Received: 8 December 2022 | Revised: 7 February 2023 | Accepted: 15 February 2023

DOI: 10.1111/ajr.12974

AJRH National Rural Health Alliance WILEY

SHORT REPORT

Do undertaking rural placements and place of origin inform where allied health graduates work in South Australia?

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Abstract

Objective: To examine the principal place of practice after graduation of students who participated in the Rural Health Multidisciplinary Training (RHMT) program and allied health students' place of origin.

Design: Cross-sectional study.

Participants: Graduates who completed their degree in podiatry, occupational therapy and physiotherapy in 2019.

Main Outcome Measures: Principal place of practice at first and third years after graduation.

Results: In 2020, 40 allied health professionals (AHPs) who graduated from the University of South Australia in 2019 were practising in rural areas but only 26 of them remained in the rural practice in 2022. The retention rate for rural practice was 65% within 2 years. However, in 2022, 25 allied health professionals left their metropolitan employment location and transitioned to rural practice. Of the 25 allied health graduates who joined the rural practice in 2022, most of them (80%, 20/25) had either rural exposure through the RMHT program or were from rural origin.

Conclusions: Rural exposure via the RHMT program and allied health students' rural place of origin have an important role for rural principal place of practice at first and third years after graduation.

KEYWORDS

allied health, recruitment and retention, rural health, rural workforce issues, student placements

1 | INTRODUCTION

The maldistribution of health care workers between metropolitan, rural or remote areas is a recognised global phenomenon,[1] and the situation is no different in Australia.[2] In Australia, based on data from the Australian Health Practitioner Regulation Authority (AHPRA) registered professions, it can be demonstrated that across

all allied health disciplines, the ratio of allied health workers per 100 000 population decreases as remoteness increases.[3] In South Australia, in 2020, there was similar inequitable distribution of podiatrist, occupational therapists and physiotherapists; the concentration of these allied health professionals (AHPs) was the lowest in rural, remote and very remote areas.[4]

Strategic and careful workforce planning is crucial for providing allied health services in rural areas. To support the health workforce plan, there should be up-to-date information that provides insights into the underlying determinants of workforce patterns and choices for workforce participation. However, there is limited published evidence regarding the allied health workforce recruitment, retention and turnover in Australia, particularly in rural areas.[5] Given that AHPs play a pivotal role in the provision of diagnostic, therapeutic and preventative services, contributing to medical, dental and nursing care, the lack of AHPs in the rural areas is concerning.[6]

Over the past two decades, the Rural Health Multidisciplinary Training (RHMT) program has successfully supported the delivery of rural training experiences for thousands of students across a range of health disciplines.[7] As part of the RHMT program, which is funded by the Australian Commonwealth Government, the University of South Australia Department of Rural Health (UniSA DRH) supports allied health students to undertake a placement in rural South Australia. UniSA DRH employs AHPs to provide academic support to students, facilitate placements and oversee the development of community engagement and social activities for students during their rural placement. UniSA DRH also provides accommodation facilities located near the local health services in 10 different regional centres in South Australia to support students during their rural placements.

An independent review of the RHMT program conducted in 2020 highlighted the importance of graduate employment tracking as a key benchmark to evaluate the outcome of University Departments of Rural Health (UDRHs) placement support, which is among the aims of the RHMT program.[7] However, studies that investigated the relationship between rural placement and rural practice after graduation are limited. Walsh et al.[8] in their 2020 scoping review suggested that studies that focus on addressing rural allied health workforce maldistribution should be done at scale and with explicit links to coherent overarching policy. The purpose of this study was to examine the principal place of practice (PPP) of UniSA allied health graduates who had rural exposure through the RHMT program and their rural origin status.

What is already known on this subject:

- Lack of health workforce resources in rural and remote South Australia is challenging for health services delivery
- Given the major public health concern in rural and remote Australia, there is a demand to attract and retain AHPs in rural areas

What this paper adds:

- Rural exposure as results of rural placements via the RHMT program and allied health students' rural place of origin are important for postgraduation principal place of practice in South Australia

2 | METHODS

This study targeted domestic allied health graduates at a particular South Australia university in 2019. University-level student placements were managed and allocated by the university's Clinical Placement Unit (CPU) through its student placement system.

We extracted the following administrative data from the student placement system: student name, course of study, commencement and completion dates, home address, citizenship status, placement agency location and duration of placement. Citizenship data were collected to differentiate between domestic and international students. Home address data during course enrolment were used as a proxy to define background characteristics. Although home address may not always accurately reflect a student's origin, it is the most comprehensive data available for our study.

The administrative data were matched on names and degree award year (i.e. 2019) and institution name (i.e. university name) with Australian Health Practitioner Regulation Agency (AHPRA) data extracted in April 2020 for the three registered allied health professionals (podiatry, occupational therapy and physiotherapy). Through that linkage, the AHPRA identification number (AHPRA ID) for the students was obtained.

Subsequently, PPP of the targeted graduates was extracted from the AHPRA register in April 2020 and April 2022, corresponding to the graduates' first and third years of practice, respectively, using the AHPRA ID. The reason we chose April was because all graduates completed their annual registration renewal before April.

Quantitative analyses were conducted using Microsoft Excel® and Stata/SE version 17 (StataCorp, College

Station, Texas USA). The proportion of allied health graduates according to place of origin, placement agencies' locations and graduates' PPP was calculated. Allied health graduates' place of origin, placement agencies' locations and graduates' PPP were stratified by the 2019 Modified Monash Model (MMM) generated by the Australian Department of Health.[9] MM1 indicates that the location is 'metropolitan' and MM2 to MM7 locations represent 'rural' areas. International students without Australian location of origin were therefore excluded.

For the purpose of this paper, retention of allied health workforce was considered as remaining in a rural practice if the PPP was rural in both 2020 and 2022. Rural retention rate was measured by the number of podiatrists, occupational therapists and physiotherapists, who retain at rural postcode over the period of 2-year time.

3 | RESULTS

There were 268 domestic students who completed podiatry, occupational therapy and physiotherapy courses at UniSA in 2019. Of these graduates, more than 85% (86.2%, $n = 231/268$) originated from hometown locations classified as MM1 (urban areas) and 37 (13.8%) originated from hometown locations classified as MM2-7 (rural origin). Physiotherapy had the highest proportion of rural origin graduates (20.3%), while podiatry had the least (3.7%). Table 1 shows the breakdown of variables according to the disciplines in which students were enrolled.

More than 40% ($n = 127$) of combined allied health graduates had at least one rural placement during their degree, although proportions varied between disciplines with 28.4% for occupational therapy, 49.0% for physiotherapy and 100% for podiatry graduates. Of the 37 students with a rural origin, 67.6% ($n = 25$) had at least one rural placement during their study.

Table 2 shows that almost all (98.5% n = 264) of the graduates were employed as evidenced by being registered with AHPRA 1 year after completing their degree. Employment of this cohort further increased to 98.9% 2-year postgraduation. Forty graduates (15.2% (40/264) of the total registered AHPs) practised rurally in their first year of practice, but this figure improved to 51 (19.2% (51/265) of total registered AHPs) 2-year postgraduation. The majority (31 in the first year and 34 in the third year after graduation) of allied health graduates practice in South Australia, indicating a strong presence in the state. However, a minority (9 in the first year and 17 in the third year after graduation) have chosen to practice in other states.

In the first year after graduation (2020), 40 allied health graduates were working rurally (see Figure 1, Y2020-light bars). Among them, 29 clinicians (72.5%) experienced at least one rural placement, and 23 clinicians (57.5%) originated from rural areas. Only two professionals, who represented 0.8% (2/264) of the whole first year's workforce, had neither rural placement experience nor rural origin, but practised in rural postcode in 2020.

Two-year postgraduation (2022), the pool of rural workforce had reduced to 26 clinicians (see Figure 1, Y2022-light bars), resulting in a net loss of 14 clinicians and a retention rate of 65.0%. Among these 14 clinicians, nine (64.3%) of them left their rural hometown to work in metropolitan area, three (21.4%) clinicians with metropolitan background went back to work in city and two deregistered. Moreover in 2022, 25 allied health professionals left their metropolitan employment location and transitioned to rural practice (Figure 1, Y2022-dark bars). Of these 25 new rural allied health professionals, 19 of them (76.0%) had rural placement exposure, five of them (20.0%) were from rural origin, and the remaining five professionals (20.0%) had no rural connections.

4 | DISCUSSION

Given the gaps regarding longitudinal tracking towards 'building rural careers' identified in recent RHMT policy

TABLE 1 Proportion of the 2019 UniSA's allied health graduates according to place of origin and placement location.

	Podiatrist (%)	Occupational therapist (%)	Physiotherapist (%)
Hometown			
Metro origin	96.3	94.3	79.7
Rural origin	3.7	5.7	20.3
Placement location			
Metro	100	100	100
Rural	100	28.4	49.0
Average cumulative rural placement (week)	7[a]	12	4

[a]Only represent average of 60% of the placement record.

	Allied health graduates		
	Podiatrist (%)	Occupational therapist (%)	Physiotherapist (%)
Nonregistered with AHPRA	3.7	–	2.0
Registered with AHPRA			
Metro PPP in 2020	96.2	93.2	78.0
Rural PPP in 2020			
MM-2	–	1.1	3.3
MM-3	–	3.4	8.0
MM-4	–	0	2.0
MM-5	3.8	1.1	6.0
MM-6	–	1.1	2.7
Metro PPP in 2022	81.5	86.4	77.3
Rural PPP in 2022			
MM2	3.7	3.4	4.7
MM3	0	4.5	7.3
MM4	11.1	1.1	4.0
MM5	3.7	2.3	4.7
MM6	0	2.3	2.0

TABLE 2 Proportion of the 2019 UniSA's allied health graduates according to registration status and principal place of practice (PPP) in 2020 and 2022.

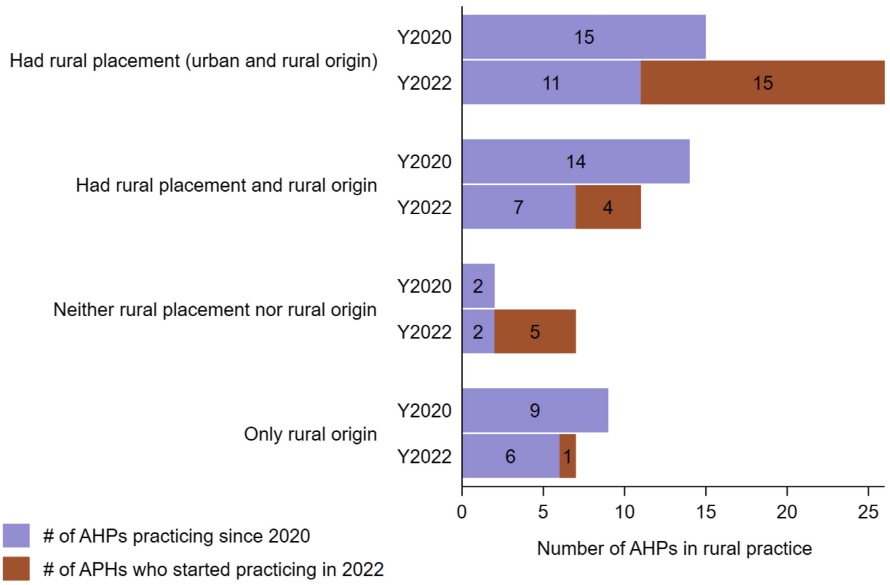

FIGURE 1 Relationship between rural origin, rural placement experience and rural PPP at first and third years after graduation among the 2019 UniSA's allied health graduates.

evaluation[7] and the importance of an equally distributed workforce to improve health outcomes, it is pivotal that the UDRHs, as a flagship program in Australia, focus their research endeavour on better understanding of the impact on rural health workforce outcomes. This is the first study conducted in South Australia to explore the relationship between rural origin, rural placement experience and the PPP of AHPs at first and third year after graduation.

Consistent with other previous studies,[10,11] the findings of the present study suggested that the RHMT program has an important role in the rural allied health workforce recruitment. For instance, in the present study a respectable number of allied health professionals who had rural exposure through the RMHT program joined the rural health workforce following graduation. Moreover, the present study also found that a number of allied health students originated from rural areas later practised in rural and remote areas. Several previous studies have found that health professionals who were from rural origin were more likely to practice in rural areas.[12–16] However, given our limited data, a comprehensive study is required to examine the contribution of UDRH's rural placement program on addressing rural workforce maldistribution in SA.

5 | FUTURE WORK

While the intended outcome of the RHMT program is to recruit more allied health workforce and retain them in rural, regional and remote Australia, many factors external to the program may affect where allied health professionals live and work. Future research needs to be conducted on the longer-term workforce outcomes of this cohort, in parallel with the longitudinal job vacancies and health workforce policies.

AUTHOR CONTRIBUTIONS

The authors confirm contribution to the paper as follows: Lee San Puah and Martin Jones were involved in study conception and design. Lee San Puah was involved in data collection and draft manuscript preparation. Lee San Puah and Engida Yisma were involved in analysis and interpretation of results. All authors reviewed the results and approved the final version of the manuscript.

ACKNOWLEDGEMENT

Open access publishing facilitated by University of South Australia, as part of the Wiley - University of South Australia agreement via the Council of Australian University Librarians.

CONFLICT OF INTEREST STATEMENT

Drs Marianne Gillam, Sandra Walsh and A/Prof Martin Jones are Associate Editors of Australian Journal of Rural Health.

ETHICAL APPROVAL

Ethics clearance was obtained from the UniSA's Human Research Ethics Committee under a variation of the Nursing and Allied Health Graduate Outcome Tracking (NAHGOT) study protocol (Reference: 204190, 17th August 2021).

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How to cite this article: Puah LS, Gillam M, Walsh S, Jones M, Yisma E. Do undertaking rural placements and place of origin inform where allied health graduates work in South Australia? Aust J Rural Health. 2023;00:1–5. doi: 10.1111/ajr.12974