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Title page

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Abstract

Background

People living in regional, rural and remote communities experience inequitable access to health services compared with people living in metropolitan areas, in part due to the maldistribution of the health workforce. Health student placements in rural settings, a type of work-integrated learning, are a key approach to developing a sustainable rural health workforce in Australia and internationally. Proxies for quality in rural health student placements, including student satisfaction and intention to practice in rural settings, have been used to inform rural health placement development and facilitation. However, the determining constructs of high-quality rural health student placement in Australia are unknown.

Methods

A multiple case study design was adopted, drawing on the Employing COnceptUal schema for policy and Translation Engagement in Research (ECOUTER) methodology to iteratively collect and analyse data. Within each case, participants comprised Australian University Departments of Rural Health staff involved in designing, delivering, administrating and/or evaluating rural health student placements. In each case, participants identified features that contribute to high-quality rural health student placements and listed these on a virtual case mindmap. Case focus groups were conducted to refine top-level and sub features on each mindmap. Cross-case analysis identified overarching constructs and sub-constructs, which were refined by cross-case focus group participants.

Results
Eighty-six people across ten cases participated in this study. Nine constructs determining high-quality rural health student placements were identified: placement planning, student selection, stakeholder communication and collaboration, placement orientation, student supervision, logistical resources, learning opportunities, connecting with the rural community, and student wellbeing and supports. The final cross-case focus group resulted in strong construct agreement from participants across diverse regional, rural, and remote Australian contexts.

Conclusions
Nine interconnected and contextually dependent constructs determine high-quality health student placements in regional, rural and remote communities, emphasising the complexity associated with providing a high-quality form of this work-integrated learning opportunity.
Keywords: education; rural populations; regional, rural and remote health services; health occupations; students; work-integrated learning; student placements; workforce.

Main document

Determining constructs of high-quality rural health student placements: A multiple case ECOUTER study

Background
People living in regional, rural, and remote communities (rural herein) experience poorer health than their metropolitan counterparts, partly due to inequitable access to healthcare and health workforce maldistributions

(1). In Australia, approximately one-quarter of people live in rural areas (2), which reflects the importance of having health workforce embedded in these locations (3). Programs to increase the number of health professionals in rural areas have largely focused on training and recruiting medical, nursing and allied health professionals to rural communities where there is high workforce demand (4, 5). Work-integrated learning (WIL), the integration of practical experiences into higher education (6), is a key approach to training prospective rural health professionals in Australia. Rural health student placements (or rural health placements herein) are one type of WIL. Rural health placements vary in nature across disciplines and geographic contexts. For example, in rural communities, the service-learning model of student placements is commonly used to address unmet service demand (7, 8), and placement length varies significantly, from one-to-three days (9), to over three-months in the case of full-time social work placements (10), and up to one-year for some medical student placements (11).

An independent report on one of Australia's key workforce programs, the Rural Health Multidisciplinary Training (RHMT) program, illustrated the Australian Government's commitment to rural health placements as a workforce development approach (12). On average per student, rural medical placement weeks cost universities $1245, while rural nursing and allied health placement weeks cost $953 (12). This is a significant financial outlay by the Australian Government to build the rural health workforce.

Therefore, it is important to ensure rural health placements are of high quality to positively impact key stakeholders involved in the training experience, including students, rural community members and healthcare consumers, health professionals and educators.

Quality in work-integrated learning

Quality assurance of WIL, particularly in relation to rural health placements, is a complex undertaking due to the diversity of these learning experiences and the requirement for universities to work with industry partners. This point of integration in the curriculum where industry and university become intertwined requires careful design and delivery. Due to this, there is international interest in understanding the mechanisms and resources required to create high-quality WIL experiences (13). Some examples of frameworks currently provided to guide high-quality WIL experiences include the World Association for Cooperative Education Global Quality WIL Framework (14), and several national frameworks from countries including Australia (15), South Africa (16), and Canada (17, 18). While these frameworks provide comprehensive guidance for the creation of high-quality WIL, they have been created to be generalisable across diverse settings and disciplines. The broad guidance for creating high-quality WIL has to date been useful for general guidance but does not account for the nuances of specific contexts, such as rural communities and in the field of health. In Australia, the contribution of rural health WIL to student learning across the nation is significant; for example over 163,000 rural health

placement weeks took place in 2018 (12), suggesting the need for quality assurance specific to rural context. Despite the growing number of rural health placements, a 2022 scoping review examining features of quality in rural health placements found the literature lacked a clear definition for quality rural health placements (19). The review also found the rural health placement literature lacked several stakeholder perspectives (including university staff and rural healthcare consumers).

The context

Australia is characterized by dispersed and diverse communities, including smaller communities located across very large geographic areas and several sprawling metropolitan areas, mostly along the east coast (20). As a result, most higher education health courses are located in metropolitan areas, regional centres, or large rural towns, with few end-to-end health course offerings in smaller rural or remote communities (21). In Australia, the Monash Modified Model (MMM) is commonly used for the purposes of defining rurality, where metropolitan areas are categorised as Modified Monash (MM)1, regional centres as MM2, large rural towns as MM3, medium rural towns as MM4, small rural communities as MM5, remote communities as MM6, and very remote communities as MM7 (22, 23). Rural health placements in MM2-7 communities facilitated by University Departments of Rural Health (UDRHs) are funded by the Australian Government Department of Health and Aged Care, as part of the RHMT program (5). Each UDRH is allocated funding through this program to

service unique geographic footprints and consists of academic and professional staff typically located in the area in which placements are delivered. As a result of their contextual differences, UDRHs use different strategies to facilitate rural health student placements in the communities they serve (12).

The aim of this study was to determine the constructs of high-quality rural health placements in rural Australia from the perspective of those funded by UDRHs to design, deliver, administrate and evaluate rural health placements. Having a better understanding of the way in which high-quality rural health student placement offerings are designed and delivered may enable a range of stakeholders, including universities, government departments, UDRHs and peak bodies, to review and reconsider the inputs and process mechanisms embedded in rural health placements across different contexts. The findings of this study are likely to be transferable to other similar contexts, such as rural health placements in countries with similar health degree structures to Australia.

Methods

Design

This study adopted a multiple case study (24) ECOUTER (Employing COnceptUal schema for policy and Translation Engagement in Research) methodology (25) to capture UDRH staff perspectives of constructs determining high-quality rural health student placements. This study forms part of a larger research program seeking to determine the features of high-

quality rural health student placements from a variety of perspectives (26). Multiple case study method was adopted to support participants to share their perspectives from diverse regional, rural, and remote contexts. The ECOUTER methodology allows any number of participants to contribute to knowledge development via an iterative data collection and analysis process involving mind mapping, reflection and interaction (25). It includes four stages: 1) engagement and knowledge exchange, 2) analysis of mindmap contributions, 3) development of a conceptual schema, and 4) iterative feedback.

Participants

Eligibility Criteria

UDRH staff involved in designing, delivering, administrating and/or evaluating rural health placements were eligible to participate in this study. In addition, staff in the community whose role was partially funded by UDRHs were also eligible. UDRH staff have practice wisdom in designing and delivering contextually appropriate rural health placements because they typically live in and know the communities or regions in which they work.

Recruitment

The study invitation was distributed to all 17 UDRH Directors by the Australian Rural Health Education Network (the UDRH peak body) Chief

Executive Officer.[1] Researchers subsequently contacted Directors (with no potential conflict of interest) to seek their UDRH's involvement; 10 UDRHs approved involvement and nominated a case contact. Two researchers were nominated as moderators per case, who shared the plain language statement and consent form with case contacts to distribute to prospective participants. For each case, moderators held a 20-minute videoconference with prospective participants to explain the study, which required an iterative data collection and consent. All participants provided informed consent to participate in stages one and two of the study. Following these stages, moderators invited participants to register interest in stage four participation (stage three did not involve participants). Moderators provided those interested with additional plain language statement and consent form documents. Participants provided informed consent prior to stage four data collection.

Data collection and analysis

Reflecting the ECOUTER methodology (25), data collection and analysis was iterative and comprised four stages (see Figure 1).

Insert Figure 1. Activities conducted within the multiple case study ECOUTER methodology stages.

Stage 1

During stage one, participants developed case mindmaps via an online platform (Padlet, 27) by identifying features that contribute to high-quality

[1] There were 17 established UDRHs at the time of participant recruitment for this research.

rural health placements and adding these to the mindmap, along with comments on features added by colleagues. Each mindmap remained open for two weeks for participant contribution. Moderators provided mindmap access and contribution guidelines as well as participation reminders. Mindmap contributions were made anonymously to support participant anonymity. Participant-identified features were considered *first order constructs*.

Stage 2

During stage two, case mindmaps were refined and comprised two key activities involving within-case data analysis methods (24). Activity one included moderators using constant comparative methods to conduct light touch analysis on first order constructs in the mindmap. This process resulted in the organisation of first order constructs into top-level and sub features. Activity two included moderators meeting with case participants in a focus group via videoconference. During the focus groups, first order constructs were discussed, meanings clarified, relevant literature discussed, and organisation of top-level and sub features discussed and finalised (See Supplementary File 1). Stage two focus groups lasted on average 83 minutes (range 68-112 minutes). Focus group audio recordings were transcribed verbatim and deidentified. For each case, a case summary was developed, including a description of the top-level and underpinning sub features, drawing on participant descriptions in the mindmap and focus group transcript.

Stage 3

During stage three, data from the 10 cases were analysed as one set, in line with cross-case methods (24) and drawing on Miles et al.'s (28) variable-oriented strategies. This process involved aggregating top-level features from all cases via the stacked comparable case approach, identifying *second order constructs* (developed by researchers) and organising top-level features under these constructs. Following this, sub features within top-level features were compared within each second order construct. Comparison of the MM category across cases to explore differences within constructs across rurality was also conducted, exploring differences particularly between cases facilitating placements in MM2-5 versus MM6-7 areas. A draft cross-case conceptual schema including a summary of each second order construct and an overall cross-case mindmap was developed, illustrating the relationship between first and second order constructs that determine high-quality rural health placements.

Stage 4

During stage four, the cross-case conceptual schema was finalised. A focus group was held via videoconference (lasting 113 minutes) and involved seven participants from different cases. Researchers presented the drafted conceptual schema and mindmap and discussed and refined second order constructs with participants, ultimately finalising the cross-case mindmap, constructs, and conceptual schema (See Supplementary File 2).

Results

Across the four study stages, eighty-five UDRH staff participated from 10 cases servicing communities across varying Australian regions. Five cases serviced a broad range of communities including regional, rural and remote (e.g. MM2-6 or MM3-7), two serviced solely rural towns (MM3-5), one serviced solely rural towns and remote communities (MM4-6), and two serviced solely remote and very remote communities (MM6-7). Participants held different roles, including placement facilitators, program managers and researchers.

Thirty-five participants contributed to stage one and no other study stages. Contributions to this stage were made anonymously, so it was not possible to identify demographics of these participants. Fifty-one participants contributed to stages two and four. Participants did not contribute to stage three. See Table 1 for the demographics of stages two and four participants.

Table 1.

Stages 2 and 4 participant demographics

Case	MM footprint serviced	Health disciplines represented	Total number of participants
1	3-7	occupational therapy, pharmacy	3
2	2-6	nursing and midwifery, occupational therapy, social work	3
3	2-6	social work, speech pathology, podiatry, occupational therapy	7
4	6-7	nursing, dietetics	5

5	2-5	biochemistry, occupational therapy, speech pathology	5
6	4-6	pharmacy, social work, speech pathology, occupational therapy, nursing	5
7	6-7	pharmacy, exercise physiology, speech pathology, occupational therapy	8
8	3-5	physiotherapy, pharmacy, occupational therapy	3
9	2-7	psychology, nursing, medicine	6
10	3-7	speech pathology, nursing, physiotherapy, social work	6
Total			51

During stage one, there was a total of 706 mindmap contributions across 10 cases (mean=70), including 230 posts, 116 comments, and 360 reactions.

During stage two, 81 top-level features and 318 sub features that contribute to high-quality rural health student placement were identified and refined across the 10 cases.

During stage three, nine second order constructs were identified: placement planning, student selection, stakeholder communication and collaboration, placement orientation, student supervision, logistical resources, learning opportunities, connecting with the rural community, and student wellbeing and supports. Twenty-three sub-constructs were also identified.

During stage four, nine second order constructs and 23 sub-constructs were refined. Figure 2 employs a cross-case mindmap to illustrate how first order constructs (top-level features and sub features) identified by participants in stage one and refined in stage two, inform and relate to second order constructs, which were identified by researchers in stage three and refined by participants in stage four.

Insert Figure 2. Cross-case mindmap illustrating first and second order construct connections determining high-quality rural health student placements.

The conceptual schema (see Figure 3) illustrates the interconnectedness of constructs and sub-constructs determining high-quality rural health placements, from the UDRH staff perspective. Constructs are numbered for clarity, although not sequential in nature.

Insert Figure 3. Conceptual schema of constructs and sub-constructs determining high-quality rural health student placements.

Construct 1. Placement planning

Placement planning was considered critical to the provision of high-quality rural placements because it establishes how placements will proceed with relevant stakeholders. Placement planning involves two sub-constructs: 1) foundational underpinnings, and 2) logistics.

1.1 Foundational underpinnings

High-quality rural placements are founded on shared principles held by placement stakeholders, including students, host site staff, supervisors, the home university, and service users or community members: “This is a requirement of a quality placement—everyone needs to be prepared and on the same page” (Stage 1, case 3 participant). The principles, including

reciprocity, mutual benefit, and a learning approach, help to guide placement co-design and development:

> The thing about those rural and remote placements, is that they meet a real need, and… that can only be achieved through co-design. You can't come in as an external person, or even person in the community [and] go 'this is what you need.' It's having those conversations about what they need, and then balancing that [with] student capacity and how they can contribute to meeting that need. (Stage 2, case 1 participant)

1.2 Logistics

Logistical planning in high-quality placements comprises four phases, with much of the planning occurring well in advance of the placement: 1) student encouragement to consider a rural placement, 2) early placement allocation to support student preparation, 3) early placement planning to clarify roles, responsibilities, and expectations between key stakeholders, identify community need and match community need to student learning objectives, and 4) final pre-placement communication around caseload expectations, clinical requirements and safety:

> The more time they've [students] got to prepare for it, then [the more]… you can assure the student, because you'll get the thick and fast questions: 'What do I bring?' 'What do I need?' You can feel the panic in the emails. So, that's where we can assure that 'Look you don't need to bring anything but your linen, you're all good.' …The

earlier they know, the more they have [prepared]. For the quality of their experience, [this] is pretty key. (Stage 2, case 9 participant)

Construct 2. Student selection

Selection of students was considered important for high-quality rural placements. These students were considered to fit with the placement and the community in which the placement occurs. Student selection involves two sub-constructs: 1) student characteristics, and 2) the identification process.

2.1 Student characteristics

Students who were ready to engage with a rural learning experience typically possessed several characteristics. Likewise, students that opted into rural placements were considered to comprise many characteristics favourable for student selection. These characteristics include willingness to complete a rural placement, interest in rural work, and a belief that the work is valuable for the rural community: “[when] recruiting students who want to come on placement rurally, they’re often more engaged and get more out of the placement” (Case 9, stage 2 participant). These students have a positive attitude, are enthusiastic and adventurous, independent, look for opportunities to engage with community members, and show initiative by researching the rural community prior to placement. They have the maturity, autonomy, clinical skills, and knowledge to participate in clinical placement activities:

> We [hope] we do get the right student... [We wonder]: How mature is the student and how autonomous are they? What are their clinical skills like? How resourceful are they? You know? What's the quality of the student that's coming to the placement? (Stage 2, case 5 participant)

2.2 The identification process

Students are typically selected for rural placement by their home university, in collaboration with the supporting UDRH and other local stakeholders, to ensure student suitability. Placement quality is enhanced by home university staff having sound understanding of the nature of placements in rural communities and modelling positive attitudes and language about rural placements. Consideration of rural background and rural intent enables interested students to further their experience in rural health. To support high-quality placements, some UDRHs use student selection processes, including competitive expression of interest applications and matching students to a location, for example, enabling rural-origin students to go ‘back home’ and supporting students to spend time in their chosen rural community:

> Students from a rural background are generally what we aim for … The rural students: they just fit the mold. They just fit. They understand the issues around rural health [and] living rurally, they’ve potentially grown up in the area, that sort of thing. (Stage 2, case 9 participant)

Construct 3. Stakeholder communication and collaboration

Communication and collaboration were considered vital to engage the right stakeholders and enable good quality relationships to optimise rural placement quality. Key stakeholders include students, UDRH staff, host site staff, supervisors and clinical educators, rural community members, and home university staff. In high-quality placements, UDRH staff often bring these stakeholders together and support communication. Stakeholder communication and collaboration involves two sub-constructs: 1) stakeholder relationships, and 2) stakeholder interactions.

3.1 Stakeholder relationships

Frequent engagement between placement stakeholders fosters relationships, and in doing so, develops intangible assets such as trust, continuity, and shared commitment to placement implementation, adaptation, and evaluation: “Once you create a relationship with an organisation, there is that important link between the university and the placement throughout that” (Stage 2, case 2 participant). These assets support stakeholder responsiveness to community needs and clarity with roles and responsibilities. Open communication between stakeholders allows challenges and misunderstandings to be addressed as soon as possible: “I think open communication is really, really vital” (Stage 2, case 3 participant).

3.2 Stakeholder interactions

Stakeholder interactions involve the use of multiple feedback loops between stakeholders. As one participant noted: “the practice educators knowing

who to contact [at] the university, the students knowing who to [contact], making sure you're [UDRH staff] supporting them [students and practice educators] for whatever's happening, is really important" (Stage 2, case 2 participant). High-quality placements were described as incorporating a 'team around a student', achieved through complex stakeholder interactions where the student is supported by interacting host site staff, the clinical supervisor, and UDRH staff. Interactions around placement administration occur between all stakeholders, although specifically involve students and supervisors to ensure clarity of expectations around learning outcomes, timelines, assessments and training session attendance requirements. Timely interactions between stakeholders can ensure placement quality, for example, by enabling the completion of compliance documentation, organisation of logistical resources, including student accommodation and transport, or ensuring students are well-packed for community involvement:

> You can tell them [students] … the smallest things: 'I know you're coming to where you think it's middle of nowhere, but make sure you bring a nice frock and a nice shirt and pants… or whatever, because you will be getting dressed up and there's balls and there's races and there's all that sort of stuff.' And they go 'Oh! Okay.' (Stage 4 participant)

Stakeholder interactions occur through ongoing 'catch ups' of all kinds: "it takes a bit of time and is an ongoing thing through face-to-face meetings,

catching up via email or phone… just that sort of connection" (Stage 2, case 9 participant).

Construct 4. Placement orientation

Placement orientation was considered important for high-quality rural placements because it supports students to develop a sense of connection and belonging with the rural community. Placement orientation involves three sub-constructs: 1) placement site orientation, 2) community orientation, and 3) facilitating local knowledge and connections.

4.1 Placement site orientation

In high-quality placements, placement site orientation commences early, with pre-placement communication providing opportunities for students to connect with host site staff and supervisors, and to begin learning about their clinical setting. On arrival, a welcoming orientation to the placement site reduces student anxiety, supports student safety and builds a 'sense of belonging' by further establishing connections with key site stakeholders: "[A] well-structured orientation is critical to ensure the student feels safe and welcome. This can set the tone of the placement and hopefully allow the student to communicate any concerns or issues with their supervisor/host site easily" (Stage 1, case 3 participant).

4.2 Community orientation

Orientating students to the local community enables student social inclusion during placement. This process deconstructs preconceptions about rural communities, enhances student knowledge of the range of rural lifestyles,

and supports their transition into the community. Community orientation may involve exposure to available services and resources, events, sporting venues and other facilities, sightseeing opportunities, restaurants, cafes, and other areas for social gathering within the community. For example, UDRH staff provide ‘town tours’ to share local knowledge:

> When they arrive in the town before placement begins… I drive them around and I show them where you get the best coffee, the gym, which beaches to go to… Centrelink, where the doctor is, where your placement site is…[and] the supermarket. So, they feel on day one that they have a sense of orientation, before they even arrive at [their placement site]. (Stage 2, case 10 participant)

Community orientation is particularly vital for high-quality placements in remote contexts. It facilitates student learning of safety processes for managing rural scenarios, including flooded roads, vehicle or communication breakdowns and accidents:

> We tell students: ‘If you want to go sightseeing, the little car that you've rented or you're driving around in town isn't going to make it to those amazing waterfalls.’ We spend a significant amount of time … arranging for [students] to safely go sightseeing… [And we tell students], ‘Don't just go with this Joe Blow that's offering to take you over to a station without a sat[ellite] phone… you might be trapped there’. (Stage 4 participant)

4.3 Facilitating local knowledge and connections

Using the local knowledge and connections of UDRH staff, orientation offers an important opportunity for students to learn about and better understand the community's history, demographics, and opportunities:

> You might not be a church-goer yourself, but you still know of the churches in the area … because in [our community], a lot of people go to church and so you know where they go. [You say to students], 'Check out these places. I know lots of health professionals that go there; you will probably see familiar faces.'" (Stage 2, case 8 participant)

Construct 5. Student supervision

Optimal student supervision was perceived as integral to high-quality rural placements. Optimal student supervision involves supervisors leading the supervision process with an understanding of the importance of their relationship with the student and results in student needs being met. Student supervision involves two sub-constructs: 1) effective supervisor characteristics and actions, and 2) supporting supervisors in their role.

5.1 Effective supervisor characteristics and actions

In high-quality rural placements, effective supervisors possess clinical and professional experience, rural lived experience and close links to the community, including with other health professionals. These supervisors may have supervisory experience or be first-time supervisors open to learning and mentoring. Effective supervisors are invested: they are willing to share knowledge, and are motivated, flexible, positive in nature,

engaged, and passionate about rural health. They encourage students to work in rural areas by talking with and illustrating the benefits and challenges of the work:

> It is [about] providing an opportunity to learn about the gaps and the challenges of working remote… Within those challenges you're showing the opportunities of growth in different ways of working… It's how you explain that to your students. …We are also teaching them about the lifestyle too … the lifestyle outside of the city limits. (Stage 2, case 6 participant)

Effective supervisors provide a supportive learning environment by being empathetic and building trust with students: "quality supervision requires good relationships, good connection, open communication" (Stage 2, case 3 participant). They are well prepared: they are aware of different placement models, consider the student's learning requirements, strengths, weaknesses, and develop learning activities that extend the student. Effective supervisors foster autonomy and self-efficacy in students to prepare them for rural practice and provide meaningful feedback and opportunities for students to demonstrate improvement. They clearly communicate how the student will receive performance feedback, from who, how often, and how they will be evaluated. Importantly, effective supervisors are cognisant of their own skill set, know their scope of practice and work within it: "it's important to know your own strengths and weaknesses as a supervisor" (Stage 2, case 6 participant).

The roles involved in rural supervision are often discipline dependent. In nursing, on-site nursing facilitators work with nursing preceptors to provide support students (referred to by some participants as pastoral care). Discipline-specific academic oversight is an important element of supervision in remote areas. Effective supervisors in rural communities often move beyond the traditional supervisory role to provide other forms of support for students removed from traditional supports, social networks and university setting: "Nursing students coming from the other universities … are directly reliant on the supervisors or the nursing education at the hospital… Absolutely the pastoral care is provided a lot by the on-the-ground supervisor and others within the placement site" (Stage 2, case 4 participant).

5.2 Supporting supervisors in their role

In high-quality rural placements, supervisors are supported by their workplace through the provision of resources and time allocation for supervision activities. Effective supervisors complete professional development on supervision and student evaluation, are supported by the home university, and access mentoring and networking opportunities to increase their supervisory capability: "[Supervisor] preparedness I think is important. So, if you do find someone that's enthusiastic, willing, it's [about] being able to provide them with the resources they need" (Stage 2, case 3 participant).

Construct 6. Logistical resources

From the UDRH staff perspective, high-quality rural placements require a range of logistical resources within four sub-constructs: 1) home necessities, 2) transport, 3) financial support, and 4) rural and remote workforce.

6.1 Home necessities

The provision of home necessities, including accommodation, are essential for students undertaking a rural placement. High-quality placements are characterised by provision of accommodation that is safe and secure, affordable (fully or heavily subsidised), and well-positioned in the community. Self-contained, fully furnished accommodation removes a significant logistical barrier: “If you’re wanting to get a student to leave the inner city and venture out into the unknown, not having to source their own accommodation and have that extra headache … makes a big difference” (Stage 2, case 1 participant). Shared student accommodation facilitates social connections and peer support, with multidisciplinary accommodation being particularly helpful to support interprofessional education and professional connections between students:

> Mixed discipline accommodation students enjoy meeting and making friends with students from other disciplines and universities. This allows for discussion about health outcomes and situations from different perspectives. It also allows for students to form friendships and indirectly reduces stereotypes and historical separation of professions, encouraging teamwork. (Stage 1, case 7 participant)

Other home necessities considered important for maintaining study requirements and social connections were often provided by UDRH staff. These necessities included hardware, software, education rooms, conference facilities, internet access, printing facilities, lockers, and shared communal spaces for students to use during breaks.

6.2 Transport

Access to suitable transport was considered particularly important for transporting students to and around remote communities. In these settings, most students arrive via bus or plane and are without private transportation for their placement. In high-quality remote placements, students are provided access to UDRH vehicles or financial support to facilitate all facets of their placement (night shifts, cultural immersion, grocery shopping, and visits to places of interest: “They can access [our] cars to move safely between the nightshift and the accommodation. …The students can [also] use bikes to get around. … We’ve got taxi vouchers in the communities where there are taxis, for them to use” (Stage 2, case 4 participant).

6.3 Financial support

High-quality rural placements ensure *timely* distribution of bursaries, scholarships, and travel grants to students, depending on placement rurality, placement length, and profession. Distribution of timely financial support impacts student learning and community experiences: “[We have to make it] affordable so that they don’t race away on Friday at 3:00pm and

race home to work for 3 days, to come back [next week]" (Stage 2, case 1 participant).

6.4 Rural and remote workforce

The rural and remote workforce provides the human resources necessary for high-quality rural health placements. Rural health professionals provide supervision to students on placement and UDRH staff provide support and place-based information. They facilitate, evaluate, and enrich student experiences in place-based ways:

> People know their towns. Even if [the information has] nothing to do with the academic world, [the rural workforce can help students, for example], 'Oh, I know where you can go and get your tyres from.' There's all the additional knowledge that comes from having such a uniquely rural and remote workforce positioned in rural and remote locations. (Stage 2, case 9 participant)

Construct 7. Learning opportunities

High-quality rural placements were considered to offer students unique learning opportunities that provide key knowledge and skills, impacting their practice long-term. Learning opportunities incorporate four sub-constructs: 1) professional and clinical skill development, 2) learning specific to health in the rural context, 3) cultural safety with local Aboriginal and Torres Strait Islander communities, and 4) interprofessional practice.

7.1 Professional and clinical skill development

High-quality rural placements provide students with an opportunity to develop their professional and clinical skills across diverse settings, including hospitals, community, disability and aged care organisations, schools, Aboriginal and/or Torres Strait Islander community-controlled organisations, primary health care services, and population and public health services. These learning opportunities meet home university learning objectives, which often include putting into practice knowledge acquired in the classroom, including discipline-specific learning, evidence-based practice, complex patient management, professional boundaries, leadership skills, conflict resolution and problem solving: “It is vital that the content of the placement complements the student's theoretical learning. It should be the ‘applied’ aspect of what they've learned in lectures/online” (Stage 1, case 6 participant). The ‘hands on’ learning in high-quality rural placements also allows students to experience an expanded range of clinical practice due to the generalist nature of rural service provision, enhancing student understanding of their professional scope of practice:

> It's the diversity of clients that you'll see; the diversity of illnesses or issues and getting to work with other people … and be more hands-on than you would be in a city place, where you're competing with a dozen other students. (Stage 4 participant)

7.2 Learning specific to the rural context

High-quality rural placements support students to learn about the uniqueness of rural and remote communities and the differences in health

service demand between these and metropolitan settings. High-quality rural placements enable students to learn how to work in rural contexts, to be creative and adaptable, with limited resources. This rural-specific learning also provides students who become metropolitan-based health professionals with insight into the strengths and challenges of rural practice and how to support healthcare access in rural communities, including with referral pathways: “It's about creating relevance for the students... [You say to them], ‘Rural people access metro[politan-based] services. And these are... those transferable skill sets to [your] preferred practice areas. ... This experience will help you with discharge planning’” (Stage 2, case 5 participant).

7.3 Cultural safety with First Nations communities

While on high-quality rural placements, students undertake cultural training and experiences considered important for cultural safety, providing them with an opportunity to engage with Aboriginal and Torres Strait Islander community members, explore significant sites and develop an understanding of local culture. Experiences include participation in cultural immersion through weekend multidisciplinary trips where Aboriginal and Torres Strait Islander people provide education through campfire talks, storytelling and clinical yarning, and online orientation for students in locations where on-Country face-to-face orientation is not available. A localised approach to cultural training was considered important for high-quality placement experiences:

> Even if they've done cultural training at uni[versity] we still get them to do our local context training because yeah, it's really important to recognize that Aboriginal culture is not the same across Australia and to have an understanding of the local context. (Stage 2, case 4 participant)

7.4 Interprofessional practice

The interprofessional nature of high-quality rural placements enables specific learning opportunities for healthcare practice. Placements deliberately underpinned with interprofessional principles, practices and education provide students with increased understanding of the value of other disciplines and maximise outcomes for rural community members: "it definitely helps if [the students can] understand each other's roles, each other's skill sets, what you can do together, [and] where the boundaries lie." (Stage 2, case 3 participant).

Construct 8. Connecting with the rural community

High-quality rural placements were considered to offer students experiences of connectedness, life, and learning in a rural context. Connecting with the community, especially from placement commencement, allows students to develop a sense of belonging and observe the impact of their contributions in the community. Placement duration was considered to impact the extent of opportunities for students to connect with the community. However, a placement duration 'sweet spot' is required in high-quality placements, where opportunity for community connectedness and

relationship development is emphasised and duration is balanced with stakeholder capacity for the placement. Connecting with the rural community involves two interrelated sub-constructs: 1) access to immersion activities and 2) building relationships with community members.

8.1 Access to immersion activities

In high-quality rural placements, students have access to immersion activities, such as local leisure activities and events, and are encouraged to visit food and beverage locations and areas where community members socialise and interact. UDRH staff provide students with information guides, social calendars and information about the history of the local community: "[It's about] actually letting them know what's happening in the community over those coming weeks… If there's any particular events and things that they might be able to participate in, …they can do that" (Stage 2, case 3 participant). UDRH staff also organise events and activities and provide students with communication forums to share social activities with each other. These events and activities reflect the context, and community member and student preferences: "it depends on the students [and] depends on what's going on. One of the doctors in [our community] likes students to go cycling early on a Saturday morning. Some of the students think that's great, and some of the other students don't like it at all" (Stage 2, case 7 participant).

8.2 Building relationships with community members

Building relationships with local community members allows students to observe rural nuances and opportunities, which can detract from the deficit thinking often associated with rural communities. The tendency for rural people to participate in a range of social groups and maintain relationships across the community provides opportunities for students to develop relationships with community members. In high-quality placements, rural health professionals and UDRH staff—both professional and academic, support students to build relationships *with* local community members, drawing on their own community connections:

> This morning, I went to the gym [at] this little surf club gym we've got, and there were two of our students there. And so, you say 'hello' to those students there and you might have a bit of a yarn with them. Sometimes those students get involved in conversations with others in the gym who you know [personally]. And then, [you can introduce them]: 'this person's just visiting.' …It's that sort of stuff [that helps]. (Stage 2, case 10 participant)

Construct 9. Student wellbeing and supports

High-quality rural placements were considered to meet the full range of student needs. A range of support activities are provided to maintain student wellbeing. Student wellbeing and supports incorporates two interrelated sub-constructs: 1) formal wellbeing supports, and 2) informal wellbeing supports.

9.1 Formal wellbeing supports

Formal wellbeing supports include organised supports with the explicit aim of maintaining student wellbeing. These are often structured and may include wellbeing programs such as self-care student group education. Other formalised activities are relationship-based, including access to individual or team-based support. The support team knows the context, is available locally, and ensures students know who to talk to where an issue arises. Formal support activities take many forms and are offered by several stakeholders. Typically, UDRH staff support students by developing a relationship, checking in via text message or phone call, particularly when the student is travelling long distances, and providing reassurance to students where necessary: “it’s connections, you know? [Making sure there’s] somebody and there’s some [way] that they’re [students] checking in. And the students have someone to [turn to]—when the thing goes wrong; which always goes wrong when you’re away from home” (Stage 2, case 2 participant). Formal student support and wellbeing activities are woven into the design of a high-quality placement. For example, UDRH staff bring students fruit and vegetables where fresh produce is difficult to find, and spend time with student groups outside of business hours, including for dinner, prior to or toward the end of the placement.

Ensuring student wellbeing and providing formal support is particularly important in remote contexts because of the significant distance from students’ home community and family supports: “In a remote

place, you need to let people know that even though you're a long way away from everywhere, you do have somebody there [for you]" (Stage 4 participant).

9.2 Informal wellbeing supports

Informal wellbeing supports are generally relationship-based and likely not listed in job descriptions of stakeholders tasked with supporting students. Informal supports include placement stakeholders, such as supervisors and host site placement facilitators providing students with opportunities to socialise and feel part of the work team, join community groups, or supporting students to develop personal life skills:

> [A] lot of students haven't lived out [of] home before, so they're getting used to share houses… Just [the] little things that we probably take for granted …You've gotta be really simplistic with your instructions, [for example], 'The bin needs to be taken out … the night before the bin man [comes].' (Stage 2, case 6 participant)

Construct agreement

In stage 4, participants strongly agreed with the constructs; acknowledging that they meaningfully reflected the key features that determine high-quality rural health placements and offered stakeholders a description for designing and implementing them in practice:

> I can't think of anything else that needed to be on there… I've been doing placements for a few years now—[over 10] years… And I think you've done a really good job of capturing all of the different bits and

> pieces and putting it in a format where it's quite simple to understand. …I wish I had that [information] to explain to people what placements are! (Stage 4 participant)

Participants acknowledged that these constructs were not always observable in each placement, but theoretically vital for high-quality rural health placements: “This is the work we do and what we aim to do in our everyday practice” (Stage 2, case 7 participant).

Participants envisioned UDRH staff using the constructs and conceptual schema in three ways: as a staff onboarding training tool, a staff quality improvement reflection tool, and to demonstrate the UDRH activity contributing to the delivery of high-quality rural health placements:

> For staff who are coming on board, it could be, ‘Here's a package to give you some guidance on things to consider when you're putting together your placement. And if you want to make it really good, this is going to help.’ (Stage 4 participant)

> What about [using it as] a quality improvement reflective type activity for people who may have been doing it a while? (Stage 4 participant)

> It [the constructs provide] a good opportunity to recognise the work that is involved in setting up a quality placement. (Stage 4 participant)

Discussion

This study aimed to determine the constructs of high-quality rural health placements in regional, rural and remote Australia, from the perspective of UDRH staff. Nine constructs and 23 sub-constructs of high-quality rural health placements were identified: placement planning, student selection, stakeholder communication and collaboration, placement orientation, student supervision, logistical resources, learning opportunities, connecting with the rural community, and student wellbeing and supports. These constructs are broad yet interconnected, and contextually dependent, suggesting that the work of designing, facilitating and evaluating high-quality rural placement experiences is complex. The constructs identified in this study suggest that high-quality rural health placements could be determined by the timely involvement of a range of stakeholders and the availability and use of resources when and where required, depending on the context.

Much of the complexity within high-quality rural health placement constructs derives from their interconnectedness, reflecting concepts of quality indicators in the WIL literature more broadly (29). Student supervision (construct 5) involves provision of student wellbeing supports—often both formal and informal supports (construct 9). Placement orientation (construct 4) typically involves critical learning opportunities (construct 7), including local Aboriginal and Torres Strait Islander history. Student wellbeing and supports (construct 9) involves the provision of logistical resources (construct 6), such as accommodation and financial

support. This interconnectedness suggests that successfully ensuring that placements comprise one high-quality construct may also inadvertently comprise another. Conversely however, if particular constructs are overlooked, there is a risk that several constructs will fail to receive the attention required to ensure placement quality. The interconnectedness of rural health placement constructs suggests that those involved with designing placements must consider the full suite of constructs during the development phase, rather than considering a narrow set of constructs, to ensure rural health placements are of high-quality.

Several constructs were considered particularly relevant for high-quality health placements in remote communities, building on the literature on remote health placements which has typically adopted placement satisfaction as a proxy for quality (30). The findings suggest that logistical resources (construct 6), specifically accommodation and transport options, are essential for students to live and move around remote communities where housing availability may be limited, and students may not have personal vehicles. Placement orientation (construct 4), in particular orientation to the community, ensures students learn about remote and contextually specific safety considerations. This finding is consistent with those by Thackrah and colleagues (31), where remote Aboriginal community orientation and engagement was identified as enhancing the student experiences. The findings also demonstrated that within high-quality remote placements, student wellbeing and supports (construct 9) are prioritised,

often via frequent student check-ins and other forms of psychosocial support via student supervision, reflecting the work of Campbell and colleagues (32). Consideration of these constructs should account for the unique contexts of remote settings. As previously noted (31), there are unique logistical challenges for remote communities who facilitate student placements and these should be accounted for in policy and funding decisions to ensure placements are of high quality in these communities.

The findings suggest that placement duration—a highly discussed point in the rural health student placements literature (19, 33)—is not particularly prominent in the minds of UDRH staff, when considering what determines high-quality in these placements. Placement duration was considered a concept within one construct around connecting with the community (construct 8). The length of time spent in the community was indeed considered helpful for providing students with opportunities to experience rural life and practice. However, the quality of the time, including having rich opportunities to *build relationships* with community members, was also considerably valuable for placement quality, which adds to the work of White and Humphreys (34), and Seaman and colleagues (35). An opportunity exists to further explore how the processes involved in providing these opportunities for students to develop meaningful relationships with community members impact outcomes such as employment location following graduation.

Participants spoke of the challenges with ensuring high-quality rural health placements, particularly that efforts to achieve high-quality placements sometimes fall short in day-to-day practice. Despite this, the constructs identified as determining high-quality rural health placements had strong participant agreement from health educators living and working in different regional, rural and remote contexts. This agreement suggests the findings are relevant for guiding the development and facilitation of rural health placements in a range of non-metropolitan contexts. UDRHs could adapt the constructs to their context to inform staff onboarding, professional development, and to evaluate practice by identifying current strengths and opportunities to implement additional activities, in line with the constructs. Home universities could use the constructs to identify their key role in enhancing the quality of rural health placements and adapt practices where necessary. Peak health professions bodies could use the constructs to inform policies around core learning objectives and supervision requirements in regional, rural, and remote contexts.

Limitations and strengths of the study

This study identified constructs determining high-quality rural health placements that can be used to inform placement policy and practice in Australia, although the relevance of these constructs internationally is unknown. Whilst broad stakeholder engagement was undertaken, we intentionally focused on UDRH staff, and in doing so recognise that we did not capture the perspectives of other important stakeholders, including host

site facilitators, healthcare consumers and students. In the next steps of this work, we will involve these stakeholders to further evolve the constructs.

From the knowledge of the authors, the study was the first to incorporate case study design into the ECOUTER methodology. The multiple case ECOUTER study methodology enabled the study to be highly participatory, allowing UDRH staff to reflect on team members' contributions and contribute to a complex understanding of rural health placement constructs reflecting a variety of contexts.

Conclusions

Nine interconnected and contextually dependent constructs determine high-quality rural health student placements in Australia. These constructs provide rural health placement stakeholders with an opportunity to identify rural health placement strengths and adapt practices where relevant.

List of abbreviations

ECOUTER Employing COnceptUal schema for policy and Translation Engagement in Research

WIL Work-integrated learning

RHMT Rural Health Multidisciplinary Training program

MMM Modified Monash Model

MM Modified Monash category

UDRH University Department of Rural Health

Declarations

Ethics approval and consent to participate

The study was conducted in accordance with the Declaration of Helsinki and the National Statement on Ethical Conduct in Human Research (2023). Principal ethical approval for this research was granted by The University of Melbourne Human Ethics Committee (2022-23201-33373-5). Additional approvals were received from the following universities: The University of Western Australia (2022/ET000770), Charles Sturt University (H22398), La Trobe University (022-23201-32675-3), The University of Newcastle (H-2022-0353), University of Notre Dame (2022-145), Flinders University (5724), and James Cook University (H8934).

Consent for publication

Not applicable

Availability of data and materials

The datasets generated and analysed during the current study are not publicly available due not having consent from participants to publish but are available from the corresponding author on reasonable request.

Competing interests

All authors declare that they have no competing interests.

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Authors' contributions

All authors approved the final manuscript and take personal accountability for their own contributions.

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