

ORIGINAL RESEARCH

Exploring example models of cross-sector, sessional employment of pharmacists to improve medication management and pharmacy support in rural hospitals

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ABSTRACT

Introduction: Many rural hospitals in Australia are not large enough to sustain employment of a full-time pharmacist, or are unable to recruit or retain a full-time pharmacist. The absence of a pharmacist may result in hospital nurses undertaking medication-related roles outside their scope of practice. A potential solution to address rural hospitals' medication management needs is contracted part-time ('sessional') employment of a local pharmacist external to the hospital ('cross-sector'). The aim of this study was to explore the roles and experiences of pharmacists in their provision of sessional services to rural hospitals with no on-site pharmacist and explore how these roles could potentially address shortfalls in medication management in rural hospitals.

Methods: A qualitative study was conducted to explore models with pharmacists who had provided sessional services to a rural hospital. A semi-structured interview guide was informed by a literature review, preliminary research and stakeholder consultation. Participants were recruited via advertisement and personal contacts. Consenting pharmacists were interviewed between August 2012 and January 2013 via telephone or Skype for 40–55 minutes.

Results: Thirteen pharmacists with previous or ongoing hospital sessional contracts in rural communities across Australia and New Zealand participated. Most commonly, the pharmacists provided weekly services to rural hospitals. All believed the sessional model was a practical solution to increase hospital access to pharmacist-mediated support and to address medication management gaps. Roles perceived to promote quality use of medicines were inpatient consultation services, medicines information/education to hospital staff, assistance with accreditation matters and system reviews, and input into pharmaceutical distribution activities.



Conclusions: This study is the first to explore the concept of sessional rural hospital employment undertaken by pharmacists in Australia and New Zealand. Insights from participants revealed that their sessional employment model increased access to pharmacist-mediated medication management support in rural hospitals. The contracting arrangements and scope of services may be evaluated and adapted in other rural hospitals.

Key words: Australia, hospital pharmacy, pharmacist roles, qualitative, quality use of medicines, service delivery model.

Introduction

Recruitment and retention of a skilled health workforce is a well-established challenge in rural Australia¹. Despite recent reports of a general oversupply of pharmacists², there remains a shortage of pharmacists in rural areas. A 2012 Allied Health Workforce report indicated that the number of pharmacist per 100 000 population in outer regional areas and remote areas are two-third and half, respectively, of that in major cities (129 pharmacists per 100 000 population)³. Many rural hospitals are unable to recruit or retain a full-time pharmacist, or are not large enough to justify employment of a full-time pharmacist, which results in a less attractive employment option^{4,6}. This has been reported to impact on medication management services in those areas^{4,7,8}. Specific areas of concern include the absence of a pharmacist's involvement in medication review, medication reconciliation, dispensing, patient and staff education, and quality management relevant to medications⁹.

Pharmacists have a significant role in medication management as advocates of quality use of medicines (QUM)¹⁰⁻¹³. Specifically, a multi-hospital study conducted in 1998 demonstrated the value of pharmacists' interventions in preventing or addressing serious medication-related problems, improving effectiveness of therapy and reducing patient morbidity¹⁰. This resulted in reduction in length of stay, readmission probability and expenditure resulting from hospitalisations (annualised cost savings exceeding A\$4 million for the eight study hospitals)¹⁰. Despite the value of pharmacists' contributions to clinical services and the call for increased roles for pharmacists in rural healthcare^{4,14}, there is little evidence to guide the development of pharmacist-driven support services in rural hospitals.

In rural hospitals without a pharmacist on staff (referred as non-pharmacist hospitals), registered nurses commonly extend their roles to provide technical pharmacy services. This included stock ordering, supplying medication and providing basic medicines information^{5,8,15,16}. These roles have been perceived to be beyond nurses' scope of practice, add workload burden to nursing staff, and are not as comprehensive as the medication management services provided by a pharmacist^{8,15-17}. Indeed, studies have highlighted the need for increased involvement by pharmacists in non-pharmacist hospitals to address gaps in medication management services^{5,8,16,18}.

Preliminary research in a rural community in Queensland has revealed that part-time contracted ('sessional') pharmacy services, usually provided by the local community pharmacist, had been instigated to address medication management shortfalls in rural non-pharmacist hospitals^{16,19}. This mirrors traditional models of rural general practitioners providing contracted services to their local public hospital ('cross-sector')^{1,8,20}, but there are few such reported models for allied health providers²¹. Moreover, there is no known research into such models involving pharmacists.

The term 'sessional' was adopted from the Australian Pharmacy Council's *Remote rural pharmacists* project report (2009)⁸ and preliminary research, as a mode of employment of pharmacists to provide medication management support to non-pharmacist sites. A relevant description of 'sessional' is provided by the Society of Hospital Pharmacists of Australia's *A Victorian public hospital pharmacy workforce analysis* (2002)²². This report described sessional pharmacy service as contract services by an external pharmacist who is not an employee of, or based at, the hospital²². Due to the lack of research into



this topic, the operational definition of 'sessional' was adapted as follows:

- a local community pharmacist providing medication support to the non-pharmacist hospital
- a visiting pharmacist from a nearby town or a town within the rural district providing medication support to a non-pharmacist hospital
- an accredited pharmacist (local or visiting) providing medication management services to a non-pharmacist hospital.

The second and third descriptions overlap somewhat with the concept of 'outreach' services. However, sessional services comprise *cross-sector* contracted services of an external pharmacist. In contrast, outreach hospital pharmacy services typically involve metropolitan or regionally based pharmacists of a large hospital to provide consultation support or services to a *rural facility within the hospital's governance area*¹⁹.

Findings reported in the present article were part of a larger study investigating rural medication management services. It has been reported through this study that non-pharmacist service providers may not recognise the value of a pharmacist's involvement, which challenged the integration of pharmacists in a rural hospital setting favouring acute medical and nursing services²³. Hence, the aim of the present study was to explore the roles and experiences of pharmacists who provided cross-sector, sessional services to rural hospitals that had no on-site pharmacist and explore how these roles could address shortfalls in medication management in rural hospitals. The present article highlights the significance of a pharmacist's involvement in patient care and provides examples of service delivery models for other rural hospitals to adapt when considering strategies to address medication management needs.

Methods

This study used exploratory research methods to provide in-depth insights into the sessional employment contracts negotiated by participants²⁴.

The sampling approach aimed to identify any non-hospital pharmacist who provided medication management services, preferably beyond emergency medication supply and dispensing support, to a rural hospital. The study was advertised in professional newsletters, networks and online forums in Australia. The advertisement outlined the study's inclusion criteria (eg a community pharmacist servicing a local rural hospital, a community or hospital pharmacist servicing a hospital within the rural district, or an accredited pharmacist servicing a rural hospital). A snowball²⁵ recruitment method through respondents was used to identify further participants who fulfilled the study's inclusion criteria. Recruitment continued until theme saturation had been perceived by the interviewer, and/or avenues for recruitment had been exhausted. Sampling in Australia was exhausted using the above advertisement strategy, and the study was extended to include New Zealand (NZ) pharmacists. Recruitment in NZ was facilitated by two academic contacts who identified potential participants from hospital lists.

All recruited pharmacists confirmed the relevance of their role in relation to sessional employment of pharmacists in rural areas and were given information about the study prior to interview. The semi-structured interview guide²⁴ was informed by literature review, preliminary research and stakeholder consultation. The interviews explored the underlying reason(s) for establishing the sessional contract, the scopes of services, logistic arrangements (eg remuneration, hours, contract length) and perceived outcomes. Interviews were conducted either by telephone or Skype between August 2012 and January 2013. Participants provided verbal consent at the start of the interview. All interviews were recorded. Interviews were 40–55 minutes each and participants were mailed a gift card (A\$50 or NZ\$50) to compensate for their time. Participants were de-identified and the interviews were transcribed verbatim (excluding formalities and comments unrelated to sessional pharmacy services). The transcripts were then manually screened by author AT for common themes, which were reviewed, refined and validated by authors LE, LH and ALC.



A detailed description of the method for the overall study, including the interview guide, is reported elsewhere²³.

Ethics approval

Ethics approval for data collection was obtained from the University of Queensland's School of Pharmacy Human Research Ethics Committee (2012/9).

Results

Seventeen pharmacists participated in the study and described models implemented in New South Wales, Queensland, South Australia, Western Australia, NZ South Island and NZ North Island (Australian participants are annotated 'A' and NZ participants annotated 'NZ'). Thirteen participants (Table 1) already had experience in providing sessional services to a non-pharmacist hospital. Four participants had negotiated or were interested to implement sessional employment contracts, but had not practised in this capacity. These were excluded, as this paper focuses on sessional services that had been implemented, rather than theoretical models. Facilitators and barriers from the perspective of these four participants have been reported elsewhere²³.

Of the 13 models, two had expanded into full-time positions (Table 1), eight were ongoing sessional positions (Table 2), and three had been discontinued (Table 3). At the time of service provision, participants A1, A2, A9, A10, NZ1, NZ2, NZ3, NZ4 and NZ5 were local members of their communities. Participants A4 and A6 had work experience in other rural communities. Participants A3 and A7 were located in a regional town and major city, respectively, with experience providing medication management services and support to rural communities.

The majority of participants believed they were the first pharmacist to service the rural hospital. Participants A7, A10 and NZ3 were involved in instigation of the service, whereas other participants 'fell into' the sessional role when it was being instigated. Although participants A6 and NZ3 were not the first to be involved in sessional support, they provided enhanced clinical

support to their respective hospitals that previously only received pharmaceutical distribution support from the local community pharmacy. Participant A1's and A2's roles expanded over the duration of their sessional employment.

Most models were located in towns of fewer than 5000 residents, with one or more hours travel by road from a major service hub. The inclusion of models from larger or regional towns (A2, NZ1 and A10) was to broaden the discussion of sessional employment models, given the lack of research into this topic. To maintain confidentiality, participants are not associated in this article with their location of practice, departments or companies, age or years of practice. Three key themes (the need for a pharmacist involvement at the rural hospital, sessional employment of a pharmacist as a practice initiative, and the value of the pharmacists' involvement in improving QUM) and supporting quotations are presented below.

Need for pharmacist involvement

A common theme towards the establishment of the models was the need to address medication management gaps in the rural non-pharmacist hospitals.

Some hospitals (A9, NZ1, NZ2, NZ4, NZ5) previously had an on-site pharmacist or a pharmacy department, but restructuring resulted in losing the pharmacist position and the pharmacy department. However, a sessional pharmacist position was initiated in each of the hospitals due to the need for continuous and ongoing medication management support in these hospitals:

They had one [district] pharmacist to cover all of the hospitals and smaller sites in both the clinical and [pharmaceuticals] supply role. [The pharmacist] wasn't able to actually come out on site, because [the pharmacist] was so busy with the supply role. So then they had a rethink and recognised that they were being left open to at-risk issues because of medication error. They decided to restructure and put one [district supply] pharmacist in their main [hospital], and then they wanted to have two clinical pharmacists to service separate areas of the region. (A9)



Table 1: Descriptions of expanded sessional models

Participant code	Funding	Contract arrangement	Basic town profile
A2 – A community pharmacist who provided services to two hospitals 30 km apart	Local area health service	Started in 1988 at 6 hours per week, gradually increased to 20 hours per week over many years. At the time of study, the model had expanded to 5 days per week in one hospital and 4 days per week in the other hospital, with new pharmacists recruited.	<10000 residents Hospital 1: <100 beds Hospital 2: <50 beds PhARIA: Category 2
A9 – An accredited pharmacist servicing a local hospital and another hospital 160 km away	Local area health service	Started in approximately 2009. No specific hours were allocated, but at least once a fortnight when not occupied with private medication review services. At the time of study, A9 started a new position to service the two hospitals full-time.	Town 1: <10000 residents Hospital 1: <50 beds PhARIA: Category 3 Town 2: <5000 residents Hospital 2: multipurpose service [†] , <50 beds PhARIA: Category 5

PhARIA, Pharmacy Access/Remoteness Index of Australia; <http://gisca.adelaide.edu.au/projects/pharia.html>

[†] Multipurpose services in Australia are jointly funded by the Australian Government and state or territory governments to provide a combination of acute hospital, residential aged care, community health and home care services.

Table 2: Descriptions of ongoing sessional models (at the time of study)

Participant code	Funding	Contract arrangement	Basic town profile
A1 – A community and accredited pharmacist servicing the local hospital	Local area health service (0.2 FTE) + federal funding (QUM/RMMR [†])	Started in 1999/2000. Inpatient services in the acute section one day per week, QUM/RMMR [†] services in the aged care section in the participant's own time.	<1000 residents Hospital: multipurpose service [‡] , <50 beds PhARIA: Category 4
A3 – An accredited pharmacist servicing four hospitals in a rural district	Federal funding (QUM/RMMR [†])	Started since 2007. One visit per year to each site (usually four sites in one trip), 450–800 km away from A3's town + remote medication review services when required.	All towns: <1000 residents All hospitals: multipurpose service [‡] , <20 beds PhARIA: Category 5–6
A7 – A metropolitan hospital pharmacist providing remote clinical support to a rural hospital and its pharmacist	Supply/QUM contract between hospital and pharmacy + federal funding (QUM/RMMR [†])	Started in approximately 2006. Weekly remote support to a rural pharmacist servicing the local hospital sessionally + community visits five or six times a year (QUM/RMMR [†] services).	<5000 residents Hospital: multipurpose service [‡] , <50 beds PhARIA: Category 5
NZ1 – A community pharmacist servicing the local hospital	Local hospital	Role started in approximately 2005/2006, the model was initiated prior. Visited the hospital 1 hour per week.	<15000 residents Hospital: partially community owned, <50 beds
NZ2 – A community pharmacist servicing the local hospital	Local hospital	Started in approximately 2000. Visited the hospital 3 hours per day, 5 days per week.	<5000 residents Hospital: partially community owned, <50 beds
NZ3 – A community pharmacist servicing the local hospital	Supply/clinical service contract between hospital and pharmacy	Started in approximately 2001/2002. Visited the hospital twice a day, 5 days per week.	<5000 residents Hospital: <50 beds
NZ4 – A community pharmacist servicing the local hospital	Base/regional hospital	Model started in approximately 1997–2002, role started in approximately 2005/2006. Visited the hospital 2 hours per day, 2 days per week.	<5000 residents Hospital: <50 beds
NZ5 – A community pharmacist servicing the local hospital	Local district health board	Role started in approximately 2005, model was initiated prior. Visited the hospital 2.5 hours per day, 2 days per week.	<5000 residents Hospital: <50 beds

[†] The Australian Government Department of Health provides payments to accredited pharmacists to provide RMMR and QUM services in approved multipurpose service hospitals. An RMMR is provided to eligible permanent residents in the facility to identify, resolve and prevent medication-related problems for the specific patients; a QUM service includes medication advisory, education and continuous/audit activities for the approved facility.

[‡] Multipurpose services in Australia are jointly funded by the Australian Government and state or territory governments to provide a combination of acute hospital, residential aged care, community health and home care services.

FTE, full-time equivalent. PhARIA, Pharmacy Access/Remoteness Index of Australia; <http://gisca.adelaide.edu.au/projects/pharia.html>. QUM, quality use of medicines. RMMR, residential medication management review



Table 3: Descriptions of discontinued sessional models

Participant code	Funding	Contract arrangement	Basic town profile
A4 – A sole pharmacist who provided services to a community and hospital pharmacy	Locum arrangement	Replaced two pharmacists (one serviced the community pharmacy, and the other serviced the hospital) for 6 weeks. Visited the hospital an hour before community pharmacy's opening hour, then followed up with the hospital on-site or off-site after closing the community pharmacy. Model was discontinued when locum arrangement ended. A4 was not sure if the model had been continued.	Town undisclosed
A6 – A sole community pharmacist in the town who provided services to the local hospital	No remuneration	Started in 2007 for 18 months. The participant serviced the hospital whenever available. A6 left to undertake a new position in a metropolitan hospital and commented that the town was having difficulties retaining a pharmacist.	<5000 residents Hospital: multipurpose service [†] , <100 beds PhARIA: Category 4
A10 – A community pharmacist who provided services to two local regional (private) hospitals	Contract between the community pharmacy and the hospital	One private hospital received sessional service for more than 10 years prior to 2012, but it now has a pharmacy on-site. The other (specialist) hospital had been serviced by A10's pharmacy for 10–12 years prior to 2012, before being closed indefinitely.	<10000 residents Hospital: private hospital, bed numbers unknown PhARIA: Category 1 (regional centre)

[†]Multipurpose services in Australia are jointly funded by the Australian Government and state or territory governments to provide a combination of acute hospital, residential aged care, community health and home care services.
PhARIA, Pharmacy Access/Remoteness Index of Australia; <http://gisca.adelaide.edu.au/projects/pharia.html>

Similarly, participant A4, who provided locum services at a rural community pharmacy, commenced to provide sessional support to the local hospital when both the community and hospital pharmacists left simultaneously.

Hospitals described by the other seven participants had not previously received pharmacist support, and therefore established the sessional models due to unmet medication management needs, hospital service expansion and/or the desire to provide enhanced medication management service:

The area here has shown significant growth, particularly with tourism, horticulture ... about 12 years ago, the services at the hospital needed to be reviewed ... it was seen that a pharmacy service to the hospital needed to be redefined. (NZ3)

Participants reported that the medication management needs and gaps were initially recognised by hospital staff, with most hospitals being managed and serviced by nursing staff. While several of the sessional models appeared to have relieved medication-related responsibilities from rural nurses, most of the models were established in view of providing additional clinical support and services.

Sessional employment as a practical initiative

A second apparent theme from the interviews was the practicality of the sessional models to address medication management needs in rural hospitals that were unable to recruit or retain a full-time pharmacist:

We knew the hospital could never support an in-house pharmacy, so whatever pharmacy services it received would have to be from a local community pharmacy. (NZ3)

Sessional employment of the local community pharmacist was considered practical to address the lack of inpatient clinical pharmacy and medication management services. This would also avoid reliance on outreach support that could be costly, infrequent, irregular or non-engaging at the community level:

It is kind of too expensive to send the pharmacist out here and drive back and then pay the hospital services ... Rather than pay for the pharmacist to travel around and only be there for short periods of time, [the base hospital] asked the pharmacy here whether they could contract one of their pharmacists out to do that job. (NZ5)



There are quite a few situations where one pharmacist from the bigger hospital [provides] outreach to some of the smaller hospitals, but this [sessional model] is seen to try and reduce the workload for the pharmacists who were full-time employed [at the bigger hospitals], so they can focus on the bigger hospital. (A1)

Participant A7 added that the local knowledge of the sessional pharmacist is valuable in order to implement a medication management plan for a patient within the community. The participant commented that a metropolitan or regionally based pharmacist providing outreach support lacks such perspective, which may hinder continuum of care and holistic health management:

... when this community pharmacist now goes to the hospital and sends me those charts, [the pharmacist] can view that person from a small rural community in context ... [the pharmacist] can translate that information and knowledge to help him/her provide the services in the hospital. (A7)

Not all sessional models involved the local community pharmacist. The next practical consideration was to utilise pharmacists already available within the local rural district to provide the sessional services. Participants A3 and A9 were approached to provide medication management support to rural hospitals within their area of service while also providing specialist medication review services to home-based and residential aged care patients in the area.

The value of pharmacists in improving quality use of medicines

Many participants commented on existing practices of community pharmacies supporting the local hospital in most rural communities through emergency medication supply and medicine information. However, a common theme reported was that sessional arrangements provided increased opportunities for comprehensive medication management support to improve QUM, which also resulted in improved patient care and reduction in workplace stress for the hospital staff (ie nurses). Table 4 summarises examples of QUM-related roles and scopes of practice; these were tailored to the hospital's needs, contractual arrangement, workforce

capacity and funding availability. The following is a narrative description of the roles undertaken by participants and the perceived significance of the roles to address the medication management needs in their rural community.

Inpatient medication management: Given the limitations of sessional contracts and the need to keep within allocated time constraints, most participants focused on inpatient medication management support. Examples of inpatient services included medication chart reviews, patient counselling, medication reconciliation, therapeutic drug monitoring, discharge planning and medicine information support. Several participants also participated in ward rounds, which enhanced clinical engagement with other healthcare professionals working at the hospital. Examples were provided on medication misadventures or errors that were more likely to take place if a pharmacist is not involved in medication management review and reconciliation:

People being given medications that they were allergic to ... patients on warfarin not being monitored or being given new medications that would interact with the warfarin ... it took longer to pick them up, because the nursing staff were looking after them, and the doctors would come if there was an emergency, but they may not get to see the patients every day. (A6)

There have been multiple incidences where either [a patient] was on something and it was missed off the chart, or [a patient] was on something that was ceased, but it was put on the chart because [the nurses] were using old medical records... [the nurses were] mixing therapies because it wasn't reconciled or they just couldn't read what the doctor had written. (A9)

Participant NZ1 noted the value of being involved in a patient's discharge process in maintaining continuity of care and facilitating discharge planning and medication information transfer:

It makes easier the transition between the hospital and the community ... quite often, by going [to the hospital], I know which one of our patients is in hospital. (NZ1)

Clinical governance support: Apart from in-service education, some participants assisted in hospital accreditation



matters relevant to medication management and QUM. Participant A7 provided an example of his/her assistance:

I help them out by supplying ... policies and procedures [and drug bulletins] from our hospital that they can adopt there ... just recently, as part of our accreditation requirements, we needed to have a policy for handling cytotoxic drugs in the hospital ... So they got the Director of Nursing to [adapt our hospital's policy], and sent it back and asked if it looked right, I said 'Change here, fix that and I think you've now got a workable policy on handling cytotoxics.' And it did work out. (A7)

Some participants were involved in reviewing the hospital's system and processes through participation in medication charts audit, a drugs and therapeutics committee or hospital board meetings. Participant NZ2 provided examples of clinical governance roles undertaken:

We review cases where there have been deaths, or in the previous months, the lengths of stay are over 10 days, antibiotics audits, any complaints ... I just got invited to be a part of the team to be an extra ear I suppose ... Another job that I do, is that any incident reports that are related to medications, I have to review all the incident reports. (NZ2)

Pharmaceutical distribution support: Some participants were able to demonstrate the value of their model through rationalising medicine storage and ordering. While these were sometimes considered unimportant tasks by some pharmacists, participant A2 commented on the marked improvement with his/her involvement and input:

Making storage generic [instead of by brand names] ... there were nine different versions in the wards, you only needed one if you store things generically. I did expiry dates checking ... getting things out of the fridge that shouldn't be in the fridge, and putting things in the fridge that should have been. Then I introduced imprest [a type of financial accounting system], so you have a standard drug stock on each ward. And I took over the drug order ... Nurses like that ... I saved my wage by rationalising drug expenditure. (A2)

With the exception of participants A2, A7, A10 and NZ3, the hospitals involved generally received pharmaceutical supplies

from their respective base or district hospitals, managed by the hospitals' nurses. However, some participants also provided information support for hospital nurses, perceived to improve medication management standards and reduce stress for the nurses.

[This role] puts the nurses under a lot of stress ... We don't do very much other than to educate them about brand changes, and look out for faulty stock. We don't have time to do [other stock management tasks], and they're doing that quite adequately. I'm not saying errors don't happen, because they do, but [the nurses are] doing it the best they can with the resources they've got. (NZ4)

Dispensing was not part of the responsibilities of many sessional pharmacists. However, participants' inpatient involvement was generally perceived to contribute to good dispensing practices through reviewing the appropriateness of the therapy and provision of medicine information to patients.

Discussion

This is the first study to explore rural sessional employment models involving pharmacists across Australia and New Zealand. This article provides rural practitioners and those involved in policy development with example models to address medication management needs, and contributes research data around integrated health services, identified as lacking by an international review²⁶. While the roles reported by participants are routinely provided in metropolitan regions⁹, preliminary research has shown that these are lacking in rural areas in the absence of a pharmacist's involvement^{4,6,15,16,18}. This article highlights the contribution of the participants to improve medication management through their role as sessional pharmacists. The findings indicate that these medication management roles should not be ignored, and for the reported models to be considered in rural communities. Despite the small number of pharmacists providing sessional services, the strength of this study lies in the in-depth perspectives obtained through qualitative techniques. The participants had little awareness of other pharmacist sessional models, which highlights the professional isolation and the lack of networking between pharmacists in rural areas^{7,8}, further confirming the need to disseminate these findings.



Table 4: Sessional roles (non-comprehensive) as described by the participants

Roles	Expanded models		Ongoing models								Discontinued models		
	A2	A9	A1	A3	A7	NZ1	NZ2	NZ3	NZ4	NZ5	A4	A6	A10
Inpatient consultation services (clinical review, prescription review, patient therapeutic drug monitoring, patient counselling relevant to medications, patient discharge facilitation)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Staff training, in-service education or quality use of medicines advisory information			✓	✓	✓								✓
Clinical governance, accreditation review, therapeutic drug/formulary review	✓	✓			✓	✓	✓		✓				✓
Pharmaceuticals distribution (ordering, stock control, storage)	✓				Community pharmacy		Community pharmacy	✓					✓
Dispensing (inpatient, discharge, dose administration aids)	✓		✓					✓					✓
On-call support	✓		✓					✓					✓

Based on the models described in Tables 1–3, the majority of the pharmacists involved were employed in the rural area as a community pharmacist or accredited pharmacist. This enabled greater frequency of face-to-face support to improve medication management and promote QUM, as opposed to infrequent or irregular outreach services limited by travel distances and costs as reported in other studies^{8,16,19}. While there are similarities between the explored sessional models, variation was noted regarding funding, contractual arrangements and scopes of services. These were commonly tailored to meet the needs of the local rural community and the service providers (pharmacist and hospital). This reflects the notion that ‘no one size fits all’ in rural Australia²⁷.

The majority of the sessional models were reportedly instigated due to unmet, or a gap in, medication management needs. This correlates with findings from preliminary research^{15,16,19}, and other studies that identified unmet healthcare needs as a driver for cross-sector partnerships to optimise rural resources^{21,26,28,29}. The range of medication management roles (Table 4) undertaken by the sessional pharmacists highlights the value of pharmacists beyond

dispensing and pharmaceutical stock control. In the absence of formal evaluation trials and quantitative outcomes data, this study explored perceived values of these roles. Insights from participants revealed that sessional employment models increased access to pharmacist-mediated support in non-pharmacist rural hospitals. Participants reported organisational improvements in stress and workload reduction for hospital nurses who undertook medication management roles through increased provision of pharmacy support. Another reported outcome was improvement in inpatient medication management through therapeutic recommendations and interventions, medication reviews and other clinical pharmacy support services. The reported sessional models thus offer an opportunity to address rural medication management issues and gaps reported for hospitals with no on-site pharmacists^{5,8,15,18}.

On the other hand, participants also reported indirect improvement in patient care through involvement in clinical governance advocating for QUM. Participants’ additional involvement in clinical governance activities was considered interesting, given reports by the Australian Institute of Health



and Welfare³⁰ that rural hospitals in Australia were less likely to be compliant under relevant hospital accreditation measures. A separate report identified that QUM is one of the key criteria monitored for accreditation²⁰, and therefore the involvement of a pharmacist to provide medication management and advisory support would be valuable, as illustrated in the findings.

While pharmaceutical distribution and medication supply roles were not a focus of the interviews, insights from participants revealed the significance of a pharmacist's involvement in the supply process. There were speculations around cost containment resulting from stock rationalisation and reduced reliance on outreach support by localising services. However, these were not quantified in this study, and could be investigated through health economic¹⁰, longitudinal³¹ or retrospective³² research methods. Despite their limited involvement in dispensing, it was understood that participants' involvement in inpatient clinical/medication management reviews, counselling/education and medication reconciliation would facilitate good dispensing practices. These elements are crucial parts of the medication management cycle⁹, and findings demonstrate the potential of a pharmacist in facilitating nurses who undertake extended pharmaceutical distribution and medication supply roles in rural hospitals.

Limitations

Insights in this study were limited to pharmacists' perspectives regarding their roles in improving rural medication management. Future studies could involve insights from other healthcare providers, and comparisons with sessional employment models negotiated by allied health and medical professionals, enabling triangulation of data. Insights were also limited to sessional employment models, excluding outreach pharmacy services by staff based in metropolitan hospitals and 'hub and spoke' telehealth models. Future studies could include comparison between these service models. Despite these limitations, findings reported in this study provide insight into this novel topic, and the examples can be considered as options to address rural medication management needs.

The lack of quantitative data and measurable clinical outcomes may challenge the promotion of sessional pharmacist models, as noted in other partnership studies^{26,31}. However, the main goals for sessional pharmacist services were to increase access to a pharmacist's support, and to fill a service gap relevant to medication management in non-pharmacist hospitals. Therefore, this study interpreted evidence as reported improvement in medication management in rural areas where healthcare resources are limited.

Implications

The challenges in provision of healthcare services in rural areas are well established. In Australia, these findings were timely following the release of the 2013 Grattan Institute report *Access all areas: new solutions for GP shortages in rural Australia*¹⁴. This report recognises the value of pharmacists as part of the healthcare team in providing medication management support, and the potential to expand pharmacists' roles in 'continued dispensing', vaccinations and chronic healthcare teams¹⁴. A discussion paper by the National Rural Health Alliance, published in 2013 and updated in January 2014, highlights rural medication management issues and the value of pharmacy involvement⁴. Perspectives from this study are considered valuable in informing the development of pharmacists' roles and a service delivery initiative (ie sessional employment) enabling pharmacists to implement these roles.

Conclusions

Overall, this study identified sessional employment models involving pharmacists as an initiative to address gaps in hospital medication management services in rural hospitals. Insights from participants revealed that their sessional employment model increased access to pharmacist-mediated medication management support in rural hospitals and that this initiative is practical in a rural setting. Roles perceived to promote quality use of medicines, therefore preventing medication misadventure, were inpatient consultation services, medicines information/education to hospital staff, assistance with accreditation matters and system reviews, and



input into pharmaceutical distribution activities. Insights and examples from this study could inform future exploration of similar models in other rural communities, in Australia and internationally.

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