



15TH NATIONAL
RURAL HEALTH
CONFERENCE
Better together!

24-27 MARCH 2019
Hotel Grand Chancellor
Hobart, Tasmania



NATIONAL RURAL
HEALTH
ALLIANCE LTD

Rural pharmacy workforce: impact of curriculum and clinical placements

Selina Taylor¹, Beverley Glass²

¹Centre for Rural and Remote Health Mount Isa, ²College of Medicine and Dentistry, James Cook University

Abstract

There have been shortages in the rural pharmacy workforce for many years and despite the predicted oversupply of pharmacists in Australia there is little or no indication that this will address workforce maldistribution. Recruitment and retention of rural and remote pharmacists is challenging which could be exacerbated by declining interest in pharmacy students undertaking rural placements. This highlights the importance of universities' contribution to producing pharmacy graduates for rural practice. Both the university curriculum and clinical placements have been indicated as factors that determine graduates' choice of practice location after graduation. Although the practice of pharmacy remains essentially the same in rural and metropolitan regions, it is widely recognised that both service provision, health delivery models and the qualities of the pharmacist differ considerably. This cements the notion that an improved understanding of both the education and training of pharmacy students and rural pharmacists may not only provide insight into the development of rural pharmacists, but may also provide evidence to improve funding and support programs to grow the rural pharmacy workforce. This study has thus examined the influence of rural curriculum and rural pharmacy placements and its impact on students' intention to practice rurally and pharmacists working in the current rural workforce.

Background

Challenges associated with recruitment and retention within the Australian rural pharmacy workforce have been raised indicating a significant maldistribution of pharmacists in rural localities versus urban areas. Approximately 1% of registered pharmacists are working in remote or very remote regions, providing essential services for more than half a million Australians.^{1,2} Despite the implementation of funded programs, there remains limited information on the current pharmacy workforce, in particular the rural and remote workforce.³ Although curricula and clinical placements have been described as influencing factors for future rural practice, little is known about the extent to which undergraduate pharmacy students are exposed to rural and remote practice either in their curriculum or clinical placements and in fact how this exposure translates to future rural practice. This combined with the limited evidence on how curriculum and clinical placements at university have impacted the current rural pharmacist workforce, provided the motivation for this study.³

Objectives

- To scope the impact of university rural curriculum and clinical placements on students' intention to practise rurally and rural pharmacists choice of rural practice.
- To explore the influence of university rural curriculum and clinical placements on the current rural pharmacy workforce's choice to practise in a rural or remote area.

Method

A scoping review using the Arksey and O'Malley methodological framework was conducted. The review targeted pharmacy undergraduate students, interns, registered and academic pharmacist participants, from the literature using the following databases: MEDLINE, CINAHL, Informit and Scopus. A study⁴ was then designed which included a sequential mixed methods approach, involving both a questionnaire and semi structured in-depth interviews to collect quantitative and qualitative data. Pharmacists working in various areas of practice from regional, rural and remote areas according to the Pharmacy Access/Remoteness Index of Australia classifications, participated in the study.

Results and discussion

The scoping review search strategy generated 294 records, 31 of which were included in the review. The key findings were mapped to two domains, which were the impact of rural placements and curriculum on intention to practice rurally (Figure 1)

Figure 1 Representation of the articles identified in the scoping review mapped to domains

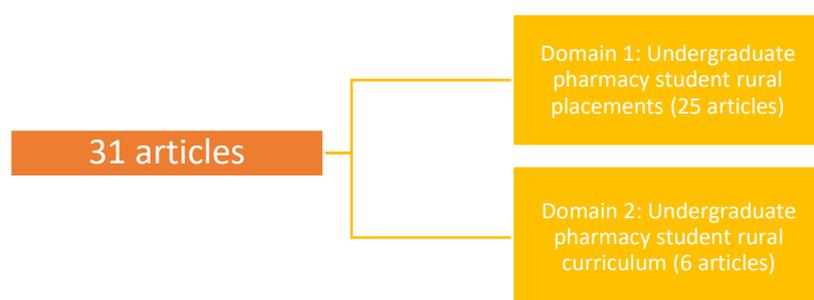


Figure 1 highlights the discrepancy in the amount of research available investigating the rural curriculum as compared to rural placements. In fact findings from only two studies (University of Sydney and Charles Sturt University) published have indicated that exposure to a rural curriculum impacted significantly (>60%) on graduates' intention to practise rurally and that in addition, a rural background was a stronger predictor for future rural practice.³ The impact of rural clinical placements (Domain 1) has however been discussed in many studies, with results highlighting this exposure to have positively influenced students' intention to work rurally.³ A limitation of these studies has however been a lack of follow through to determine whether exposure to these rural placements has actually translated into future rural practice.

The survey was completed by 92 pharmacists, with semi-structured interviews conducted with 12 participants. 42% of the participants were currently working in a remote location, 43% of which had

been working in a rural area for longer than 10 years. 65% of participants were female and approximately half were working in community pharmacy.

Table 1 Geographic data from survey (n = 92) [adapted from (4)]

Workplace location	
PhARIA 1 and 2—Accessible	36 (39%)
PhARIA 3 and 4—Mod accessible	17 (19%)
PhARIA 5 and 6—Remote	39 (42%)
Hometown location	
PhARIA 1 and 2—Accessible	48 (53%)
PhARIA 3 and 4—Mod accessible	15 (17%)
PhARIA 5 and 6—Remote	17 (18%)
Overseas	11 (12%)

The results (Table1) demonstrated that hometown origin may not make a significant contribution, contradicting the findings of the scoping review with pharmacists from metropolitan areas now choosing to work in remote areas for other reasons. Rural practice in university curriculum was found to be nonexistent 10 years ago, however recent graduates, particularly those from regional universities, have indicated a greater exposure to a rural curriculum. This may be attributed to the design of pharmacy curricula at regional universities including an increased focus on rural pharmacy practice. It was recognised by the respondents that presentations from rural pharmacists and rural health professionals had a significant impact on their choice of a rural career.

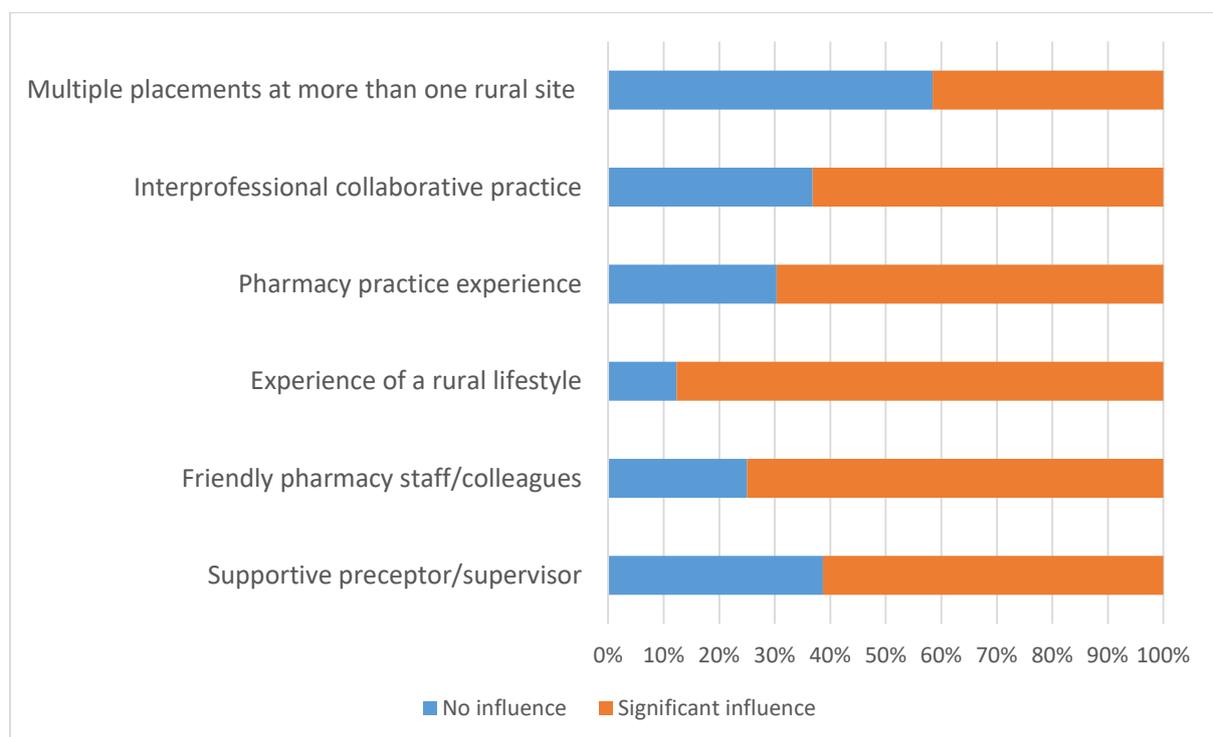
Table 2 Influence of rural curriculum on choice to practice in a rural location p value <0.05 [adapted from (4)]

Aspect of rural curriculum	University Location	Positive influence	Not applicable (was not taught)
Disease states	Regional	27.3%	18.2%
	Metropolitan	8.5%	63.8%
Indigenous Health/cultural awareness	Regional	30.3%	18.4%
	Metropolitan	28.6%	66%
Rural health delivery models	Regional	27.3%	42.4%
	Metropolitan	4.3%	68.1%
Rural health service providers/organisations	Regional	30.3%	36.4%
	Metropolitan	12.8%	68.1%
Survival skills for rural practise	Regional	21.2%	42.4%
	Metropolitan	4.3%	78.7%
Funding sources and incentive programs	Regional	51.5%	18.2%
	Metropolitan	23.4%	55.3%
Rural career exposure	Regional	51.5%	18.2%
	Metropolitan	25.5%	57.4%

Table 2 highlights the aspects of a rural curriculum, which influence choice of practice for both regional and metropolitan universities. Results show that over 50% of participants from metropolitan universities reported that all aspects of rural curriculum were not being taught at their university. Rural career exposure, funding sources and incentive programs were rated as positively influencing just over 50% of participants from regional universities, but only approximately one-quarter of participants from metropolitan universities.

Figure 2 illustrates the factors and the extent to which they influence a choice of rural practice. The opportunity to experience a rural lifestyle, while undertaking placement was the factor which had the most significant influence on pharmacists' choice to practice rurally (Figure 2). The completion of multiple placements at more than one rural site was least influential (Figure 2).

Figure 2 Stacked bar chart illustrating clinical placement factors influence on pharmacists' choice to practice rurally. [adapted from (4)]



Qualitative data from this study indicates that individual participants were strongly influenced to practise rurally, when they had engaged in a placement that was fully funded, well-structured and supported (some in conjunction with university departments of rural health), and where opportunities to participate in multidisciplinary health services and community activities were provided.

Conclusions

There was consensus amongst study participants that rural placements should be compulsory for all pharmacy students, if not only to spark an interest in a rural career, but to also ensure all graduates have a broad understanding of rural practice. Provision of funded, supported and structured placements are a strong influencing factor for choosing a rural career and thus ensuring that these placements in future is expected to grow both interest and commitment to rural practice. Enriched delivery of rural practice throughout university curriculum is also recommended, to give students an

understanding of opportunities and challenges of rural practice and stimulate interest in their future career choices.

References

1. Health Workforce Australia. Australia's Health Workforce Series Pharmacists in Focus. 2014. [Available from: http://iaha.com.au/wp-content/uploads/2014/03/HWA_Australia-Health-Workforce-Series_Pharmacists-in-focus_vF_LR.pdf.]
2. Australian Institute of Health and Welfare. Australia's Welfare 2017. Australia's welfare series no. 13. Canberra: AIHW. [Available from: <https://www.aihw.gov.au/getmedia/088848dc-906d-4a8b-aa09-79df0f943984/aihw-aus-214-aw17.pdf.aspx?inline=true>]
3. Taylor S, Glass B. Scoping the Impact of Curriculum and Placement on the Rural Pharmacy Workforce. Australian Journal of Rural Health. 2018; **26**: 384-393.
4. Taylor S, Glass B. Rural Pharmacy Workforce: influence of curriculum and clinical placement on pharmacists' choice of rural practice. Australian Journal of Rural Health. 2018 (in press).

Presenter

Selina Taylor is the Pharmacy Academic at the Centre for Rural and Remote Health, Mount Isa. She supports students and interns through learning and immersion in the community. She also coordinates pharmacy student placements in and around the region to remote areas such as Karumba, Normanton, Longreach, Winton, Camooweal, Boulia and Cloncurry. This allows students to see first-hand the opportunities and challenges rural pharmacy can present. Health professional and student support and education in rural areas are key aspects of her career. Research examining the rural health workforce is also a core aspect of her work.