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Sustaining rural pharmacy workforce understanding key attributes for enhanced retention and recruitment

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Abstract

Objective: To pilot the Pharmacist Community Apgar Questionnaire (PharmCAQ) and evaluate its usability and capacity to develop a greater understanding of the unique factors that impact the rural recruitment and retention of pharmacists.

Design: Cross-sectional design involving face-to-face, telephone or video conferencing interviews.

Setting: Twelve rural communities across Tasmania and Western Victoria, Australia.

Participants: Participants ($n = 24$) included pharmacists, a Director of Clinical Services, pharmacy practice managers and senior pharmacy assistants.

Main Outcome Measures: Interviews enabled the completion of the PharmCAQ, which assigns quantitative values to 50 key factors to ascertain a community's strengths and challenges associated with recruitment and retention and their relative importance to the pharmacist workforce.

Results: The cumulative PharmCAQ scores indicated the tool was sensitive enough to differentiate high- and low-performing communities. Overall, the highest-rated factors considered most vital to pharmacist recruitment and retention were the reputation of the pharmacy, the ability of the pharmacist to be independent and autonomous, the loyalty of the community to the pharmacy, the level and stability of monetary compensation and the breadth of tasks available to a pharmacist.

Conclusions: This study identified the strengths and challenges of participating communities and provided an insight into the shared factors to consider in recruiting and retaining pharmacists. Further, each community has unique strengths that can further be promoted in recruitment, flagging where limited resources are best used to address site specific challenges. This is more likely to ensure the matching of the right candidate with the right community.

KEYWORDS
pharmacy, recruitment, recruitment and retention, rural health, rural workforce

1 | INTRODUCTION

The recruitment and retention of health care professionals remains problematic and continues to impact the health of rural and remote populations.[1–4] Rural and remote regions across the US, Canada and Australia have a rapidly ageing health workforce with several policy responses to sustain rural health services making some gains.[3,5–8] Nevertheless, rural communities continue to experience significant challenges in recruiting and retaining pharmacists.[9–11] Initiatives to facilitate rural pharmacist recruitment and retention in Australia include funding and training packages to support inter-professional rural placements for pharmacy students and incentives to attract pharmacists to rural communities.[6,12] However, there remains a greater emphasis on undergraduate pharmacy students, with limited focus on the post-registration pharmacist workforce.[10,11]

Many characteristics impact on the recruitment and retention of pharmacists in rural communities.[10,11,13] However, there are clear measures regarding which of the many factors identified are considered the most vital to a community and important for a pharmacist when contemplating rural employment are absent. As such, there remains a need to measure these factors to ascertain if they are key community assets, while providing insights into how key challenges can be uniquely and practically addressed to recruit and retain a much-needed workforce.[11,14,15]

The Community Apgar Questionnaire (CAQ)[16] was developed as a real-time solution to assist rural communities in the US to address similar workforce challenges associated with physicians[9,16–18] and later for nurses.[2,3] A similar development process was followed in developing the Pharmacist Community Apgar Questionnaire (PharmCAQ) as an evidence-based tool to help drive better pharmacist recruitment and retention throughout rural areas.[11] To achieve the PharmCAQ development, a modified Delphi technique was employed where a panel of experts were purposively selected, representative from organisations with rural pharmacist experience. These experts were from organisations which included the Society of Hospital Pharmacists of Australia, the Pharmaceutical Society of Australia, the Pharmacy Guild of Australia, the Pharmacy Board of Australia, and government health agency and public hospital. In addition, three local and international rural health workforce experts were also included in the modified Delphi.

What is already known on this subject:

Despite the constellation of push and pull factors attributed to rural pharmacist recruitment and retention, a lack of clear understanding remains regarding which factors are considered the most vital or most challenging

What this paper adds:

The paper quantifies the strengths and challenges impacting recruitment and retention of the rural pharmacy workforce, while highlighting key selling points to consider when matching candidates with communities. Overall, the key attributes for enhanced recruitment and retention are associated are the reputation of the pharmacy, the ability of the pharmacist to be independent and autonomous, the loyalty of the community to the pharmacy, the level and stability of monetary compensation, and the breadth of tasks available to a pharmacist

All members of the modified Delphi participated in three separate focus groups of 45–60 min duration to review, rate and discuss the many factors associated with rural pharmacist recruitment and retention identified within the international literature.[11,19] The review and refinement of the key drivers of rural pharmacist recruitment and retention were discussed, leading to the PharmCAQ being developed as elsewhere described in detail.[19] The PharmCAQ comprises 50 factors with each factor being grouped according to five classifications, which was consistent with the format of the other Community Apgar tools associated with Pharmacist and Nurses.[2,3,9,16–18] The five classes within the PharmCAQ included Geographic, Economic and Resources, Practice and Scope of Practice, Practice Environment, and Community Practice Support.[11,19]

Specifically, geographic and family-related factors have been cited within the literature as often being the leading contributors to recruitment and retention of rural pharmacists, and include rural origin, followed by the quality of life, and life satisfaction associated with living in rural areas.[7,8,20–26] However, among the constellation of factors associated with rural recruitment and retention of pharmacists, access to good quality schools or education

systems for the children of pharmacists,[25] better access to recreational, physical and sporting opportunities,[23] and the size of the community are also considered vital.[8,26] Economic and resource factors have also been associated with rural pharmacist workforce recruitment and retention, where financial income was a driving factor,[8,20,22–24,27,28] followed by other financial incentives and benefits.[8,21–23,26,28] Lastly, the lower cost of living in rural areas[21,23] and housing affordability or availability were also key factors identified.[21,28]

Scope of practice or skills development factors can additionally have a profound impact on whether pharmacists stay or leave rural practice, and include having diverse work experiences, an expanded scope of practice, being independent and having practice autonomy.[22,27] Further, having adequate access to continuing professional development remains an essential enabler for rural pharmacists.[7,21–23,28,29] The practice environment and associated factors also influences rural pharmacist workforce recruitment and retention, which includes a positive work environment, a better pace of work, greater sense of intra- and inter-professional collegiality in rural areas and having adequate locum support.[21–25,28,29] Lastly, community practice support factors encapsulate contributing and serving the health needs in the community, having a sense of belonging to a rural community and feeling valued or needed as an essential member of the rural community.[8,20–22,24,27,28] Having developed the PharmCAQ,[11,19] the aim of this study was to pilot the PharmCAQ to evaluate the tool's usability, and its capacity to identify key advantages and challenges, while developing a greater understanding of the broad and unique factors that impact the rural recruitment and retention of pharmacists.

2 | METHODS

The target communities for this research were in rural Tasmania and the Western region of rural Victoria, Australia, with approximately 630 000 and 73 000 people living across 22 173 and 22 821 square kilometres (8561 and 8811 square miles) respectively. The six towns included in the study located in rural Tasmania, were in local government areas (LGAs) with a Modified Monash (MM) remoteness category of 5–6, while the six towns located in Western Victoria were in the LGAs with a MM remoteness category of 4–5.[30] A total of 12 communities with pharmacies within public health services or private rural pharmacies participated in the study. The communities were targeted purposively by the researchers based on their local knowledge regarding the relative rurality of the communities and the challenge each community experiences in recruiting and retaining pharmacists. In addition, the pharmacists in each community were identified through the professional contacts of the pharmacist researchers. After an initial introduction, informed consent to participate was obtained. Although other communities ($n = 4$) had shown interest, pharmacists were unable to commit time to participating in the research.

The PharmCAQ utilises 50 factors grouped into five classes which include (1) Geographic, (2) Economic and Resources, (3) Practice and Scope of Practice, (4) Practice Environment and (5) Community Practice Support factors. Three additional open-ended questions were also administered to identify any factor seen as significant but not addressed within the PharmCAQ tool. The administration of the PharmCAQ consisted of 30- to 60-min interviews with two individual participants from each community. Interviews were conducted either face-to-face, or utilising telephone or video conferencing technology. Participants included pharmacists, a hospital Director of Clinical Services, pharmacy practice managers, and senior pharmacy assistants who were familiar with the community and knowledgeable about the service's historical recruitment and retention practices. Senior pharmacy assistants were included when a pharmacist was a sole operator, where no other pharmacist practised, or where a second pharmacist did not agree to participate.

Once collected, data were cleaned, checked, analysed using SPSS version 24.0 and Microsoft Excel. PharmCAQ items were scored by assigning quantitative values to the four-point scale of community advantages or challenges for each factor (major advantage = 2, minor advantage = 1, minor challenge = −1 and major challenge = −2). Each factor was then weighted according to the participant's perceived importance on a four-point scale (very important = 4, important = 3, unimportant = 2 and very unimportant = 1). The average Apgar was calculated as outlined in the following algorithm:

$$\frac{\sum^{n} \text{Adv}}{n} \times \frac{\sum^{n} \text{Imp}}{n} = \text{Average Apgar}$$

The algorithm was applied to each participant's individual response with each score ranging from −8 to 8. The mean scores were then calculated for each of the 50 factors and five classes of the PharmCAQ. Higher scores were representative of a more developed community asset and capability related to pharmacy recruitment and retention. Any qualitative responses were aggregated in relation to the categories to which they were related to further enrich the understanding of the quantitative data. The reliability of the PharmCAQ was assessed using Cronbach's alpha coefficients, a standard measurement of reliability. The overall Cronbach's alpha was 0.840, which is above 0.7 and considered acceptable.

Lastly, to ensure reliability and validity of the results and that all sites and different participant types were consistently scoring similar to one another. To achieve this, the PharmCAQ administered to community pharmacists were compared to scores obtained from hospital pharmacists, while also comparing scores between pharmacists and non-pharmacists. Analysis was achieved by using intra-class correlation coefficient (ICC) to determine the inter-rater reliability of the PharmCAQ scores between the community and hospital pharmacists across all sites.

2.1 | Ethics statement

This study has been reviewed by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards of the Declaration of Helsinki. As such, ethical approval was provided by Federation University Australia Human Research Ethics Committee (#A21-023) and The University of Tasmania Human Research Ethics Committee (#26068). All persons gave their informed consent before their inclusion in the study.

3 | RESULTS

Participants represented diverse practice settings and included 19 pharmacists, one Director of Clinical Services, one pharmacy practice manager and three senior pharmacy assistants. Each participant provided responses to the 50 factors within the PharmCAQ and the three open-ended questions. The average scores for factors within and across each class were rank ordered and the top 10 and bottom 10 PharmCAQ scores across all 50 factors were identified (Table S1).

3.1 | Advantages and challenges

The community and practice support class was identified as the highest community advantage followed by personal practice/scope of practice, practice environment, economic resources and geographic. Overall, the top 10 advantages, listed in order from the highest score, included positive perception of the pharmacy, loyalty to pharmacy, practice autonomy, breadth of tasks, loyalty to pharmacists, a sense of community purpose available to pharmacists, community recognition of pharmacists, financial income, pharmacists being able to practice as desired, the availability or adequacy of incentives, and the availability or adequacy of a moving allowance.

The top 10 challenges, listed in order from the lowest score, therefore most challenging, included hosting interns, the availability of non-health services such as local dining out, coffee shops, and shopping, the relative cost associated with school options, transport connections, social or cultural opportunities, the availability and quality of local schools, the population size of the community, spousal or partner opportunities, locum or peer coverage, and housing availability and accessibility (Table 1).

3.2 | Importance

The geographic class was ranked as the highest importance for pharmacists considering rural practice, followed by economic and resources, practice environment, community practice support, followed by personal/scope of practice. The top 10 importance factors are (listed in order from the highest score) were financial income, work-life balance, the availably and affordability of housing, locum or peer coverage, positive perception of the pharmacy within the community, cultural acceptance, practice autonomy, support staff, loyalty to pharmacists, with availability and quality of schools being equally important as relocation allowance.

The least 10 important factors (listed in order from highest to lowest score), were the availability or adequacy of the pharmacy to serve the community as a multipurpose service, local health hub/ health centre, whether or not there is an ability or obligation to provide discounted pharmacy service in the area, practice support, the adequacy of local investment and future growth of healthcare within the community, the availability and eligibility of financial supports, community growth, a sense of community purpose available to pharmacists, hosting interns, teaching students and whether or not the practice environment provides opportunities to participate or engage in research (Table 2).

3.3 | Overall community Apgar scores

The pharmacist community Apgar algorithm, derived from the community advantage/challenge score weighted by its relative importance, was calculated (Table 1). The community practice support class was identified as the most significant community asset and capability, followed by practice/scope of practice, practice environment, economic and resources, and geographic classes.

The top 10 Community Apgar factors, listed in order from the highest score, were the overall reputation of the pharmacy within the community, the ability for pharmacists to be independent and autonomous, the overall

TABLE 1 Top and bottom advantages/challenges scores

Classes and factors	Class	Mean advantages (+ve) and challenges (−ve)
Top 10 factors		
Positive perception	Community practice support	1.75
Loyalty to pharmacy	Community practice support	1.75
Practice autonomy	Practice/scope of practice	1.63
Breadth of tasks	Practice/scope of practice	1.63
Loyalty to pharmacists	Community practice support	1.58
Community purpose	Community practice support	1.58
Community recognition	Community practice support	1.54
Financial income	Economic/resources	1.5
Practicing as desired	Practice environment	1.5
Incentives	Economic/resources	1.42
Moving allowance	Economic/resources	1.42
Bottom 10 factors		
Hosting interns	Practice environment	0.5
Non-health services	Geographic	0.46
Schools (economic)	Economic/resources	0.46
Transport connections	Geographic	0.21
Social/cultural opportunities	Geographic	0.17
Schools (geographic)	Geographic	0.13
Community size	Geographic	0.08
Spousal/partner opportunities	Geographic	−0.33
Locum/peer coverage	Practice environment	−0.38
Housing	Economic/resources	−0.5

loyalty of the community to the pharmacy, the level and stability of monetary compensation provided to pharmacist, the breadth of tasks available to a pharmacist, the overall loyalty of the community to pharmacists within the pharmacy, the capacity of the practice environment to allow the pharmacist-directed change and innovation, moving allowance, the availability or adequacy of incentives, followed by community recognition and the sense of appreciation for and/or community support of a new pharmacist.

The bottom 10 Community Apgar factors, listed in order from the lowest score, therefore most challenging, were the availability and affordability of housing, adequate locum or peer coverage, overall satisfaction of the spouse or partner, availability and quality of local schools, population size of the community, transport connections, opportunities or ease of socialising for the pharmacist and/or family including local access to social, religious, and/or cultural participation, the relative cost associated with school options, hosting interns, and the availability of and opportunity to access local dining out, coffee shops, shopping, other services (Table 3).

The cumulative Pharmacist Community Apgar scores were derived by adding all Community Apgar scores for each of the 50 factors of the PharmCAQ across each community's participants. The cumulative Community Apgar scores ranged from 91 to 273, which suggests the tool remains sensitive enough to differentiate between communities that were high and low performers in terms of pharmacist recruitment (Table 4). Higher scores indicate greater community assets and capabilities for communities as they relate to pharmacist recruitment and retention.

3.4 | Reliability and validity of between community and hospital pharmacist results

The reliability scores, produced under the two-way mixed effects model, demonstrated that all respondents from all sites were consistently scoring the PharmCAQ similarly (ICC = 0.822 (95% confidence interval [CI] = 0.743–0.885), $F_{(49,1127)} = 6.264$, $p = 0.000$). This finding was similar if hospital pharmacist scores were excluded (ICC = 0.820 (95%

TABLE 2 Top and bottom importance scores

Classes and factors	Class	Mean importance
Top 10 factors		
Financial income	Economic/resources	3.83
Work-life balance	Practice environment	3.71
Housing	Economic/resources	3.63
Locum/peer coverage	Practice environment	3.63
Positive perception	Community practice support	3.63
Cultural acceptance	Geographic	3.58
Practice autonomy	Practice/scope of practice	3.54
Support staff	Practice environment	3.54
Loyalty to pharmacists	Community practice support	3.54
School (geographic)	Geographic	3.50
Moving allowance	Economic/resources	3.50
Bottom 10 factors		
Multipurpose service	Community practice support	3.04
Discounted pharmacy service	Practice/scope of practice	3.00
Practice support	Practice environment	3.00
Economic development	Community practice support	2.96
Financial support	Economic/resources	2.88
Community growth	Community practice support	2.88
Community purpose	Community practice support	2.88
Hosting interns	Practice/scope of practice	2.79
Teaching students	Practice/scope of practice	2.75
Research participation	Practice environment	2.63

CI = 0.739–0.884), $F_{(49,833)} = 6.242$, $p = 0.000$) or if non-pharmacist participants were excluded (ICC = 0.810 (95% confidence interval [CI] = 0.725–0.879), $F_{(49,822)} = 8.993$, $p = 0.000$).

Overall, including hospital pharmacists as a part of the application of the PharmCAQ would provide similar scores to community pharmacists, suggesting the tool can be utilised in communities where a hospital pharmacist may not be present. Further, the findings indicate that key pharmacy or healthcare staff undertaking the PharmCAQ, when a pharmacist is a sole practitioner, does not impact the overall findings demonstrably given the similar scores between groups. Lastly, if or when they are included, they also present a richer contextual meaning regarding the advantages or challenges and relative importance of recruitment and retention of pharmacists within rural settings.

3.5 | Additional barriers

Overall, the answers to open-ended questions were consistent with the respondents' interview answers within the 50 factors. However, responses from participants outlined that often the greatest barriers were location of the town relative to a larger regional or metropolitan centre. It was suggested that any longer than what may be considered a 'daytrip' (the ability to return to the rural town within the same day from a larger centre) was considered too far. This 'remoteness' often gave the sense of isolation or inhibited the capacity of a pharmacist to access things such as friends, family, and social events or activities only in larger centres. For example, a pharmacist stated, 'the work is okay, but after work is hard' (Pharmacist 5). Alternatively, others indicated that working rurally as a pharmacist was often seen as a career enabler or steppingstone for the next opportunity. For example, a pharmacist stated, 'many come and are committed for 2–3 years and are working towards a better offer' (Pharmacist 9), while another stated 'they come out, do their 12–18 months, and they go back to a larger regional or metro setting... it's part of their career planning' (Pharmacist 7).

Many participants highlighted that there were caveats to their responses to each of the 50 factors. Isolation, poor access to things to do outside of work, or seeing a rural opportunity as a career enabler were discussed in relation to

TABLE 3 Top and bottom pharmacist community Apgar scores

Classes and factors	Class	Community Apgar score
Top 10 factors		
Positive perception	Community practice support	6.54
Practice autonomy	Community practice support	6.25
Loyalty to pharmacy	Community practice support	6.17
Financial income	Economic/resources	5.79
Breadth of tasks	Practice/scope of practice	5.79
Loyalty to pharmacists	Community practice support	5.67
Practicing as desired	Practice environment	5.38
Moving allowance	Economic/resources	5.33
Incentives	Economic/resources	5.25
Community recognition	Community practice support	5.17
Bottom 10 factors		
Non-health services	Geographic	1.96
Hosting interns	Practice environment	1.83
Schools (economic)	Economic/resources	1.54
Social/cultural opportunities	Geographic	0.79
Transport connections	Geographic	0.75
Community size	Geographic	−0.04
Schools (geographic)	Geographic	−0.17
Spousal/partner opportunities	Community practice support	−1.21
Locum/peer coverage	Practice environment	−1.54
Housing	Economic/resources	−2.00

the life stage of a pharmacist candidate. Certain life stages were considered barriers to rural recruitment and retention. Although recruiting early career pharmacists occurs in some communities, it was indicated that younger pharmacists would often not stay for long or would not even consider working rurally. Specifically, a pharmacist highlighted that 'a lot just want to stick in [name of larger city]... even though then there's not enough jobs in [name of city]' (Pharmacist 17). This was evident when one pharmacist had advertised a rural position for several months with only one candidate, who felt the community was too far away from the city, who showed any interest. However, another pharmacist provided a counter argument when they stated, 'the young ones prefer city... and I think they should because they need to 'go fly' before they get involved in rural ... because there are too many challenges [rurally]' (Pharmacist 7).

3.6 | Solutions to challenges

Potential solutions for overcoming the highlighted challenges were suggested. However, depending on the community and pharmacy needs, there needed to be a greater focus on pharmacists 'in their late 20s to early 30s... or young couples' (Pharmacist 7). Alternatively, it was suggested pharmacists with younger families or those with grown children are ideal candidates. This aligned with the experience needed to manage a rural pharmacy, but more importantly, centred on avoiding children's high school considerations. Thus, a rural lifestyle was considered idyllic, however, pragmatic factors associated with schooling often took precedence.

In addition to schooling needs of a pharmacist's family, it was indicated that having or developing a good social network outside of work was also very important so 'they don't feel so isolated' (Pharmacist 3). To address social isolation, pharmacists from various services in one town met weekly for dinner to build their network with like-minded people. In other towns, both pharmacists and medical practitioners met regularly to play sport, to engage in other social activities, or to have the occasional meal. Further, it was identified that it was vital for a greater understanding of what the rural community looks and feels like. One pharmacist indicated that 'it's more about making people aware... people are too scared to take that initial step of actually coming in trying it [rural life and practice]' (Pharmacist 4). This

TABLE 4 Cumulative pharmacist community Apgar scores by community

Location code	Remote category	Geographic	Economic/resources	Practice/scope of practice	Practice environment	Community practice support	Cumulative PharmCAQ score
Tas1	MM6	38	44	62.5	58	70.5	273
Tas4	MM5	27	30.5	61.5	46.5	70.5	236
Vic6	MM5	8	45	49	56	47	205
Tas2	MM5	50.5	32.5	32	39.5	48.5	203
Vic3	MM4	30.5	38.5	46.5	34	33.5	191
Tas5	MM5	−1	35.5	44.5	41.5	38.5	159
Vic5	MM4	26	23	26.5	36.5	35.5	147.5
Vic4	MM4	12	33.5	37.5	28	32.5	143.5
Tas6	MM5	6.5	28	28.5	30	43	136
Vic2	MM4	15.5	26	28.5	31	25	126
Vic1	MM5	−9	34	35	1	39	100
Tas3	MM5	−2.5	27.5	25.5	4.5	35.5	90.5

pharmacist later indicated that, when a candidate sees the town and workplace, 'we don't have any trouble retaining them once we have actually had them come here. They stay for a really long time, and they love the place' (Pharmacist 4).

4 | DISCUSSION

Overall, these findings indicate the 10 assets that were of greatest value to recruit and retain pharmacists centred on the reputation of and how the pharmacy was perceived and valued within the community, which also included the loyalty that community members have to the pharmacy. A,[11] Harding et al.,[21] Hays et al.[22] and Smith et al.,[28] indicated this was a key factor that supported pharmacists in their decision-making, particularly when centred on a community and their health and wellbeing through positive communication and relationships. Cosgrave et al.[15] and Cosgrave et al.,[31] further highlighted that it was these social connections through community engagement and personal relationships that remained powerful forces to embed the healthcare professional within the community and motivated their desire to stay. However, it may be suggested that reputation and loyalty also remain essential to a pharmacist in terms of examining a small business or health service as a potential workplace, but also as a potential asset of a future business owner or co-owner.[27]

Other key assets centred on the 'what' and 'how' of practice, in that some of the highest assets were associated with services that allowed, encouraged, and embraced pharmacist to be independent and have autonomy, with a variety of tasks. In rural communities, it has been demonstrated that autonomy and variety are some of the main assets sought by health professionals. Previous research has indicated that diverse work opportunities enrich the pharmacist experience and develops and maintains a broad scope of practice which enables a greater sense of professional satisfaction and overall personal growth.[20,21,24,28]

Lastly, monetary compensation was also emphasised as a key asset for potential candidates considering rural pharmacist appointments. Monetary compensation has been indicated elsewhere as an essential ingredient to recruiting and retaining pharmacists rurally.[8,20–24,28] In this study, both hospital and community pharmacists emphasised this as a major asset, but the degree of emphasis differed slightly.

The lowest rated and most challenging factors to recruit and retain pharmacists related to geographical elements of a community along with economic or resource factors and the practice environment. Most individual challenging factors centred on elements beyond the workplace

itself and pertained to meeting family and personal needs within a rural community. Within this context, possible solutions for the lowest scoring factors may have the greatest impact on recruitment and retention of pharmacists.

Some strategies identified by participants or within the literature included providing short- or long-term accommodation either onsite or near to the service within the community. Housing was suggested to be covered or subsidised as part of an employment package.[32] To address locum coverage, several services had key locums they used regularly, which they had booked well in advanced or with whom they had developed lasting relationships. However, other solutions may include examining the current leave model in place, developing a critical mass of key locums to enable regular leave, or working with other pharmacies within or adjacent to the rural community to share locums or local pharmacists that will support greater leave between businesses or facilities.[21,23] Other options were having a regular locum to cover occasional weekends or set weekdays for a period to enable pharmacists to have several longer weekends as a leave strategy.

Solutions associated with satisfaction of the spouse or partner have been suggested as highly important to the recruitment of the candidate. If the needs of both candidate and spouse are not properly met their recruitment and retention will likely fail as seen among other healthcare professionals.[32–36] If the spouse or partner is also a pharmacist, this would be advantageous. However, if this is not the case, it will be vital to provide information to the spouse or partner as a part of a recruitment package and encourage them to accompany or be involved in part of the selection process.[32–34] Other solutions may be focused on finding ways that the spouse or partner could be engaged in the community in terms of their profession, family interests and hobbies.[32,37] It is vital to include the spouse or partner in regular social gatherings with other partners or spouses of local pharmacists or health professionals. It has been suggested to use a community network approach and work with the larger employers in the region (health services, schools, etc.) to examine and locate work for dual-career couples.[32,37]

The availability and quality of schools was a key factor that scored poorly across communities. In most cases, primary school (kindergarten to year 6) was suggested to be more than adequate in meeting the needs of pharmacist, however, access and affordability of high school (years 7–12) was a more complex issue, and was also observed among rural physicians.[38] As such, emphasising the community's support for the local schools, the activities that are available through the school, the benefits of small class sizes, and the adequacy and affordability of bus services to the larger towns that enable school attendance are beneficial. However, when recruiting and retaining staff there is a need to recognise that long-term solutions may mean recruiting staff at certain life stages, such as those who may have no children, young children, or those who have grown children.[36] In addition, views concerning pharmacist retention may need to be reframed to see 'long-term' retention as no more than 5 years.[9]

Lastly, the population size of the community was also ranked poorly. Changing the community size or where is it situated relative to a metropolitan centre is obviously not achievable. However, the emphasis of recruitment and retention could be focussed on helping a candidate to see the wider catchment area that they may service if taking up a role in a rural community.[8,23,26] It is also about highlighting other critical opportunities when taking up rural employment that may not be available in metropolitan or regional centres. There is a need to focus on the many positives of smaller communities that are available in and outside the workplace, rather than focusing on the perceived deficits that may exist, which has been similarly suggested for other health professionals also considering rural practice.[39,40] Overall, rural Tasmania and Victoria were the first States in which the research was undertaken and there is scope to further expand across Australia and internationally. Thus, participation has the potential to help rural communities to find improved recruitment and retention strategies for pharmacists.

4.1 | Limitations

A limitation of this study is the communities and respondents that participated in the PharmCAQ may not represent the experiences of other communities, community pharmacies or health facilities. This may limit the ability to generalise the findings. This study was conducted during the COVID-19 pandemic in Australia and challenges associated housing affordability and availability may have been exacerbated disproportionally by the lack of housing available in rural communities during this time due to unprecedented purchase and movement of people to rural regional communities.[41] Similarly, recruitment was enhanced and hindered in different communities during this time. Another possible limitation, despite the robust development of the tool,[11] may be that the factors were limited to 50 and other factors may exist that also impact pharmacist workforce. This limitation was accounted for by asking open-ended questions to give each respondent the opportunity to identify any significant missing parameters not addressed within the PharmCAQ tool.

4.2 | Conclusion

The PharmCAQ identifies the unique differences that set each individual community apart from other communities. These differences are the key 'selling points' to consider when recruiting and retaining pharmacists to the specific communities and form part of the distinctive factors to consider when matching a candidate with a community. The aggregate results of the PharmCAQ may assist local, state and national policy makers to identify new initiatives that may assist healthcare facilities, community pharmacies or national bodies to address this known problem. These results may also identify other aggregate level research questions that can be addressed through further studies. Based on this research, we advocate for a move towards a national database that is composed of multiple state datasets that will allow for comparison and contrast of factors important to health professional recruitment and retention within and between states. The results of these studies may inform regional and national policy makers as they develop legislative or other approaches to addressing and other healthcare professional shortages in rural communities.

AUTHOR CONTRIBUTIONS

DT: conceptualisation; Data Curation; Formal Analysis; Funding Acquisition; Investigation; Methodology; Project Administration; Visualisation; Original Draft Preparation; Review & Editing (Contribution: 20%). BP: conceptualisation; Formal Analysis; Funding Acquisition; Original Draft Preparation; Review & Editing (Contribution: 10%). DH: funding Acquisition; Project Administration; Review & Editing (Contribution: 10%). JB: conceptualisation; Investigation; Methodology; Review & Editing (Contribution: 10%). MK: conceptualisation; Formal Analysis; Investigation; Methodology; Review & Editing (Contribution: 10%). KO: conceptualisation; Formal Analysis; Investigation; Methodology; Review & Editing (Contribution: 10%). HP: data Curation; Formal Analysis; Investigation; Project Administration; Original Draft Preparation; Review & Editing (Contribution: 10%). EB: conceptualisation; Formal Analysis; Methodology; Visualisation; Review & Editing. DS: conceptualisation; Formal Analysis; Methodology; Visualisation; Review & Editing. (Contribution: 10%).

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CONFLICT OF INTEREST

None.

ETHICAL APPROVAL

This study has been reviewed by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards of the Declaration of Helsinki. As such, ethical approval was provided by Federation University Australia Human Research Ethics Committee (#A21-023) and The University of Tasmania Human Research Ethics Committee (#26068). All persons gave their informed consent before their inclusion in the study.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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