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# Will they come back? Evaluation of health student placements in remote and very remote regions of Australia

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## Abstract

**Background** Despite the benefits of rural placements in attracting healthcare professionals to rural areas, there remains a gap in understanding the specific impact of placements in remote and very remote areas of Australia, particularly within the unique context of the Kimberley region. There is a need to elucidate differences across geographical areas and contribute to the knowledge about the specifics of where and how student placement programs work. This research explored the impact of a remote placement program at Majarlin Kimberley Centre for Remote Health ('Majarlin') on educational outcomes and workforce intentions of participating students.

**Methods** This research evaluated student placement data and post-placement surveys of allied health, dentistry, midwifery and nursing students who had completed remote placements in the Kimberley region between 2018 and 2024. Placement numbers and demographic data from 2018 to 2023 were descriptively analysed, while post-placement surveys collected between January 2023 and June 2024 were used to examine educational outcomes, placement satisfaction, and rural practice intention.

**Results** Between 2018 and 2023, Majarlin hosted 1111 students from 20 universities in remote and very remote regions, completing a total of 6068 weeks from 2018 to 2023. Post-placement surveys showed high levels of student satisfaction, with 96.2% also reporting improved clinical knowledge. Many students participated in voluntary positions in the community while completing their clinical placements, with 97.1% feeling that they had a positive impact on the community. All students reported that their cultural awareness and ability to engage with Aboriginal and Torres Strait Islander Peoples improved. Notably, intention to work in remote areas significantly increased post-placement ( $p < .001$ ).

**Conclusions** The results of this study demonstrated that the remote student placement program improved students' self-rated clinical knowledge, cultural awareness, and community engagement skills. The program significantly influenced students' intention to work in remote areas after graduation. These results can be used to inform the design and delivery of similar remote student placement programs which aim to improve the rural health workforce pipeline, paving the way for a more equitable and effective healthcare system across Australia.

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**Keywords** Rural health, Health workforce, Interdisciplinary placement, Students, Health occupations, Students, Nursing

## Background

There is a global scarcity of healthcare professionals in rural areas [1]. In Australia, this deficiency becomes more pronounced further away from the major capital cities [2]. The consequence of this shortage is exacerbated by the increasing complexity of healthcare needs for people in rural regions, especially for those living in remote and very remote regions [3].

Previous research indicates that healthcare students who receive training in rural areas are more likely to work in these areas as health professionals after graduation [4–6]. In Australia, students from all healthcare disciplines are required to complete clinical placements within professional workforces as a course requirement [7]. The Australian Federal Government has supported this approach by establishing Rural Health Multidisciplinary Training (RHMT) Programs. This program leverages Rural Clinical Schools and University Departments of Rural Health (UDRHs) to provide rural training opportunities for allied health, dentistry, medical, midwifery and nursing students to address the shortage of healthcare workers in rural areas [8].

The Kimberley region in northern Western Australia is home to approximately 40,000 people, spread across six towns and over 200 very remote Aboriginal (Footnote 1) communities. Covering an area of 423,000 square km (163,000 square miles), it is one of the most sparsely populated regions in Australia. The two largest towns are Broome in the west and Kununurra in the east, separated by 1044 km (649 miles). The nearest capital cities are Perth and Darwin, each accessible by a 2 to 3 h flight, or 30 h drive. Kununurra is 828 km (514 miles) from Darwin, while Broome is 2240 km (1392 miles) from Perth by road. Perth is often referred to as the most isolated capital city in the world due to its vast distance from other urban centres.

The Kimberley has a climate characteristic of the north, which is different to southern regions of Australia. It is characterised by a warm, dry season in the middle of the year, and a subtropical wet season, during which heavy rainfall and cyclones can isolate the region. The Kimberley region is classified by the Modified Monash (MM) Model as remote (Broome; MM6) and very remote (all other regions; MM7) [9].

Approximately 50% of the Kimberley's population identify as Aboriginal and Torres Strait Islander (in comparison to 4% nationally) [10]. The Kimberley region is home to over 30 Aboriginal language groups, reflecting the cultural and linguistic diversity of its First Nations peoples. European settlement in the late 19th century led

to significant disruptions, including displacement from traditional lands, loss of cultural practices, and ongoing socioeconomic disadvantages, yet Aboriginal communities in the Kimberley continue to maintain strong cultural connections. The geographical and cultural context in which Majorlin operates is unique within the UDRH program. As such, this context provides an opportunity to provide unique rural training experiences to the health workforce and contribute to the rural health workforce pipeline in the Kimberley.

'Majorlin' is a local Yawuru word meaning "coming back", reflecting the program's goal of encouraging health professionals to return to the region and contribute to the local healthcare workforce. Majorlin Kimberley Centre for Remote Health ('Majorlin') was established in 2018 and is based on the University of Notre Dame's Broome campus in the Kimberley region of northern Western Australia. Majorlin is unique within the UDRH network as being the most remote department (Fig. 1) and situated on the only university campus in the Kimberley. There are no allied health and only limited nursing training programs in the region.

Footnote 1: In Australia, the term "Aboriginal and Torres Strait Islander" is used to refer to Indigenous peoples. Other acceptable terms are "First Nations" and "First Peoples". In the Kimberley, some regions consist predominantly of Aboriginal people, and people in these regions prefer to be referred to as "Aboriginal". Throughout this paper, we respectfully use these terms interchangeably except when the reference relates specifically to Aboriginal people.

While rural placements are known to encourage students to work in rural areas after graduation [11–13], limited research has investigated this phenomenon in remote and very remote contexts [14]. Research that has explored the impact of placements on future career intentions in this context has either included these regions within a broader rural sample [15], is small and qualitative in nature [16], or focuses solely on medical students [17–19]. We have an incomplete understanding of the impact of clinical placements in remote and very remote regions, where social and geographical contexts may influence outcomes via the unique challenges and experiences posed in these regions. Understanding this is especially important, as these regions often have the highest healthcare needs of populations across Australia, yet are served by the lowest number of health professionals [2, 3]. Furthermore, the lack of differentiation between rural regions and remote or very remote regions is important. The needs of populations in urban, rural and remote



**Fig. 1** Geographical locations of University Departments of Rural Health in Australia. *Legend* This map illustrates the geographical locations of University Departments of Rural Health (UDRHs) across Australia. The shaded area represents the Kimberley region in Western Australia. The red marker within the Kimberley indicates the Broome campus of Majorlin Kimberley Centre for Remote Health. Other red markers represent UDRHs throughout Australia

regions are different; the challenges of providing clinical placements in these regions are more complex; and as such the need to encourage students to return is greater.

By understanding the impact of programs such as those offered by Majorlin on students' intentions to work in rural areas, strategies can be developed to enhance rural healthcare access. The results of this research may inform policy decisions and funding allocation to address rural healthcare workforce shortages, particularly in remote areas. Furthermore, the study can identify the strengths and weaknesses of existing programs, supporting targeted improvements to better meet the needs of students and rural communities while addressing research gaps in rural healthcare workforce development. This study profiled allied health, dentistry, midwifery and nursing students who completed clinical placements at Majorlin, a remote University Department of Rural Health, from its inception in 2018 to the end of 2024.

### Objectives

The objectives of this study were as follows:

1. Describe the clinical placement profiles, including quantification of the number of students, identify host locations, and calculate total placement weeks, of student placements facilitated by Majorlin.
2. Evaluate the educational outcomes of remote placements for allied health, dentistry, midwifery

and nursing students, focusing on students' self-reported skill development, cultural awareness, and professional growth.

3. Assess student satisfaction with remote clinical placements, considering factors such as supervision quality, accommodation, and overall placement experience.
4. Analyse the impact of Majorlin-facilitated placements on students' intention to practice in a remote region of Australia after graduation.

### Methods

This study evaluated the outcomes of student clinical placements facilitated by Majorlin with a focus on outcomes and future work intentions. We used a retrospective cross-sectional research design to evaluate the student placement data and post-placement surveys. Two unlinked datasets were reviewed to meet the research objectives. The first dataset comprised deidentified student registration data from all allied health, dentistry, midwifery and nursing students who completed a clinical placement facilitated by Majorlin between 2018 and 2023. These datasets represent the totality of whole years of data available on student clinical placements in the department. Student registration data from the study period 2018 to 2023 were combined into a single dataset and screened for errors, inconsistencies, and duplicates.

**Table 1** Majorlin student professions and placement duration over time

	2018	2019	2020	2021	2022	2023	Total (2018–2023)
Students (n)	88	248	127	235	196	217	1111
Placement weeks (mean; SD)	5.72 (1.62)	5.29 (2.42)	4.51 (2.59)	5.47 (2.68)	5.96 (3.90)	5.74 (3.48)	5.48 (3.00)
Placement weeks (range)	4–10	2–18	1–14	2–20	1–25	2–22	1–25
Total placement weeks	501	1295	573	1285	1168	1246	6068

**Table 2** Universities represented by students completing their clinical placement at Majorlin

University	Students (n)	% of total students
University of Notre Dame	337	30.3
Curtin University	315	28.4
Murdoch University	89	8.0
Edith Cowan University	79	7.1
La Trobe University	52	4.7
University of Sydney	49	4.4
University of Western Australia	39	3.5
Australian Catholic University	31	2.8
Monash University	20	1.8
Charles Darwin University	17	1.5
University of South Australia	14	1.3
University of Wollongong	13	3.5
University of Newcastle	12	1.1
Central Queensland University	11	1.0
Deakin University	10	0.9
Swinburne University of Technology	9	0.8
University of New England	9	0.3
University of Canberra	3	0.3
Flinders University	1	0.1
James Cook University	1	0.1

Descriptive statistics and frequencies for categorical variables were calculated using IBM SPSS Statistics software (version 29.0).

The second dataset comprised voluntary online surveys (Microsoft Forms; Additional file 1) completed by the students who completed placements between January 2023 and June 2024. This timeframe was chosen as earlier versions of the survey were not comparable to more recent versions. The responses were aggregated, and irrelevant data points were removed prior to extraction. The McNemar-Bowker test of symmetry was used to determine whether students' self-rated intention to work in a remote region after graduating changed following their clinical placement with Majorlin.

## Results

### Clinical placements 2018–2023

A total of 1111 allied health, dentistry, midwifery and nursing students completed clinical placements facilitated by Majorlin between 2018 and 2023 (Table 1), from 20 universities (Table 2) and representing 15 disciplines

**Table 3** Professions of students completing their clinical placement at Majorlin

Profession	Students (n)	% of total students
Nursing	406	36.5
Occupational Therapy	215	19.4
Physiotherapy	189	17.0
Speech Pathology	55	5.0
Dietetics	50	4.5
Pharmacy	43	3.9
Social Work	43	3.9
Midwifery	40	3.6
Medical Imaging	23	2.1
Optometry	16	1.4
Podiatry	14	1.3
Psychology	7	0.6
Chiropractic	5	0.5
Medical Laboratory Science	3	0.3
Dentistry	2	0.2

(Table 3). The largest cohort of students was nursing (36.5%), followed by occupational therapy (19.4%), and physiotherapy (17.0%). Most students (73.8%) were from Western Australian-based universities (Table 2). Most (95.6%) placements occurred in remote (MM 6) or very remote (MM 7) towns and communities, with a small number ( $n=39$ ) completed outside the region (MM unspecified) or as an e-placement ( $n=32$ ) (Table 4). During the study period, students completed 6068 weeks of placement in a range of organisations, with the most common places being hospitals (38.4%), educational settings including early childhood education centres and primary or secondary schools (16.3%), and a combination of education/aged care organisations (9.3%) (Table 4).

### Voluntary post-placement surveys 2023–2024

Of the 296 students who completed a placement between January 2023 to June 2024, 79 students completed the voluntary post-placement survey (26.7% response rate). Majorlin was the first experience of a rural or remote placement for most students (72.2%) (Table 5). All (100%) students 'strongly agreed' or 'agreed' that they were satisfied with their placement, and almost all (96.2%) similarly rated the placement consolidated their clinical knowledge and skills (Table 5). More than half (67.1%) of the students engaged in non-clinical community activities during their placement, and almost all (97.4%) perceived

**Table 4** Locations and organisations where Majarlin students completed clinical placements

Town (MM Classification)	Students (n)	%	Weeks*
Broome (6)	836	75.2	4789
Kununurra (6)	103	9.3	509
Derby (7)	72	6.5	301
Fitzroy Crossing (7)	12	1.1	45
Halls Creek (7)	8	0.7	38
Community (7)	1	0.1	6
E-Placement (NA)	30	2.7	209
Outside Kimberley (NA)	39	3.5	134
Missing	10	0.9	37
<b>Total</b>	1111		6068
Organisation			
Hospital	427	38.4	1738
Education	181	16.3	1224
Dual organisations - aged care and education	103	9.3	610
Primary and Population Health	94	8.5	560
Community Health Service	55	5.0	399
Aged Care Facility	44	4.0	289
Pharmacy	43	3.9	194
Outside of Kimberley	39	3.5	134
E-Placement	32	2.9	234
Mental Health Service	27	2.4	178
Disability Service Provider	16	1.4	105
Royal Flying Doctor Service	7	0.6	20
Immersion Placement	1	0.1	8
Missing	42	3.8	
<b>Total</b>	1111		

\*Total combined weeks completed

that their placement had a positive effect on the community (Table 5).

More than two-thirds of the students responding to the survey (69.6%) attended cultural awareness training, and a similar number (68.4%) received ongoing cultural support from Majarlin. Almost all (94.9%) students rated their ability to engage with Aboriginal and Torres Strait Islander (Footnote 1) people developed either 'a great deal' or 'a lot', and all (100%) rated their cultural awareness and respect had developed following their clinical placement at Majarlin (Fig. 2).

Students rated that their clinical and professional skills had improved either 'a great deal' or 'a lot' across all 13 domains in the post-placement survey (Fig. 2).

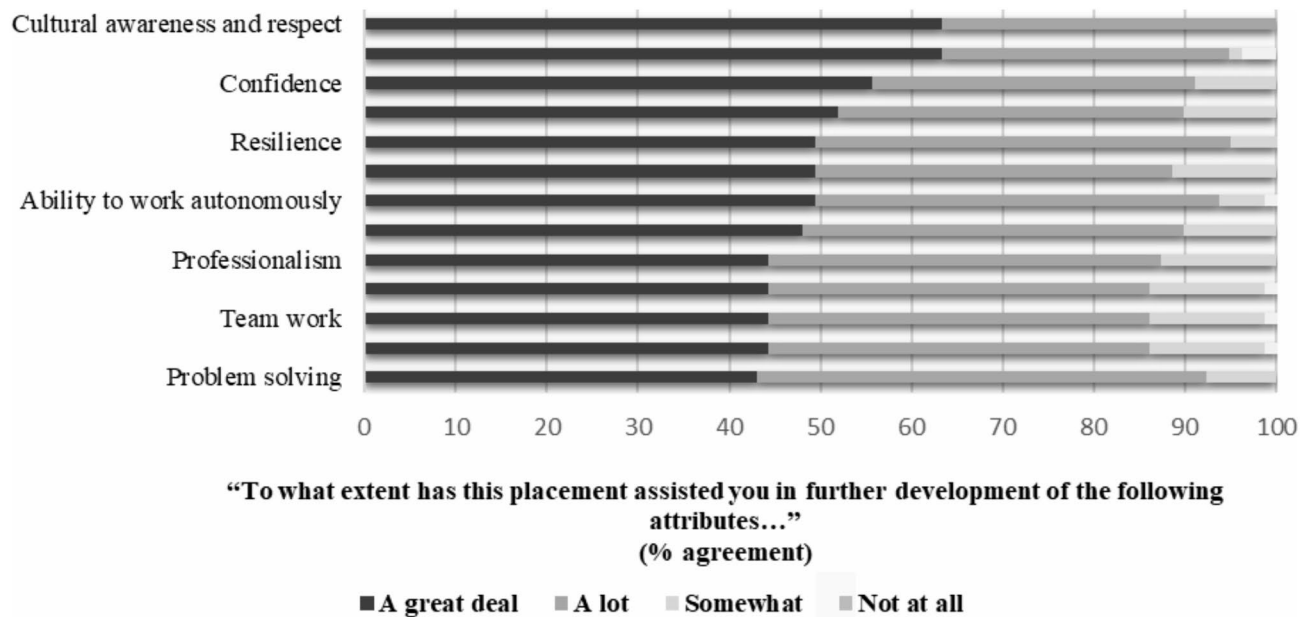
Prior to their placement, 31 students agreed that they were considering working in a remote area after graduation, 43 were undecided, and 5 disagreed. After placement, 64 students agreed, 11 were undecided, and four disagreed. Notably, 30 students who initially agreed remained consistent in their intentions, and only one student shifted from agreeing to disagreeing. Among those 43 who were initially undecided, 33 became decided, 7 remained undecided, and 3 shifted to disagreement. Of the 5 students who did not consider working remotely before their placement, 4 were undecided (Fig. 3). The McNemar-Bowker test was conducted to evaluate changes in Majarlin students' intentions to work in a remote area before and after their placement, as rated in the post-placement survey ( $n=79$ ). The results indicated a significant shift in intention to work in a remote region after graduation ( $df=3, p<.001$ ) (Fig. 3).

**Table 5** Majarlin post-placement survey results (January 2023 – June 2024) ( $n = 79$ )\*

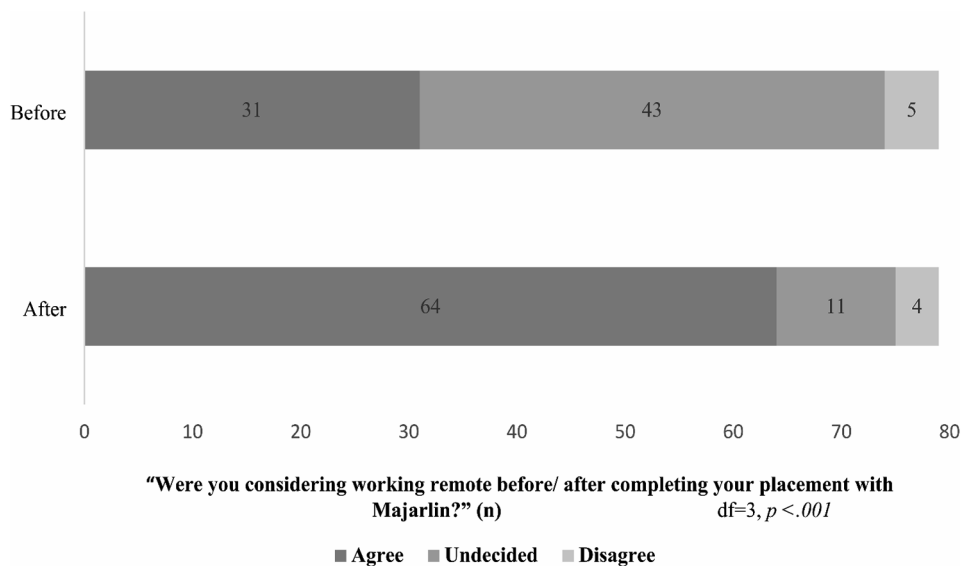
	Yes/ Agree (n; %)**			
Have you undertaken a rural or remote placement prior to this one?	22 (27.8)			
I completed the online WACRH (WA Centre for Rural Health) cultural training	56 (70.9)*			
I was invited to attend the cultural awareness training	70 (88.6)			
I attended the cultural awareness training	55(69.6)*			
I received ongoing cultural support from Majarlin	54 (68.4)*			
I was provided the opportunity to engage in non-clinical community activities e.g. Feed the Little Children	53 (67.1)			
I received ongoing support from Majarlin throughout my placement	68 (86.1)			
I was satisfied with the workplace facilitation or supervision provided on my placement	76 (96.2)			
I was satisfied with my placement accommodation	69 (87.3)			
Overall I was satisfied with my placement	79 (100.0)			
My placement has consolidated my clinical knowledge and skills	76 (96.2)			
My placement had a positive impact on the local community and local health services?	77 (97.4)			
	Immediately	1–2 years	2–5 years	> 5 years
If you intend to work in a rural or remote region after graduation, when do you intend to do that?	27(34.2)	16(20.3)	15(19.0)	1(1.3)

\*Survey data were collected from January 2023 to June 2024. Some survey questions were added in December 2023, resulting in missing data for earlier respondents ( $n = 19$ ; 24.1%)

\*\* Agree: Also includes "Strongly Agree"



**Fig. 2** Student perceptions of clinical and personal skills development (n = 79)



**Fig. 3** Student intentions to return to work in a remote area after graduation (n = 79)

### Discussion

Healthcare inequities in rural Australia partly exist as a function of deficiencies in the vitality of the health workforce. Rurally located clinical training programs are one strategy to address this issue. While evidence of the efficacy of these programs exists [4, 12, 15], specific relevance to remote or very remote settings is absent. This research demonstrates the contribution of Majarlin to student placements in a remote region of Australia, with 1111 allied health, dentistry, midwifery and nursing students from 20 universities (more than 50% of Australian Public Universities) having completed a clinical

placement between 2018 and 2023. The significance of this is demonstrated by the number of completed placement weeks across diverse organisations and locations, and the ability to draw on broad student cohorts from across Australia. The closest undergraduate and post-graduate allied health programs to the Majarlin campus in Broome are Darwin (1870 km) and Perth (2240 km), reflecting the paucity of health courses offered in rural and remote parts of Australia [20]. Limited opportunities exist for health students to experience rural and remote practice, and to capitalise on the unique and transferable skills gained from working in these areas [21]. The risks

to clinical placement programs include increased financial and logistical challenges related to students traveling for placement, as well as living away from home in remote regions for extended periods. Considering the current economic climate in Australia and the recent spotlight on placement inequity [22], it is important to focus on supporting students in accessing remote health placement opportunities.

While the number of students and completed placement weeks initially expanded, the global Covid-19 pandemic curbed this growth and posed additional challenges to placement provision. The number of students increased from 88 in 2018 to 248 in 2019 (a 282% increase) but dropped to 127 in 2022 due to inter- and intrastate-border restrictions in Australia, as well as limited access to remote Aboriginal communities and aged care facilities. These restrictions prohibited interstate students from travelling to Western Australia and prevented Western Australian students from travelling to the Kimberley.

In response, Majorlin developed an innovative “e-placement” program, enabling students to provide services to local organisations and the community through telehealth. This model facilitated the successful completion of 234 placement weeks by 32 allied health students, who delivered services to local organisations and communities in the region. The success of this approach highlights its potential for maintaining service delivery and continuity of care in remote regions, particularly those such as the Kimberley, where access may be limited due to geographical isolation and distance, or during other future crises, including natural disasters which may disrupt services.

The Majorlin student placement program uses student satisfaction surveys to determine the quality of the program, a measure employed by most rural placement programs [12]. We demonstrated that students who completed the post-placement survey agreed unanimously that they were satisfied with their placement. Although placement satisfaction can be used as a proxy indicator of quality, it is worth considering the merit of amending the student satisfaction survey to include other measures that have been demonstrated as features of a high-quality placement. Green et al. [11] suggested that some of these features could include high-quality supervision, safe accommodation, access to educational resources, social and cultural connections, developing confidence and autonomy, and a sense of belonging. An opportunity exists to explore how these features apply to remote areas and whether there are nuances in these contexts that may change the features of quality or place greater emphasis on provisions.

Evidence also suggests that placement satisfaction is related to rural practice intention. In a survey of 3328 medical, nursing, and allied health students who had

completed clinical placements at UDRHs nationally, students who agreed that they were satisfied with their placement had a 2.33 times higher intention of returning to practice in a rural region after graduation [23]. Although our current study did not explore the relationship between student satisfaction and intention to practice rurally, the high levels of student satisfaction and changes in students’ practice preferences are likely to be related.

Our results demonstrated that students who were undecided about working in a remote area before their placement experienced a significant shift in their intention to return to work in a remote area after completing their placement. These findings are consistent with previous work demonstrating that rural clinical placements are an effective strategy for influencing students from urban backgrounds and are most likely to positively change their intention to work in rural areas [24, 25]. In the Kimberley region, where the population is relatively small and no local tertiary institutions exist, drawing health professionals from other regions of Australia is crucial for the ongoing sustainability of health services. This would be best explored using longitudinal designs that link findings such as ours with workforce outcomes. This type of research is underway [26], but as yet has not explicitly examined workforce outcomes for remote areas.

The value of remote placement programs is broader than student satisfaction and contribution to the future health workforce. There are significant and fundamental educational experiences offered by these types of programs that could enhance health outcomes regardless of the practice location. Other benefits include enhanced cultural awareness and community impact. In our study, 95% of the students reported that their cultural awareness had developed either ‘a lot’ or ‘a great deal, and that their ability to engage with First Nations people had improved. Many students felt that their placement had a positive impact on community and local health services, and most participated in voluntary community positions outside of their clinical placement. These outcomes demonstrate the contribution of a supported remote-learning environment to professional health education. In addition to formal learning, immersion in remote communities is likely to positively impact student outcomes. This has been demonstrated in previous research that showed community engagement can develop personal and professional skills beyond clinical competencies, including building meaningful networks and improving interpersonal skills [27, 28], developing two-way trust and rapport with the community [12], and providing a means for social integration and support [29, 30].

The formal and informal learning reported by students following their Majorlin placement experience highlights

a pivotal opportunity for future research. To date, much of the research exploring rural and remote placement programs has focused on placement satisfaction, the achievement of learning outcomes, and workforce intentions. Further exploration is warranted to better understand the unique contributions of rural placement experiences to health education and the impact of these contributions on future health professionals' practices, regardless of the practice location. For example, the significant increase in students' cultural awareness demonstrated by the Majorlin student cohort is likely to be reflective of the number of people in the Kimberley region who identify as First Nations People (often >50% compared to the national average of 4%) and that students in the region have had the opportunity to work closely with and learn from these communities. This type of experience is fundamental to enhancing cultural safety and is essential for future rural and remote health workforces.

To explore the impact of knowledge gained during remote student placements, future research should be theoretically informed. The transfer of learning theories is an option for conducting such research. Transfer of learning describes how knowledge gained in one context can be used in other contexts [31]. This approach to future research may be pivotal in enhancing the understanding of the mechanisms that enable learning transfer and capitalisation on the education undertaken during remote placements. Previous research has explored transfer of learning in relation to the role of placement supervisors [32], learning transfer between university and workplaces for science students [33], and the transfer of learning from simulation to placements [34–37]. There has been a paucity of work undertaken to examine the relationship between student placements and transfer of learning into future health careers. There is also a need to understand students' motivations for transfer [38, 39], which has not yet been explored in the context of health student placements. A significant opportunity exists to leverage the outcomes of this research which demonstrates what students can learn during remote placements and explores the ways in which learning can be carried into future practice.

The value of rural health training programs has been recognised globally [40]. In addition to Australia's well-established RHMT program [8], similar initiatives are implemented in other contextually similar countries, including the United Kingdom [41, 42], New Zealand [43], Canada [44], the USA [45], and various regions in Europe [46]. This global phenomenon parallels the Australian context on a national scale. For instance, while Majorlin shares core objectives with other UDRHs across Australia, these objectives are also reflected internationally in similar programs. At the same time, unique

challenges specific to the local context necessitate nuanced differences in program approaches. This observation reinforces the value of a model in which shared core program principles are pursued while allowing for local autonomy and capitalising on local expertise to address region-specific needs.

This study has several limitations inherent to the design. The retrospective cross-sectional design of the survey precluded the determination of causality between placements and students' practice location intentions. Student registration data were not linked to the survey data, which limited the ability to match responses to demographic information. Due to changes across years, there were missing data which affected the types of analyses that could be conducted. Post-placement surveys were analysed only from 2023 to 2024. These years were chosen as questions and responses have changed several times since Majorlin was established in 2018, and earlier questions and responses were not comparable to more recent years. Responses to the surveys were voluntary, with just over a quarter of students responding, which may indicate response bias. Students with either strongly positive or negative experiences may have been more likely to respond, potentially skewing their results. While the survey analysed students' self-rated changes in clinical and personal competencies, it could not evaluate the long-term impact of placements on students' post-graduation skills. Using students' self-reported educational outcomes is a limitation of this research as they may not represent students' actual educational attainment. Furthermore, the study was limited by the methods used to collect survey data, which primarily relied on quantitative responses. While this approach allowed for broad analysis, it lacked the depth that could be provided by qualitative methods or free-text responses. Including a free-text option in future surveys, or conducting qualitative studies through interviews or focus groups, could provide richer insights into students' experiences and the broader impact of remote placements. There is a risk of affiliation bias as three of the researchers work for the department whose educational program was being evaluated. However, it should be noted that the authors work in the research stream of the department rather than the education stream, and a fourth independent researcher was included in the team to support critical reflection.

## Conclusions

Rural and remote healthcare in Australia faces unique challenges in attracting and retaining health professionals and requires a multifaceted, evidence-based approach. The current research highlights that tailored programs, such as Majorlin's clinical placement program, are needed to train the future health workforce to meet increasing health needs in rural and remote Australia. Our findings

reveal that from its inception in 2018, Majarlin's student placement program had a positive influence on students' clinical knowledge, cultural awareness, and community engagement. Furthermore, the program significantly influenced students' intentions to work in remote areas after graduation.

Given Majarlin is the one of the few UDRHs in Australia that offers remote and very remote health placements, it is uniquely placed to build the evidence-base for attracting, educating and retaining a robust remote health workforce. The outcomes of this research have the potential to inform future policy decisions and funding allocations to continue to improve the rural health workforce pipeline, paving the way for a more equitable and effective healthcare system across Australia. Ultimately, by better understanding the impact of programs such as Majarlin on students' intentions to work in rural areas, we can continue to build evidence for strategies to optimise remote and remote health student placements, which will not only contribute to the professional development of highly skilled health practitioners but also serve to strengthen the healthcare workforce in under-served areas such as remote Australia.

#### Abbreviations

ATSI	Aboriginal and Torres Strait Islander
MM	Modified Monash Model
Majarlin	Majarlin Kimberley Centre for Remote Health
RHMT	Rural Health Multidisciplinary Training Program
UDRH	University Department of Rural Health

#### Supplementary Information

The online version contains supplementary material available at <https://doi.org/10.1186/s12909-024-06463-2>.

Supplementary Material 1

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#### Author contributions

RD, EG, AM, and JD conceptualised the study, designed the methodology, interpreted the data, contributed to the writing of the first draft, and reviewed and edited the manuscript. RD performed the data analysis.

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#### Data availability

The datasets used and/or analysed during the current study are available from the corresponding author upon reasonable request.

#### Declarations

##### Ethics approval and consent to participate

This study was conducted in accordance with the Australian National Statement on Ethical Conduct in Human Research [40] and was approved by the University of Notre Dame's Human Research Ethics Committee (HREC) (approval number 2024-094). This study was approved by the University of Notre Dame's Human Research Ethics Committee (HREC) (approval number 2024-094). The HREC granted a waiver of consent to use deidentified student registration data. The use of student post-placement survey data was implied by completion of the voluntary survey. Students completing the survey acknowledged via a check box that their responses may be used for research purposes prior to survey completion.

##### Consent for publication

Not applicable.

##### Competing interests

All authors are employed by University Departments of Rural Health. RD and AM are employees, and JD Director, of Majarlin Kimberley Centre for Remote Health. EG is an employee of Three Rivers Department of Rural Health.

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