	5
Staff confidence to address medication management issues	1	2	3	4	5



	Considerable improvement	Some improvement	Not much improvement	No improvement	Hard to say
Your facility's medication management policies and practices	1	2	3	4	5
Your facility's ability to maintain your accreditation standards	1	2	3	4	5

21. To what extent do you agree or disagree with each of the following statements about the impact of QUM support in your facility?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	No hard evidence / hard to say
Reduced the number and frequency of adverse medication management usage	1	2	3	4	5	6
Reduced the number and frequency of hospital admissions relating to adverse medication management usage	1	2	3	4	5	6
Improved residents' health outcomes	1	2	3	4	5	6

IMPROVING QUM

22. What **one** change or improvement would you like to see in the QUM program guidelines, implementation or activities?

23. Have you any other comments that you would like to make?

Thank you for taking our survey. Your response is very important to us.

APPENDIX C

OVERVIEW OF QUALITATIVE INTERVIEWS

APPENDIX D SUGGESTIONS FOR QUM DATA FRAMEWORK

1. CURRENT STATE OF QUM DATA FRAMEWORK

The current QUM data system is activity based, and does not enable full measurement of performance against the program objectives.

The current QUM data system collects identification and activity data from participating pharmacists and facilities, as shown in table 1.

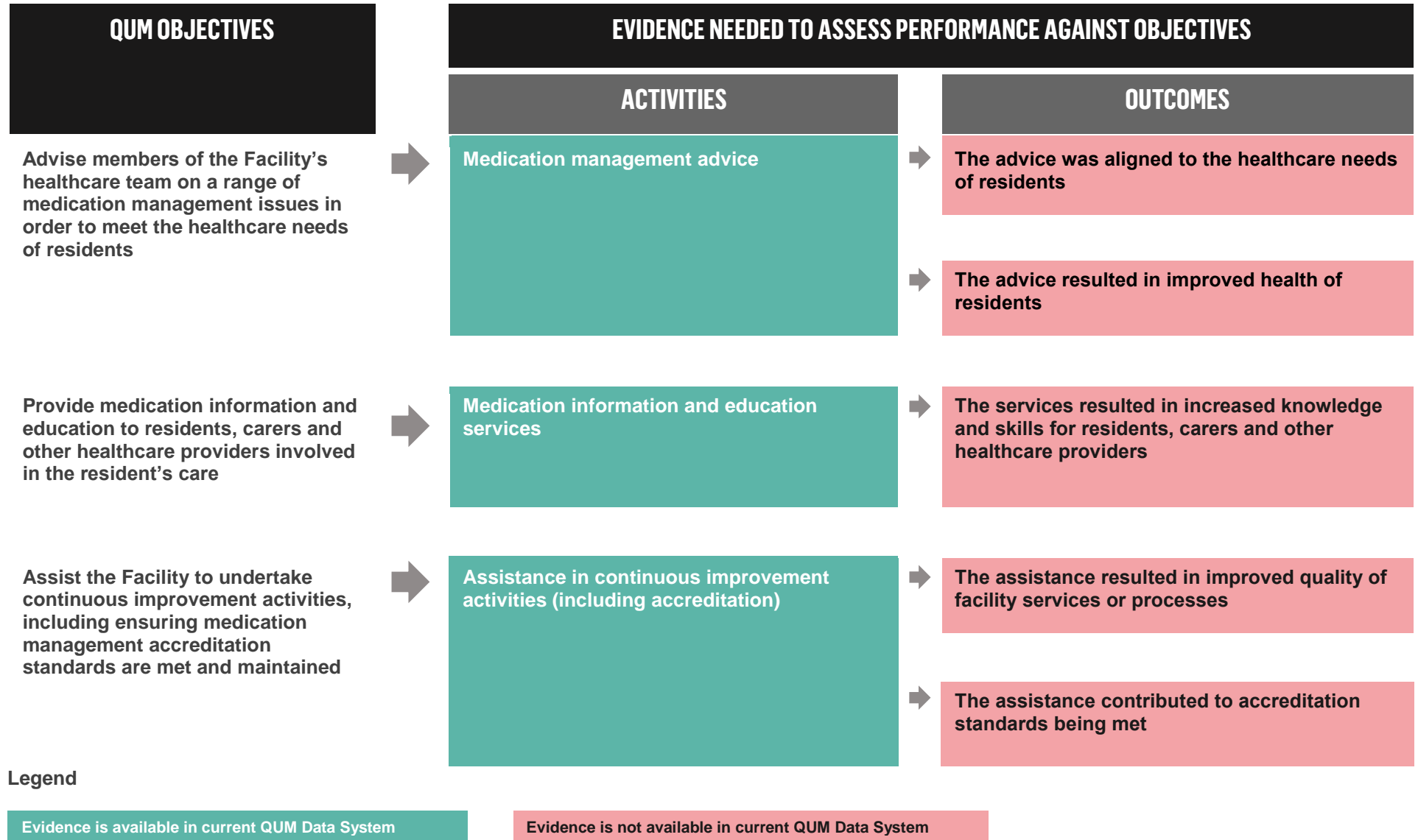
Table 1: Data collected in the current QUM data system

DATA TYPE	VARIABLE
Identification	ACF type (residential or multi-purpose)
	ACF Service ID
	ACF ID
	ACF Name
	ACF Address
	ACF Fax
	ACF Contact email address
	ACF Size (number of beds)
	Claim identifier
	Claim reference
	Pharmacy organisation number
	Pharmacy organisation name
	Activity
Claim payment date	
Claim type (i.e. RMMR – QUM)	
Amount claimed	
A selection of up to 13 QUM activities are identified in each claim	

This information enables the Department to assess identifiers of participating pharmacists and RACFs, and to complete analyses of how participation trends may change over time. This data also enables the Department to track activity levels across pharmacists and RACFs, as well as monitor trends in claiming patterns across the 13 QUM claim items.

This data enables the Department to partially assess the performance of the QUM program against its program objectives, but a complete assessment of the program's performance is not possible. This is because the current system does not include outcomes data. The QUM program objectives and availability of required evidence to measure performance in the current data system is shown in Figure 1 overleaf.

Figure 1: QUM Program Objectives, and availability of required evidence to measure performance in current data system



2. SUGGESTED METHODOLOGY FOR DEVELOPING OVERARCHING QUM DATA FRAMEWORK

The QUM data framework could be developed through a systematic review and redesign of the current data system

As shown in Figure 1, the current data collected for the QUM program relates only to activities. There is no outcomes data available, meaning that the Department cannot readily assess the impact of the program.

It is suggested that any changes to the QUM data system be informed by an overarching data framework that ensures all data collected relates specifically to the program objectives. This will enable the data system to support accurate measurement of the program's performance.

This framework should include both activity and outcomes data to build a holistic picture of the program's performance and impact. It could be developed through the following four stage process.

Stage 1: Establish performance measurement goals and data requirements

It is important to begin with the end in mind, and establish a clear vision as to what constitutes success for the QUM program. This vision should be reflected in the program's objectives, as these will directly influence what data is collected to measure performance of the QUM program.

Determining this vision and related data requirements will require consideration of the following.

- Do the program objectives still reflect the Department's expectations of the program? If not, how should they be adjusted?
- What evidence is required to measure performance against the objectives? What level of detail will be required for this evidence to determine whether the program has met or exceeded its objectives?
- What data would provide the evidence required (e.g. activity data such as number of QUM activities; and outcomes data such as reduced falls, polypharmacy and use of sedatives or psychotropics)?

A suitable method for completing this stage would be a facilitated workshop with the Department and key stakeholders of the program. Attendees would need to brainstorm and build consensus on the program objectives, and identify the related evidence and data required to measure performance against the objectives.

Stage 2: Conduct gap analysis between current and required data collection

Once the Department has determined the data requirements for the QUM program (based on the program objectives), this information must be compared to what data is currently collected for the program by completing a gap analysis.

This will reveal where the current data system already meets the Department's needs, and where evidence gaps exist. The gap analysis should be undertaken with the following considerations in mind.

- What data that is currently collected will enable the Department to measure QUM's performance?
- What additional data is required to provide all needed evidence of performance?
- Is this additional data readily available or would new tools or systems need to be created?
- What costs are involved in collecting any additional data required?
- Is any data currently being collected no longer needed?

The gap analysis could be completed through a systematic review of available data in the current system against the data requirements identified in Stage 1. Consultation between the Department and participating pharmacists or RACFs who may ultimately be responsible for inputting data would support this process.

Stage 3: Develop a data framework, and build the tools and systems required

Once the gap analysis is completed, a QUM data framework should be developed and approved. The framework should include:

- program objectives
- evidence required to measure performance against objectives
- identification of appropriate data sources to provide the required evidence
- method and frequency of data collection.

Once the data framework is approved, work should commence to redevelop the existing data system to match the new framework. This may involve designing new data collection tools (such as forms or surveys), or adjusting the existing online claiming system to collect any additional data required. This process should take into account the following considerations:

- What new data collection tools need to be developed? Who will develop these, and what will be the process for data collection in using these new tools (i.e. online, paper forms)?
- Can the existing data collection system be adjusted to include new data requirements as determined in the gap analysis? If yes, what processes and costs are involved?
- If the current system cannot be adapted, what other suitable systems are available for purchase or commissioning? What costs would be involved?

It is suggested that the Department work in collaboration with an evaluation team to develop the framework, and with a digital technology team to bring all of the required evidence into a single digital system or database. Support may also be required to develop data collection forms or surveys which have appropriate levels of validity and reliability to ensure accurate measurement of performance.

Stage 4: Implement new system

Once the new system is fully developed, the Department will be able to implement it across the QUM program. This process will require the following decisions to be made:

- Should the system be implemented first as a pilot to minimise risks?
- How will system users be supported to adapt to the changed requirements?
- What training will be provided to system users?
- How will system errors and bugs be addressed during implementation?
- What performance reporting schedule is appropriate? How will data be extracted from the system to support this reporting?

Sustained engagement of the digital technology team who has developed the user-interface, as well as change management support or practices will support the implementation to be successful.

3. EXAMPLE FUTURE QUM DATA FRAMEWORK

The future data framework could blend activity and outcomes data to accurately measure performance against program objectives

The structure and contents of the future QUM data framework will depend on decisions made throughout its development (as outlined in section 2). With this caveat in mind, Table 2 on the overleaf provides some examples of future inclusions to the data framework which would blend activity and outcomes data for the program.

Table 2: Example variables for a blended activities and outcomes data framework for the QUM Program

PROGRAM OBJECTIVES	EXAMPLE VARIABLES FOR INCLUSION IN FUTURE DATA FRAMEWORK	EVIDENCE TYPE	DATA AVAILABLE IN CURRENT SYSTEM	EXAMPLE ADDITIONAL DATA SOURCES
Advise members of the Facility's healthcare team on a range of medication management issues in order to meet the healthcare needs of residents	Number of medication management advice activities provided to facilities	Activity	Yes	NA
	Level of alignment between advice provided and resident needs	Outcome	No	Facility assessment of resident needs, which can be compared to pharmacist activities
	Impact of advice provided on resident health	Outcome	No	Facility assessment of resident health outcomes (e.g. reduced falls, polypharmacy, and sedatives or psychotropic use) which can be compared to pharmacist activities
Provide medication information and education to residents, carers and other healthcare providers involved in the resident's care	Number of information and education activities provided to facilities	Activity	Yes	NA
	Impact of information and education provided on resident medication knowledge	Outcome	No	Resident self-report of increased knowledge as a result of information or education received
	Impact of information and education provided on carer medication knowledge	Outcome	No	Carer self-report of increased knowledge as a result of information or education received
	Impact of information and education provided on other healthcare providers medication knowledge	Outcome	No	Other healthcare provider self-report of increased knowledge as a result of information or education received
Assist the Facility to undertake continuous improvement activities, including ensuring medication management accreditation standards are met and maintained	Number of continuous improvement assistance activities provided to facilities	Activity	Yes	NA
	Impact of assistance provided on improved quality of facility services or processes	Outcome	No	Facility assessment of impact of assistance provided on continuous improvement activities
	Impact of assistance provided on accreditation performance of facility	Outcome	No	Facility assessment of impact of assistance provided on accreditation performance

The contents of Table 2 are not recommendations to the Department of what information should be included in the future data framework for the QUM program. Rather, they provide an indication of the types of data which may be suitable for inclusion, depending on decisions made by the Department about the program objectives, as well as the Department's expectations for what data the new framework should include.

4. CONCLUDING REMARKS

The QUM Program could benefit from a data framework that enables program performance measurement, but more research is needed to fully develop this framework

This review has found that the current QUM data system collects adequate information for measuring program activity levels, but does not enable the measurement of program outcomes. As a result, the Department is not able to measure the performance of the QUM program against its program objectives using the current data system.

It is recommended that the QUM program's data system be improved through the development of an overarching data framework based as the program objectives. A recommended approach to developing such a framework has been provided in Section 2, and example inclusions for the data framework have been provided in Section 3 of this appendix.

The recommendations and examples provided in this appendix are necessarily high-level, as further research and consultation would be required in the actual development of an overarching data framework than has been possible in this review. This is because measuring the impact of the QUM program on resident health outcomes will be complex, as many factors can influence a resident's health beyond the scope of the program. These factors will need to be identified and controlled for any outcome measurements included in the QUM data framework.

If the Department wishes to pursue the development of an overarching data framework, it is recommended that adequate levels of research and consultation are completed in order to develop a more sophisticated system. The data framework may also require investment in suitable technology to support ease of data collection.

APPENDIX E REFERENCES

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