

## Review Article

## Events and experiences shaping a sense of belonging in rural and remote healthcare placements: a scoping review

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## Abstract

**Introduction:** A sustainable rural and remote healthcare workforce is critical for addressing healthcare access disparities globally. Attracting recent healthcare graduates to rural and remote areas is one proposed solution. The objective of rural placements is to expose healthcare students to the unique challenges and rewards of working in these areas, thereby encouraging them to consider

long-term employment in such settings. It is essential to understand the events and experiences that significantly influence healthcare students' sense of belonging to these communities, as this sense of belonging is crucial for their commitment to future employment in rural areas. This scoping review aimed to investigate the events and experiences that influence medical,

nursing and allied health students' sense of belonging to a rural and remote community when on clinical placement. Understanding these outcomes helps in designing placements that effectively foster a sense of community and commitment among students, ultimately contributing to a more suitable rural healthcare workforce.

**Methods:** The scoping review followed the Joanna Briggs Institute methodology. Literature from 1995 to 2024 was systemically identified and mapped using five databases: CINAHL (via EBSCOhost), APA (American Psychological Association) PsycInfo, PubMed (via Ovid), ProQuest and Informat Health Collection. Peer-reviewed primary research with quantitative, qualitative or mixed-methods designs were included. A narrative analysis approach was adopted to identify and synthesise themes.

## Keywords

Australia, belongingness, clinical placement, healthcare personnel, social environment, student, work-integrated learning.

## Introduction

A sustainable rural workforce plays a crucial role in the healthcare system of any country where rural health access is challenging, including developed countries<sup>1-7</sup>. However, recruiting healthcare professionals to rural and remote areas remains a persistent challenge<sup>8,9</sup>. Factors such as the insufficient presence of healthcare professionals in rural areas, limited training prospects, concerns about social and professional isolation and restricted job opportunities for significant others impact the decision-making of current and aspiring healthcare professionals<sup>10-15</sup>. Australia, like other countries, has undertaken proactive measures to enhance the rural healthcare workforce in response to the current crisis<sup>16</sup>. These measures include diverse career growth opportunities, financial incentives such as moving expenses and bonuses, and specialised positions aimed to bridge this workforce gap<sup>17</sup>.

In 2010, the WHO proposed a worldwide policy to improve access to health workers in remote and rural regions by enhancing retention<sup>18</sup>. The recommended strategies included educational initiatives, regulatory measures, financial incentives, and personal and professional support<sup>18</sup>. Various policies, initiatives and studies have been employed to facilitate the recruitment and retention of healthcare professionals in rural and underserved areas. These include the establishment of rural clinical schools, relocation allowances, financial bonuses, recruiting students from local rural and remote areas, creating conducive conditions for health providers, in-kind benefits (free accommodation or vehicle), relevant rural learning experiences, and incentive-based strategies with regional, state or provincial government backings<sup>19-24</sup>.

Professional identity formation is crucial in healthcare education, shaping how students think, act and feel as professionals<sup>25</sup>. It helps them find meaning in their work and supports long-term wellbeing. Professional identity formation involves developing values, attitudes and behaviours, and aligns with professional norms<sup>26</sup>. In rural health care, a strong professional identity can improve retention by fostering a sense of connection and commitment<sup>26</sup>. Strategies to support professional identity formation include mentorship, reflective practice and a supportive learning environment<sup>25</sup>.

**Results:** From the 3316 reports found, 13 were analysed. Three themes were generated encompassing rural environment and rural identity formation, social isolation and community activity engagement. Key findings highlight the positive impact of welcoming community environments in fostering belonging and mitigating social isolation among students.

**Conclusion:** While clinical training among healthcare students remains pivotal, social integration for enhancing students' experiences and potentially bolstering future rural healthcare workforce retention is underscored. Gaps in the literature remain, particularly in understanding the intricate relationships between community involvement, social activities and student retention. Future research should explore student belonging to inform placement programs that address clinical and social integration.

The Australian Government's commitment to sustained funding in rural medical education aims to enhance the likelihood of rural area retention among medical students upon graduation<sup>11,27,28</sup>. Rural clinical schools provide intensive clinical training to undergraduate medical students, grounded in practical experiences within hospitals and community-based settings within a rural and remote region<sup>20</sup>. These schools offer high-quality medical education in rural Australia, allowing students to complete their entire medical program at rural campuses in various locations<sup>20,29</sup>.

Extensive research associated with undergraduate medical health professionals has extended to other healthcare professionals<sup>27,28,30,31</sup>. This has led to the introduction of the Rural Health Multidisciplinary Training Program, which aims to improve retention and recruitment of medical, nursing, allied health and dental professionals in rural and remote Australia<sup>32</sup>.

For nursing and allied health professionals, such as dentists, dietitians, physiotherapists and Aboriginal Health Workers, workforce initiatives have primarily focused on rural communities cultivating their own healthcare professionals<sup>33,34</sup>. Research has underscored the importance of augmenting students' clinical exposure in rural settings<sup>13,14,16</sup>. Policymakers have recognised the need for more 'high calibre' extended rural placements for nursing and allied health students to bolster rural workforce recruitment and retention<sup>35-37</sup>. Research has demonstrated that a favourable rural placement encounter enhances a student's willingness to return to practice in rural areas and influences future career intentions<sup>35,37-39</sup>. The positivity of a rural placement experience often stems from the feeling or sense of belonging during the placement period<sup>40</sup>. Scholarly work focusing on nursing students suggests sense of belongingness significantly impacts the learning journey of nursing and midwifery students, and a sense of belonging remains a critical factor to be considered<sup>40-43</sup>.

Levett-Jones et al define belongingness as an intrinsically personal and contextually influenced phenomenon that develops in reaction to the extent to which an individual perceives (1) being secure, accepted, included, valued and respected by a specified group; (2) being connected with or essential to the group or community; and (3) an individual's professional and personal values align with those of the group<sup>40</sup>. The concept of belonging is described as an individual's engagement with a group or framework that is

characterised by feelings of being appreciated, required or embraced by a group<sup>31</sup>. Several studies have sought to explain the relationship between positive clinical placement experiences and a sense of belonging. For example, supportive learning relationships within a clinical team are key for healthcare students to feel they have a place within that team<sup>44</sup>.

However, limited research explores the relationship between a sense of belonging from community involvement and activities and its contribution to the future rural and remote workforce. Therefore, workplace relationships are critical both inside and outside the workplace<sup>44,45</sup>. Developing a sense of belonging within the community environment is vital. This scoping review aims to explore what events and experiences influence medical, nursing and allied health students' sense of belonging in rural and remote communities while on clinical placement. For this review allied healthcare professionals who undertake rural placements include nutritionists and dietitians, occupational therapists, medical radiation scientists, diagnostic radiographers, speech pathologists, physiotherapists, pharmacists, podiatrists, dentists and social workers as outlined by Allied Health Professions Australia<sup>46</sup>. The term 'allied health' will be used from here on unless otherwise specified.

## Methods

### Study design

A scoping review was undertaken according to the Joanna Briggs Institute (JBI) scoping review methodology<sup>47</sup> and using the Preferred Reporting Items for Systematic Review and Meta Analysis for Scoping Reviews (PRISMA-ScR) reporting guidelines<sup>48,49</sup>. The JBI System for the Unified Management, Assessment and Review of Information (SUMARI) is an online tool designed for a wide range of healthcare professionals, including nurses, to assist in conducting literature reviews by guiding them through each step, from planning to final report writing as methods to improve evidence-based practice and patient care<sup>50</sup>. Overall, this approach was appropriate due to the significant body of knowledge on sense of belonging within the clinical environment, contrasted with the limited understanding of students' sense of belonging outside the clinical environment<sup>51,52</sup>. Therefore, the purpose of the scoping review was to broadly examine the literature to identify, map and provide key insights and potential gaps of the phenomenon<sup>48,53</sup>.

### Search strategy

A preliminary search of PROSPERO, MEDLINE, JBI Evidence Synthesis and Cochrane Database of Systematic Reviews revealed no current or in-progress scoping reviews focused on our aim. With the support of a content specialist librarian, between 1 February and 29 February 2024 we searched five electronic databases. The timeframe for published articles was set between 1995 and 2024, aligning with the introduction of the rural clinical schools through the Australian Government's Rural Clinical Training and Support program<sup>19</sup> and the 2010 WHO policy to enhance the rural workforce<sup>18</sup>. The databases searched were CINAHL (via EBSCOhost), APA (American Psychological Association) PsycInfo, PubMed (via Ovid), ProQuest and Informit Health Collection. We also hand-searched the reference lists of all articles extracted for full-text review.

### Search terms

Key search terms included, but were not limited to, "Students, Health Occupations" OR 'Allied Health Personnel' OR 'Dentist' OR "Nurse" OR "Nutritionist" OR "Occupational Therapist" OR "Pharmacist" OR "Physical Therapist" OR "Physician" OR "speech pathologist" OR "social worker" OR "Aboriginal health practitioner" AND 'Placement' OR 'work integrated learning' AND 'Rural' OR 'Remote' AND 'Social\*' OR 'Communit\*' OR 'Connect\*' OR 'Belong\*'. Additional keyword combinations used in this review are provided in Appendix I. An exemplar of the search strategy used in PubMed is provided in Appendix II.

### Eligibility criteria

We included reports on rural and remote student placement participant groups, specifically those undertaking a baccalaureate level (or higher), health professional program. We considered peer-reviewed primary research with quantitative, qualitative or mixed-methods designs. Grey literature was excluded to ensure the inclusion of rigorous and peer-reviewed evidence. Both Australian and international research written in English were included. Articles were excluded if participants were not studying at a baccalaureate level (or higher) health professional program, if placement locations were not identified as rural and remote or if sense of belonging only related to supervisor-supervisee relationships within the clinical environment. Specific inclusion criteria also encompassed key concepts and contexts outlined in detail.

### Concept

We included reports on students undertaking or having completed clinical placement, classified based on the international classification of health workers by WHO<sup>54</sup>. This included nursing, medical, dental, occupational therapy, pharmacy, physiotherapy, paramedical, dietetics and nutrition, and social work students. Publications were included if they discussed events and experiences surrounding a sense of belonging from community activities during clinical placement.

### Context

Publications specific to the Australian context commonly outline the geographical location of rural and remote location based on the Modified Monash Model (MMM) classification or its precursors if written prior to the commencement of MMM<sup>55</sup>. If the MMM was not clearly outlined, a clear definition of the study's location was required, cross-checking against the MMM classification. As this review focused on research conducted within the rural and remote environment, the classification of 'rural' and 'remote' may differ to that of an Australian context. For this reason, this review included countries listed in the OECD that classify 'rural' and 'remote' similarly to the Australian context<sup>56</sup>. International studies must have reported the location as being considered rural and remote, and use similar typology as defined of this geographical nature by OECD.

### Source of evidence selection

All potentially relevant articles were imported into EndNote X9 for review. After removing duplicates, articles were collated and uploaded into JBI SUMARI<sup>57</sup>. To ensure all duplicates were removed, the EndNote duplicator function was used along with the de-duplicator software due to sensitivity issues within EndNote<sup>58</sup>.

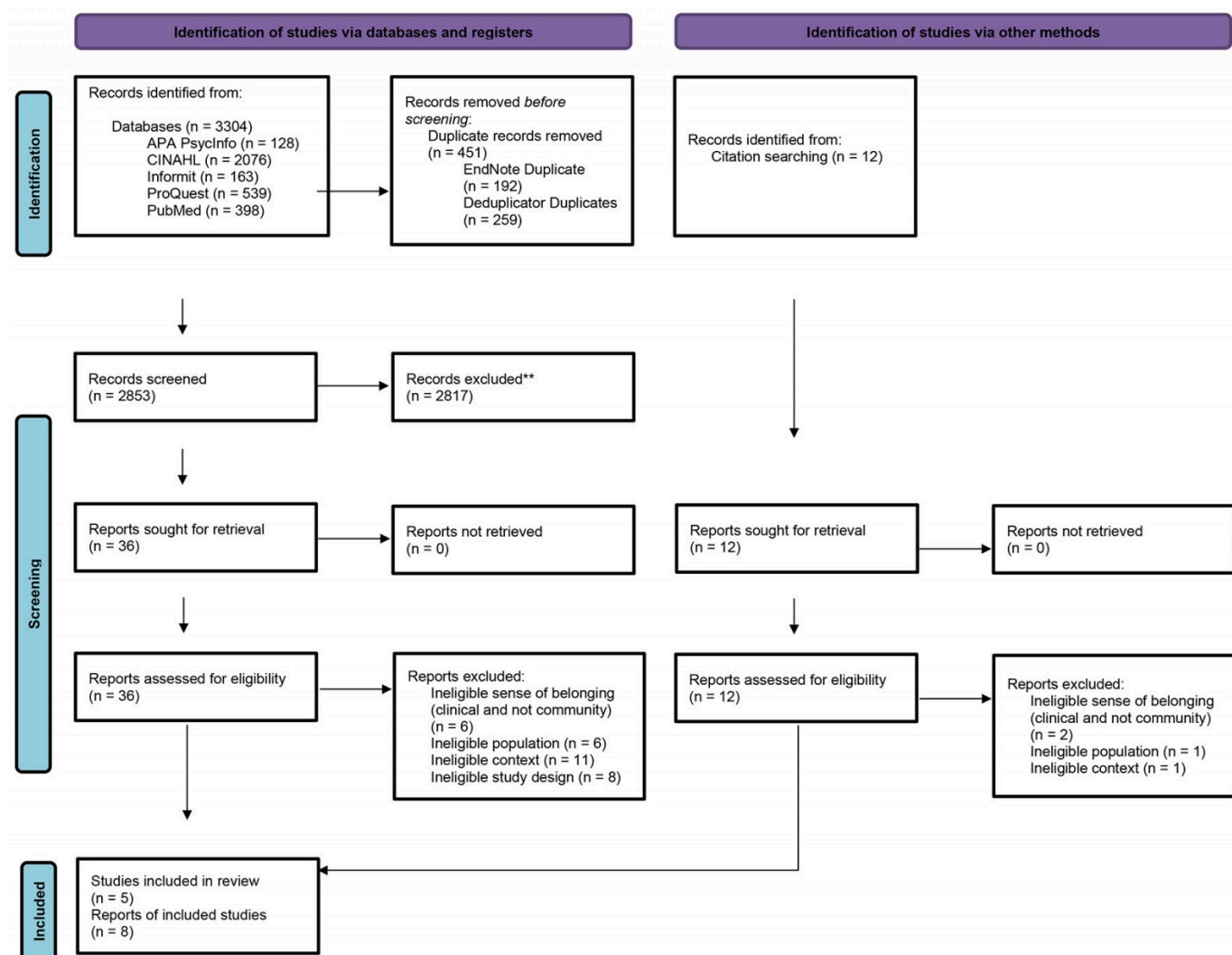
Titles and abstracts were initially reviewed by three researchers (JE, DT and LR) based on the inclusion criteria, with full text of selected articles reviewed with the JBI SUMARI platform. Two reviewers (JE and DT) then independently appraised each study, with a third reviewer (LR) consulted for any conflicts. Reasons for exclusion of articles at the full-text stage were recorded, such as ineligible population (eg not healthcare students), ineligible sense of belonging (being clinical and not community focused) and ineligible study design (eg reviews).

## Data extraction

A data extraction tool was created in JBI SUMARI and replicated into Microsoft Excel to facilitate easier manipulation and analysis of the data. Extracted data included author, publication year and

location, study design, participant population, sample size, definition of 'rural' and 'remote' and of the aim of the article. Outcomes, measurement tools and data analysis methods were also extracted, along with descriptive and inferential statistics.

The results and discussions were reviewed by the authors to identify the depth of the reported events and experiences. A total of 3316 records were identified. After removal of duplicates ( $n=451$ ), title and abstracts were screened, excluding 2817 records. The remaining 48 articles underwent full-text screening, resulting in 13 articles deemed eligible based on the inclusion and exclusion criteria, as detailed in Figure 1.



**Figure 1: PRISMA flow diagram of study selection process.**

## Quality appraisal

Two researchers independently assessed the included articles using the relevant JBI critical appraisal tools<sup>59</sup>. These tools include the JBI Qualitative Research tool, which is designed to assess the methodological quality of qualitative studies by evaluating aspects like congruity between research methodology and objectives. Each criterion is scored as 'yes', 'no', 'unclear' or 'not applicable', helping to determine the overall trustworthiness and relevance of the study<sup>50</sup>. The second tool used was the JBI Analytical Cross Sectional Studies tool, which evaluates the quality of cross-sectional studies by examining criteria such as the clarity of

inclusion criteria and the validity of exposure measurements. Similar to the qualitative tool, each criterion is scored as yes', 'no', 'unclear' or 'not applicable', providing a comprehensive assessment of the study's methodological quality<sup>50</sup>. After each article was assessed, any disagreements were resolved through discussion with a third reviewer. The quality of each article was scored as high, moderate, low or excluded. Overall, the studies were generally of low quality, with common issues including unclear key potential confounders, lack of reference to data saturation in qualitative studies, and omission of philosophical perspectives. Quantitative studies often had small sample sizes,

leading to a higher risk of biased responses. Among the included studies, five were of moderate quality and eight were of low quality. There were no high-quality studies. Table 1 and Table 2 include detailed quality criteria.

**Table 1: Methodological quality<sup>†</sup> assessment using the Joanna Briggs Institute Qualitative Research tool**

Author (year)	A	B	C	D	E	F	G	H	I	J	Overall quality	Comments
Bradley et al (2020) <sup>60</sup>	Unclear	Unclear	Unclear	Unclear	Yes	Yes	No	No	Yes	Yes	Low	Included
Crossley et al (2023) <sup>61</sup>	Unclear	Unclear	Yes	Yes	Yes	Yes	No	No	Yes	No	Low	Included
Dalton (2004) <sup>62</sup>	Yes	No	Yes	No	Yes	Yes	No	No	No	No	Low	Included
Denz-Penhey et al (2005) <sup>63</sup>	Unclear	Unclear	Unclear	Yes	Yes	No	No	Unclear	Yes	Yes	Low	Included
Fisher et al (2018) <sup>64</sup>	Unclear	Unclear	Yes	Unclear	Yes	Yes	No	Unclear	Yes	Yes	Low	Included
Heaney et al (2004) <sup>65</sup>	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Moderate	Included
McAllister et al (1998) <sup>66</sup>	Unclear	Unclear	Unclear	Unclear	Unclear	Yes	No	No	No	Yes	Low	Included
Smith et al (2018) <sup>16</sup>	Unclear	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Moderate	Included
Sutton et al (2016) <sup>37</sup>	Unclear	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Moderate	Included
Walker et al (2022) <sup>67</sup>	Unclear	Yes	Yes	Yes	Yes	Yes	No	Unclear	Yes	Yes	Moderate	Included

<sup>†</sup> Quality criteria: A: Congruity between philosophical perspective and research methodology? B: Congruity between methodology and research question/objectives? C: Congruity between methodology and methods used to collect data? D: Congruity between methodology and the representation/analysis of data? E: Congruity between methodology and the interpretation of results? F: Are participants, and their voices, adequately represented? G: Researchers culturally/theoretically stated? H: Influence of the researcher /research addressed? I: Research conducted ethically/ethical approval noted? J: Conclusions drawn report flow from analysis/interpretation of data?

**Table 2: Methodological quality<sup>†</sup> assessment using the Joanna Briggs Institute Analytical Cross Sectional Studies tool**

Author (year)	A	B	C	D	E	F	G	H	Overall quality	Comments
Elliott et al (2023) <sup>68</sup>	No	Yes	N/A	N/A	Unclear	No	Unclear	Yes	Low quality	Included
Webster et al (2010) <sup>69</sup>	No	Unclear	Yes	Yes	No	N/A	Yes	Yes	Moderate quality	Included
Wolfgang et al (2019) <sup>70</sup> (mixed methods)	No	Yes	Yes	Unclear	No	No	Yes	Yes	Low quality	Included

<sup>†</sup> Quality criteria: A: Were the criteria for inclusion in the sample clearly defined? B: Were the study subjects and the setting described in detail? C: Was the exposure measured in a valid and reliable way? D: Were objective, standard criteria used for measurement of the condition? E: Were confounding factors identified? F: Were strategies to deal with confounding factors stated? G: Were the outcomes measured in a valid and reliable way? H: Was appropriate statistical analysis used? NA, not applicable.

## Data analysis

Researchers used tabular, descriptive and narrative approaches to present the extracted data. Due to the heterogenous nature of the studies, a narrative analysis approach was adopted to identify and synthesise themes. Following Leggo’s method<sup>71</sup>, each article was read multiple times to derive significant statements and meanings. Words and phrases were coded inductively to identify emergent themes, generating an inventory of subthemes related to participants’ experiences in community activities<sup>72</sup>. The research team continually refined these themes through discussion, to ensure accuracy and consistency. Leggo’s steps of thematising and expanding<sup>71</sup> were used to assess and highlight features commonly associated with a sense of belonging from student placements. The codes were then categorised into broader domains, resulting in three main themes aligned with the review’s aim. This rigorous process ensured a comprehensive understanding of the data.

## Ethics approval

This study is a review of previously published literature and did not engage any human participants or collect primary data. Accordingly, no research ethics approval was required.

## Results

Among the 13 peer-reviewed articles, two were quantitative studies involving surveys and questionnaires<sup>68,69</sup>, 10 were qualitative studies with interviews or focus groups<sup>16,37,60-67</sup> and one was a mixed-methods study<sup>70</sup>. A summary of review characteristics extracted is displayed in Table 3.

All studies were conducted in Australia, with locations including Newcastle<sup>64,65</sup>, New South Wales<sup>70</sup>, Queensland<sup>67</sup>, Sydney<sup>66,69</sup>, Tasmania<sup>62</sup>, Victoria<sup>60</sup>, and Western Australia<sup>61,63</sup>. Elliott et al<sup>68</sup>, Sutton et al<sup>37</sup> and Smith et al<sup>16</sup> all defined their locations as being of non-specific location and were aimed at students across Australia.

Participant populations included students from various healthcare professions. Some studies focused on specific professions like nursing<sup>62,65,69</sup> or nursing and midwifery<sup>67</sup>, medical students<sup>63,68</sup>, allied health students<sup>70</sup> and nutrition and dietetics students<sup>65</sup>. Five studies included a mix of professions including nursing, medical, nutrition and dietitians, occupational therapy, speech pathology, physiotherapy, pharmacy, podiatry, medical radiation science, diagnostic radiography, social work, Aboriginal health and dentistry<sup>16,37,60,64,66</sup>.

**Table 3: Characteristics of included articles**

Author (year)	Study location and year(s)	Study design	Participant population (sample size)	Definition of ‘rural’ and ‘remote’	Study aim	Measurement tools / data analysis	Results



Bradley et al (2020) <sup>60</sup>	Victoria, Australia 2019	Qualitative Semi-structured interviews	Nursing and allied health students (occupational therapy, social work, medical imaging, physiotherapy) (n=18)	Not provided	To investigate nursing and allied health students' experiences in rural and regional Victoria, focusing on factors influencing placement satisfaction and wellbeing. Outcome: Identity actionable insights to improve the rural placement experience.	Thematic analysis	Themes: enjoyment of rural life, supportive workplaces, diverse clinical exposure, financial stress, travel challenges, work-life balance, isolation, stressful situations and communication issues with universities.
Crossley et al (2023) <sup>61</sup>	Western Australia 2015–2021	Qualitative longitudinal study Semi-structured interviews	Nursing students (n=10 included in final analysis)	Not provided	To better understand personal and professional decision-making around rural nursing practice intentions and subsequent rural employment and retention.	Thematic analysis	Themes: participants' satisfaction with rural placements; challenges; rural intention.
Dalton (2004) <sup>62</sup>	Rural Tasmania Completion of study timing not clear	Qualitative Participant observations, field notes, interviews and reflective journaling	Nursing students (no participant number given)	Not provided	To explore how the experiences of nursing practice in a rural setting influenced the way undergraduate students shaped their professional identity while on clinical placement.	Hermeneutic circle framework	Themes: navigating rural spaces; time as a source of conflict; developing a rural nurse identity.
Denz-Penhey et al (2005) <sup>63</sup>	Western Australia 2003–2004	Qualitative Semi-structured interviews	Undergraduate medical students (n=28)	Not provided	Articulates parallel findings from three different approaches to student placements (students based long term in one centre, students based in one centre with short-term rotations and week rotations without a home base.	Thematic analysis Grounded theory approach	Themes: home based preferences – academic benefits; contributions to clinical team; social benefits; rotations from a home base / without a home base.
Elliott et al (2023) <sup>68</sup>	Australia June–July 2022	Cross-sectional survey Questionnaires	Medical students (n=107)	MMM geographic categories	To determine factors that impact the overall medical student experience during rural placements. Outcome: To assess factors impacting student experience on rural placements, a cross-sectional survey, known as the Australian Rural Clinical School Support Survey, was conducted, which was completed online by medical students across Australia.	Descriptive statistics	Participants expressed high satisfaction with clinical supervisors and education but noted limited accessibility to health services. Satisfaction with rural placements was significant, with participation in extracurricular activities (57.7%); sport (55.6%), tutoring, volunteering, work opportunities and additional teaching (22.2%). However, dissatisfaction was noted with school wellness activities. Financial insecurity was noted.
Fisher et al (2018) <sup>64</sup>	Newcastle (Australia) March–May 2014	Qualitative Mixed methods	Medicine, nursing, nutrition and dietetics, occupational therapy, medical radiation science, diagnostic radiography, speech pathology, physiotherapy, pharmacy and podiatry (n=95)	None provided	The aim of this study was to investigate whether the program was adding to the students' rural health placement experiences based on perceptions of both the students themselves and University of Newcastle Department of Rural Health staff.	Microsoft Excel spreadsheet, SPSS v22, descriptive statistics. NVivo v10 qualitative data analysis software	Themes: enhancing work readiness and employability; expanding professional practice capabilities; building confidence and showing motivation, and better understanding the nature of rural practice (exposure to rural characteristics).
Heaney et al (2004) <sup>65</sup>	Newcastle (Australia) 2002–2003	Qualitative Focus groups Exploratory study	Nutrition and dietetics students (n=23)	None provided	The study aimed to identify those factors that influence the decision of a dietitian to consider working in a rural area.	Coding assisted using the N6 qualitative data analysis program	Themes: job prospects; rural lifestyle (laidback environment); comfort zones (size of town); support networks; promotion opportunities/professional development; type of work/work role; rural needs; and time frame.

McAllister et al (1998) <sup>66</sup>	Sydney 1991–1996	Qualitative	Social work, physiotherapy, speech pathology, medicine, nursing, Aboriginal health, occupational therapy, medical radiation, rehabilitation, dentistry, pharmacy students ( <i>n</i> =92)	None provided	The major aims of the project were to provide students with information about rural health and rural careers and to provide exposure to rural practice early and regularly throughout their education.	Content analysis – coding	Themes: friendly and welcoming environment; relaxed lifestyle; sporting as social activities mentioned; barriers (limited funding + resources + continuing education; Isolation; lack of privacy).
Smith et al (2018) <sup>16</sup>	Australia July 2014 – November 2015	Qualitative	Undergraduate health students (unclear of inclusion number) Nursing and midwifery, medical students, allied health students (including dentistry, pharmacy, nutrition and dietetics, physiotherapy, speech pathology)	MMM geographic categories	The aim of the qualitative study was to provide an understanding of the lived experiences of students undertaking placements in various non-metropolitan locations across Australia. In addition to providing their suggestions to improve rural placements, the study provided insight into factors contributing to positive and negative experiences that influence students' future rural practice intentions.	Manual thematic analysis and computerised content analysis using Leximancer software	Themes: ruralisation of students' horizons, preparation and support; rural or remote health experience; rural lifestyle; socialisation and interaction; community engagement; cultural awareness.
Sutton et al (2016) <sup>37</sup>	Australia Completion of study timing not clear	Qualitative Interviews and focus groups	Nursing, midwifery and allied health ( <i>n</i> =26 student participants)	MMM geographic categories	To provide in-depth perspectives on how allied health students, nursing students and early-career practitioners of these disciplines construct their understanding of rural practice and gain insight into how their lived experiences influenced their knowledge, perceptions, feelings towards, attitudes about rural and remote practice and, ultimately, about their behaviour in relation to taking up a rural and remote clinical position.	Descriptive statistics Thematic analysis	Themes: connection to people, places and communities; work–life balance; limited socialising in rural towns; future career pathway.
Walker et al (2022) <sup>67</sup>	Queensland (Darling Downs/South West Hospital and Health Service) (July–November 2020)	Qualitative inductive approach Semi-structured interviews	Nursing and midwifery students ( <i>n</i> =17)	MMM geographic categories	To understand the benefits and challenges of rural nursing and midwifery placements for students, and to explore factors that influence positive clinical placement experiences.	Inductive process Codes, subthemes and themes generated	Themes: supervision and support; engaging with a rural community; placement type and duration influence on rural placement experience; future rural career intentions.
Webster et al (2010) <sup>69</sup>	North Sydney 2009	Cross-sectional study Pre- and post-clinical placement questionnaire Five-point Likert scale and four short-answer questions	Undergraduate nursing students ( <i>n</i> =8)	Not defined	This article draws on questionnaire findings and analysis of students' comments to demonstrate the aspects of rural placements that were effective in engaging students in the learning process. It also examined how a primary healthcare clinical placement in Aboriginal communities can provide nursing students with a rich and varied learning experience and an insight into the complex aspects of rural life including Aboriginal health.	SPSS t-test Content analysis with findings organised into themes	Significant differences in pre-perceptions and post-perceptions about rural placement ( <i>p</i> <0.001 level). Themes (quantitative): support for learning, feeling part of the clinical team, feeling valued for their contribution to patient care and obtaining diversity of clinical experience. Themes (qualitative): community lives, cross-cultural awareness, professional relationships, clinical practice, social life, structural issues. Confidence increased after placement.

Wolfgang et al (2019) <sup>70</sup>	New South Wales May 2011 and June 2016	Longitudinal study (ongoing). Mixed methodology End-of-placement survey, semi-structured individual interviews and postgraduate survey Survey via SurveyMonkey (five-point Likert scale)	Allied health students ( <i>n</i> =394 did end-of-placement survey; <i>n</i> =275 did at least one survey) – enrolled in undergraduate programs of medical radiation science (which includes diagnostic radiography, nuclear science and radiation science), nutrition and dietetics, occupational therapy, physiotherapy and speech pathology Students doing semester-long, short-term or year-long attachments	MMM geographic categories	To determine the effect of immersive placement experience on rural practice intentions and to compare outcomes between students from a rural versus an urban background.	Microsoft Excel Analysis: SPSS software Wilcoxon signed-rank test Mann–Whitney <i>U</i> -test Qualitative content analysis to short answers – codes and themes found. NVivo software used	Themes: immersed rural supported placement experience; immersed interaction in rural life with other students and immersed interaction in the rural community.
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MMM, Modified Monash Model

Three prominent themes emerged from the literature. The three themes were rural environment and the formation of a rural identity, social isolation and community activity engagement.

## Rural environment and the formation of a rural identity

Over half (*n*=8) of the articles examined the relationship between students' rural and remote placement experience and the welcoming nature of community members. Bradley et al<sup>60</sup>, Crossley et al<sup>61</sup>, McAllister et al<sup>66</sup>, Smith et al<sup>16</sup>, Sutton et al<sup>37</sup> and Wolfgang et al<sup>70</sup> all noted the positive sense of belonging felt when the community appeared welcoming, positive and friendly. Simple greetings like 'hello' on the street was central to this sense of being welcomed. Bradley et al asserted that being recognised in town as a student further enhanced this sense of belonging<sup>60</sup>. Fisher et al postulated the need to understand rural practice characteristics, but did not elaborate on what this entailed<sup>64</sup>. Data provided surface-level insights into the laid-back<sup>65</sup> and easygoing community<sup>66</sup> nature of rural communities. Dalton et al's study on nursing students in rural Tasmania found that interactions with the rural community extended beyond their professional role, integrating into their personal identities and interactions within the community<sup>73</sup>. Participants emphasised the need to 'develop a rural nurse identity'. Community interaction was also highlighted among undergraduate nutritionist and dietetic students in Newcastle<sup>65</sup>, and various undergraduate students in Sydney<sup>66</sup>. These interactions illustrate that the intimate nature of rural communities allows for deeper connections between healthcare professionals and community members, enabling students to experience the community's lifestyle and values first-hand.

## Social isolation

Three articles identified social isolation as an experience that inhibits a sense of belonging among healthcare students during rural placements<sup>16,60,66</sup>. Students faced challenges related to financial stress, accommodation, travel, and the lack of familiar social and recreational activities<sup>16,60,66</sup>. These studies highlighted the impact of being separated from family and friends, which decreased the sense of belonging to the rural and remote

environment. Bradley et al identified social isolation as a critical factor negatively impacting student placement experiences and satisfaction<sup>60</sup>. However, Smith et al indicated that if students perceived they could overcome social isolation, they found the rural placement rewarding, with a sense of belonging contributing to their personal development<sup>16</sup>.

## Community activity engagement

Community activity engagement involves healthcare students participating in various community events and activities during their rural placements. Such engagement was highly valued and enhanced their sense of belonging. A significant number of studies (*n*=10) indicated that community activity engagement significantly contributed to a student's sense of belonging<sup>16,37,61,63-65,67,68,70</sup>. These activities helped students feel more integrated and valued as part of the community. While some publications broadly labelled these activities as 'community activities'<sup>69,70,74</sup>, others provided clear examples. Sporting activities, such as joining local netball and table tennis teams, were prominent<sup>37,63,66</sup>. Other activities included bushwalking, community jogging and gym memberships<sup>16,63,67</sup>. Walker et al described how participating in local events and activities allowed students to build relationships with community members, understand local cultures and feel more connected to their work environment<sup>67</sup>. Fisher et al<sup>64</sup> and Sutton et al<sup>37</sup> outlined how community engagement bridges the gap between clinical work and community life, outlining perspectives on rural health issues and social determinants of health. By actively participating in community events, students could see first-hand the impact of health care on community members' lives outside the clinical setting. Elliott et al noted that, despite these opportunities, students were sometimes dissatisfied with the lack of extracurricular engagement opportunities offered in the rural and remote locality compared to their home environment<sup>68</sup>.

## Discussion

Thirteen studies explored the events and experiences that influenced medical, nursing and allied health students' sense of belonging in rural and remote communities during clinical placements. The findings highlighted three themes: rural



environment and the formation of a rural identity, social isolation and community activity engagement. Understanding the possible events and experiences can help educational institutions and industry partners design and benchmark placements that positively impact students' desire to return to rural and remote environments post-graduation.

The social aspects of rural placements for healthcare students are often overlooked, leading to significant challenges in student retention and satisfaction. Traditional emphasis on clinical training and professional development often overshadows the equally important social integration into rural communities. Social integration plays a crucial role in mitigating the risk of isolation for students separated from their usual social networks<sup>16</sup>. Previous literature underscores the significance of rural placement models that actively integrate students into rural communities to enhance their engagement and sense of belonging<sup>34,39</sup>. For students without prior rural experience, building social connections within the community is crucial<sup>13,34,75</sup>. Immersion in rural culture has been identified as a significant factor in encouraging individuals to stay in rural and remote areas<sup>76</sup>.

Trede et al<sup>77</sup>, Green et al<sup>39</sup> and Levett-Jones et al<sup>41</sup> highlight that rural identity and a sense of belonging are closely intertwined, influenced by dynamic, relational and contextual factors. A strong sense of belonging can increase the likelihood of undergraduate students considering returning to rural areas after graduation. Opportunities to meet people and develop social networks in the rural community are fundamental for retention<sup>34</sup>. Engaging with rural communities, beyond clinical exposure, helps students develop a broader rural identity and understand their role in addressing the health needs of diverse populations in rural settings<sup>39,41</sup>. According to Levett-Jones et al, students need to be accepted as community members by both clinical and community teams<sup>41</sup>. Sedgwick and Yonge found that the quality of interpersonal interactions influences students' sense of belonging, emphasising the need for acceptance beyond the clinical environment<sup>13</sup>. Healthcare policies and educational programs have predominantly focused on enhancing clinical skills and providing financial incentives to attract and retain students in rural areas. However, the holistic experience of living in these communities, which includes social engagement and forming personal connections, is critical for developing a sustainable rural workforce. Further research is needed to explore the nuanced meanings of belonging and rural identity in the context of student placements in rural health.

This scoping review identified the impact of social isolation on undergraduate students' ability to develop a sense of belonging in the rural and remote community. Research articles highlighted that feelings of being welcomed, valued and supported by local community members during clinical placement influenced the feeling of belonging. Studies by Bradley et al<sup>60</sup>, McAllister et al<sup>66</sup> and Smith et al<sup>16</sup> examined the concern that rural placements in isolation can adversely affect students' sense of connection, leading to loneliness and decreased overall satisfaction. To address these challenges, strategies such as sending multiple students to the same rural and remote facility or accommodating students in shared housing have been implemented<sup>40</sup>. This concept, known as 'ruralisation', involves positive interactions within a friendly and supportive community<sup>16,78</sup>. When students from various health disciplines share accommodation, it fosters valuable social network

and enhances interprofessional collaboration and teamwork<sup>79</sup>. Transportation issues can also exacerbate feelings of isolation, limiting students' ability to engage with the community and participate in social activities<sup>80,81</sup>. Further research is needed to identify additional strategies to decrease social isolation and its impact on students' sense of belonging during rural placements.

The study results emphasised that participating in community activities among undergraduate students created opportunities for fostering a sense of belonging. Missing familiar social and recreational activities disconnects students from their usual support systems, leading to feelings of loneliness, and decreased overall satisfaction and wellbeing during placement. Further exploration is needed to identify which 'community activities' influence this feeling. Current descriptions of these activities are superficial, and more research is required to understand their relationship with students' sense of belonging. Prior research indicates that integrating with the local community helps students gain a deeper understanding of rural practice<sup>64</sup>. Encouraging students to engage in community activities and local events mitigates feelings of isolation, fosters a sense of belonging and aids integration into a rural lifestyle<sup>61,69</sup>. While sports are vital for fostering social connections and a sense of community, other interests should be explored to cater to diverse student needs. Activities such as local volunteer work, participation in community projects and joining hobby groups provide alternative avenues for social engagement<sup>82,83</sup>. Creating opportunities for students to immerse themselves in various community activities helps them form meaningful relationships and a stronger sense of belonging. Students' professional and personal lives often overlap, reinforcing their commitment to rural settings and influencing their career choices toward rural practice. Further research is needed to identify the impact of participation in community events and activities on students' social integration and a sense of belonging during rural placements.

Despite these efforts, there is a notable lack of research exploring the relationship between community involvement, social activities, and healthcare students' employment intentions in rural and remote areas. Most studies have focused on clinical placement experiences and the supervisor-supervisee relationship within the workplace, neglecting the broader community socialisation context. This gap in our understanding highlights the need for comprehensive research to explore the factors that influence students' sense of belonging in rural and remote communities. Further investigation is needed to explore how community events, social interactions and extracurricular activities impact a student's overall placement experience and career intentions. Understanding these dynamics can inform the development of more holistic rural placement programs that address both clinical and social aspects, ultimately contributing to a more sustainable rural healthcare workforce.

## Limitations

The review focused on peer-reviewed evidence, deliberately excluding grey literature, which may have limited the contextual richness of the findings. The overall quality of evidence was considered low, primarily due to small sample sizes and various biases, such as researcher bias, selection bias and information bias. These biases impacted the validity and reliability of the studies, highlighting the need for improved methodologies in future

research. The review did not identify international literature, possibly due to search strategy biases and the criterion of including only English-language studies, which may have excluded relevant non-English studies and affected the global applicability of the recommendations. Excluding grey literature aimed to ensure the reliability and quality of the synthesised evidence but may have omitted relevant studies. The low quality of the studies was noted, with contributing factors including small sample sizes, biases and methodological flaws. Addressing these issues in future research is crucial to enhance the robustness and applicability of the findings.

## Conclusion

It is evident that multiple events and experiences influence undergraduate healthcare students' sense of belonging in rural and remote placements. The themes identified – rural environment and identity formation, social isolation and community engagement – highlight the complexity of this phenomenon. Positive experiences in the clinical workplace and supportive learning are crucial for fostering a sense of belonging among

students; however, social integration into rural and remote communities is equally vital. The literature highlighted that a welcoming community positively affects students' sense of belonging and can mitigate social isolation. The formation of a rural identity and the welcoming nature of the community also play significant roles. Conversely, social isolation can hinder students' sense of belonging. Community engagement through various activities emerged as a key event/experience in enhancing students' connections to rural and remote areas. Moreover, there are identified gaps in the existing literature, particularly in understanding the nuanced relationships between community involvement and social activities of healthcare students in rural areas. There is a need for future research to undertake a deeper exploration of the dynamics of belongingness to inform comprehensive placement programs that address both clinical training and social integration needs effectively. By addressing these factors, healthcare students' sense of belonging during rural placements can be significantly enhanced, ultimately leading to better retention and satisfaction with rural practice.

## References

- 1** Coombs NM, Campbell DG, Carangi J. A qualitative study of rural healthcare providers' views of social, cultural, and programmatic barriers to healthcare access. *BMC Health Service Research* 2022; **2022(22)**: 438. DOI link, PMid:35366860
- 2** Cosgrave C, Maple M, Hussain R. An explanation of turnover intention among early-career nursing and allied health professionals working in rural and remote Australia – findings from a grounded theory study. *Rural and Remote Health* 2018; **18(3)**: 4511. DOI link, PMid:30173537
- 3** Ryan-Nicholls K. Health and sustainability of rural communities. *Rural and Remote Health* 2004; **4(1)**: 242. DOI link
- 4** Gillespie J, Cosgrave C, Malatzky C. Making the case for place based governance in rural health workforce recruitment and retention: lessons from Canada and Australia. *Social Sciences & Humanities Open* 2022; **6(1)**: 100356. DOI link
- 5** Anderson M, O'Neill C, Macleod Clark J, Street A, Woods M, Johnston-Webber C, et al. Securing a sustainable and fit-for-purpose UK health and care workforce. *The Lancet* 2021; **397(10288)**: 1992–2011. DOI link, PMid:33965066
- 6** Maclaren AS, Cleland J, Locock L, Skea Z, Denison A, Hollick R, et al. Understanding recruitment and retention of doctors in rural Scotland: stakeholder perspectives. *The Geographical Journal* 2022; **188**: 188: 261–276. DOI link
- 7** Rechel B, Džakula A, Duran A, Fattore G, Edwards N, Grignon M, et al. Hospitals in rural or remote areas: an exploratory review of policies in 8 high-income countries. *Health Policy* 2016; **120(7)**: 758–769. DOI link, PMid:27312144
- 8** Khalil M, Alameddine M. Recruitment and retention strategies, policies, and their barriers: a narrative review in the Eastern Mediterranean Region. *Health Science Reports* 2020; **3(4)**: e192. DOI link, PMid:33033753
- 9** Mbemba GI, Gagnon MP, Hamelin-Brabant L. Factors influencing recruitment and retention of healthcare workers in rural and remote areas in developed and developing countries: an overview. *Journal of Public Health in Africa* 2016; **7(2)**: 61–66. DOI link, PMid:28299160
- 10** Russell D, Walkerman J, Stirling Humphreys J. What is a reasonable length of employment for health workers in Australian rural and remote primary healthcare services? *Australian Health Review* 2013; **37**: 256–261. DOI link, PMid:23497824
- 11** Ostini R, McGrail M, Kondalsamy-Chennakesavan S, Hill P, O'Sullivan B, Selvey L, et al. Building a sustainable rural physician workforce. *Medical Journal of Australia* 2021; **215(1)**: Medical Journal of Australia 2021; 215(1): S5–S33. DOI link, PMid:34218436
- 12** Cramer M, Duncan K, Megel M, Pitkin S. Partnering with rural communities to meet the demand for a qualified nursing workforce. *Nursing Outlook* 2009; **57(3)**: 148–157. DOI link, PMid:19447235
- 13** Sedgwick MG, Yonge O. 'We're it', 'we're a team', 'we're family' means a sense of belonging. *Rural and Remote Health* 2008; **8(3)**: 1021. DOI link, PMid:18771338
- 14** Terry DR, Peck B, Smith A, Stevenson T, Hoang N, Baker E. What Australian nursing students value as important in undertaking rural practice. *Online Journal of Rural Nursing & Health Care* 2020; **20(1)**: 32–56. DOI link
- 15** Cosgrave C. The whole-of-person retention improvement framework: a guide for addressing health workforce challenges in the rural context. *International Journal of Environmental Research and Public Health* 2020; **17(8)**: 2698. DOI link, PMid:32295246
- 16** Smith T, Cross M, Waller S, Chambers H, Farthing A, Barraclough F, et al. Ruralization of students' horizons: insights into Australian health professional students' rural and remote placements. *Journal of Multidisciplinary Healthcare* 2018; **11**: 85–97. DOI link, PMid:29430183
- 17** Humphreys J, Wakerman J, Pashen D, Buykx P. Retention strategies and incentives for health workers in rural and remote areas: what works? 2009.
- 18** World Health Organization. Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. Geneva, Switzerland: World Health Organization, 2010. Available: [web link](#)

- 19** Greenhill J, Walker J, Playford D. Outcomes of Australian rural clinical schools: a decade of success building the rural medical workforce through the education and training continuum. *Rural and Remote Health* 2015; **15(3)**: 2991. DOI link, PMID:26377746
- 20** McGrail MR, Chhabra J, Hays R. Evaluation of rural general practice experiences for pre-vocational medical graduates. *Rural and Remote Health* 2023; **23(1)**: 7409. DOI link, PMID:36802677
- 21** Playford D, Ngo H, Gupta S, Puddey I. Opting for rural practice: the influence of medical student origin, intention and immersion experience. *Medical Journal of Australia* 2017; **207(4)**: 154–158. DOI link, PMID:28814216
- 22** Lewis MJ, Ellis R, Adusumilli SK, Cameron I. Twenty-five years on: outcomes of a longitudinal evaluation of the NSW rural resident medical officer cadetship program. *Rural and Remote Health* 2016; **16(4)**: 3846. DOI link, PMID:27776418
- 23** Woolley T, Sen Gupta T, Bellei M. Predictors of remote practice location in the first seven cohorts of James Cook University MBBS graduates. *Rural and Remote Health* 2017; **17(1)**: 3992. DOI link, PMID:28190366
- 24** Noya F, Carr S, Freeman K, Thompson S, Clifford R, Playford D. Strategies to facilitate improved recruitment, development, and retention of the rural and remote medical workforce: a scoping review. *International Journal of Health Policy and Management* 2022; **11(10)**: 2022–2037. DOI link, PMID:34973053
- 25** Cornett M, Palermo C, Ash S. Professional identity research in the health professions—a scoping review. *Advances in Health Science Education* 2023; **28**: 589–682. DOI link
- 26** Brown M, Whybrow P, Kirwan G, Finn G. Professional identity formation within longitudinal integrated clerkships: a scoping review protocol. *Systematic Reviews* 2020; **9**: 166. DOI link, PMID:32709252
- 27** McGirr J, Seal A, Barnard A, Cheek C, Garne D, Greenhill J, et al. The Australian Rural Clinical School (RCS) program supports rural medical workforce: evidence from a cross-sectional study of 12 RCSs. *Rural and Remote Health* 2019; **19**: 49711. DOI link, PMID:30827118
- 28** O'Sullivan BG, McGrail MR, Russell D, Chambers H, Major L. A review of characteristics and outcomes of Australia's undergraduate medical education rural immersion programs. *Human Resources for Health* 2018; **16(1)**: 8. DOI link, PMID:29386024
- 29** McGrail MR, Russell DJ, Campbell DG. Vocational training of general practitioners in rural locations is critical for the Australian rural medical workforce. *Medical Journal of Australia* 2016; **205(5)**: 216–221. DOI link, PMID:27581268
- 30** Albert G, Hudson N, Knight-Billington P. Factors affecting medical students' sense of belonging in a longitudinal integrated clerkship. *Australian Family Physician* 2014; **42((1–2))**: 53–57. PMID:24563896
- 31** Daniels R, Pattyn T, Schoenmakers B, Buramba E, Denis K. Belongingness in undergraduate medical student placements: an international comparison study. *Research Square* 2023. DOI link
- 32** Department of Health, Disability and Ageing. Rural Health Multidisciplinary Training (RHMT) program. Canberra: Australian Government, 2024. Available: [web link](#)
- 33** Naden K, Hampton D, Walke E, Parker Pavlovic S, Graham S, Jones D. Growing our own rural, remote and Aboriginal health workforce: contributions made, approaches taken and lessons learnt by three rural Australian academic health departments. *Australian Journal of Rural Health* 2023; **31(3)**: 589–595. DOI link, PMID:36811217
- 34** Cosgrave C, Malatzky C, Gillespie J. Social determinants of rural health workforce retention: a scoping review. *International Journal of Environmental Research and Public Health* 2019; **16(3)**: 314. DOI link, PMID:30678350
- 35** Battye K, Roufeil L, Edwards M, Hardaker L, Janssen T, Wilkins R. Strategies for increasing allied health recruitment and retention in Australia: a rapid review. *Services for Australian Rural and Remote Allied Health (SARRAH)* 2019. Available: [web link](#)
- 36** National Rural Health Commissioner. *Report for the Minister for Regional Health, Regional Communications and Local Government on the improvement of access, quality and distribution of allied health services in regional, rural and remote Australia*. Canberra: Australian Government, 2020. Available: [web link](#)
- 37** Sutton K, Waller S, Fisher K, Farthing A, McAnnally K, Russell D, et al. "Heck yes" – understanding the decision to relocate rural amongst urban nursing and allied health students and recent graduates. Newborough, Vic: Monash University Department of Rural Health, 2016. Available: [web link](#)
- 38** Fatima Y, Kazmi S, King S, Solomon S, Knight S. Positive placement experience and future rural practice intentions: findings from a repeated cross-sectional study. *Journal of Multidisciplinary Healthcare* 2018; **11**: 645–652. DOI link, PMID:30519033
- 39** Green E, Quilliam C, Sheepway L, Hays CA, Moore L, Rasiah RL, et al. Identifying features of quality in rural placements for health students: scoping review. *BMJ Open* 2022; **12(4)**: e057074–e057085. DOI link, PMID:35396299
- 40** Levett-Jones T, Lathlean J, McMillan M, Higgins I. Belongingness: a montage of nursing students' stories of their clinical placement experiences. *Contemporary Nurse* 2007; **24(2)**: 162–174. DOI link, PMID:17563325
- 41** Rogers C. Supporting health students on rural placements: a scoping review. *Australian Journal of Rural Health* 2021; **29(3)**: 319–331. DOI link, PMID:34145681
- 42** Sedgwick MG, Rougeau J. Points of tension: a qualitative descriptive study of significant events that influence undergraduate nursing students' sense of belonging. *Rural and Remote Health* 2010; **10(4)**: 1569. DOI link, PMID:21121700
- 43** Ashktorab T, Hasanvand S, Seyedfatemi N, Salmani N, Hosseini S. Factors affecting the belongingness sense of undergraduate nursing students towards clinical setting: a qualitative study. *Journal of Caring Sciences* 2017; **6(3)**: 221–235. DOI link, PMID:28971073
- 44** Rothwell C, Kehoe A, Farhene Farook S, Illing J. Enablers and barriers to effective clinical supervision in the workplace: a rapid evidence review. *BMJ Open* 11; e052929. DOI link, PMID:34588261
- 45** Zhang J, Shields L, Ma B, Yin Y, Wang J, Zhang R, et al. The clinical learning environment, supervision and future intention to work as a nurse in nursing students: a cross-sectional and descriptive study. *BMC Medical Education* 2022; **22**: 548. DOI link, PMID:35841091



- 46** Allied Health Professions Australia. *Allied health professions*. Carnegie, Vic: AHPA, 2024. Available: [web link](#)
- 47** Peters M, Godfrey C, McInerney P, Munn Z, Tricco A, Khalil H. Chapter 11: scoping reviews. In: E Aromataris, Z Munn (Eds). *JBIR Reviewers Manual*. Adelaide: Joanna Briggs Institute, 2020. DOI link
- 48** Page M, McKenzie J, Bossuyt P, Boutron I, Hoffman T, Mulrow C, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021; **372**: n71. DOI link
- 49** Tricci A, Lillie E, Zarin W, O'Briend K, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. *Annals of Internal Medicine* 2018; **169**(7): 467–473. DOI link, PMID:30178033
- 50** Joanna Briggs Institute. *Critical appraisal tools*. 2025. Available: [web link](#) (Accessed 22 March 2025).
- 51** Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *International Journal of Social Research Methodology: Theory & Practice* 2005; **8**(1): 19–32. DOI link
- 52** Levac D, Colquhoun H, O'Brien K. Scoping studies: advancing the methodology. *Implementation Science* **2010**(5). (69) DOI link, PMID:20854677
- 53** Mak S, Thomas A. Steps for conducting a scoping review. *Journal of Graduate Medical Education* 2022; **10**(5): 565–567. DOI link, PMID:36274762
- 54** World Health Organization. Classifying health workers: mapping occupations to the international standard classification. Geneva, Switzerland: WHO, 2019. Available: [web link](#)
- 55** Department of Health and Aged Care. *Modified Monash Model*. Canberra: Australia Government, 2023. Available: [web link](#)
- 56** Organisation for Economic Co-operation and Development. *Members and partners*. Paris, France: OECD, 2020. Available: [web link](#)
- 57** JBI Sumari. *End to end: support for developing systematic reviews*. Adelaide: Joanna Briggs Institute, 2022. Available: [web link](#)
- 58** Bramer W, Giustini D, de Jonge G, Holland L, Bekhuis T. De-duplication of database search results for systematic reviews in EndNote. *Journal of the Medical Library Association* 2016; **104**(3): 240–243. DOI link, PMID:27366130
- 59** JBI Sumari. *Critical appraisal tools*. Adelaide: Joanna Briggs Institute, 2022. Available: [web link](#)
- 60** Bradley D, Bourke L, Cosgrave C. Experiences of nursing and allied health students undertaking a rural placement – barriers and enablers to satisfaction and wellbeing. *Australian and International Journal of Rural Education* 2020; **30**(1): 51–63. DOI link
- 61** Crossley C, Collett M, Thompson SC. Tracks to postgraduate rural practice: longitudinal qualitative follow-up of nursing students who undertook a rural placement in Western Australia. *International Journal of Environmental Research and Public Health* 2023; **20**(6): 5113–5131. DOI link, PMID:36982020
- 62** Dalton L. Time as a source of conflict: student nurse experiences of clinical practice in a rural setting. *Rural and Remote Health* 2004; **4**(2): 256. DOI link, PMID:15884988
- 63** Denz-Penhey H, Shannon S, Murdoch JC, Newbury JW. Do benefits accrue from longer rotations for students in rural clinical schools? *Rural and Remote Health* 2005; **5**(2): 414. DOI link
- 64** Fisher K, Smith T, Brown L, Wakely L, Little A, Wakely K, et al. Value-adding to health professional student placement experiences: enhancing work readiness and employability through a rural community engagement program. *Journal of Teaching and Learning for Graduate Employability* 2018; **9**(1): 41–61. DOI link
- 65** Heaney SE, Tolhurst H, Baines SK. Choosing to practice in rural dietetics: what factors influence that decision? *Australian Journal of Rural Health* 2004; **12**(5): 192–196. DOI link, PMID:15588261
- 66** McAllister L, McEwen E, Williams V, Frost N. Rural attachments for students in the health professions: are they worthwhile? *Australian Journal of Rural Health* 1998; **6**(4): 194–201. DOI link, PMID:9919076
- 67** Walker C, Forbes R, Osborn D, Lewis PA, Turner E, Beyer K. A qualitative exploration of the factors which influence rural nursing and midwifery placement experience: benefits and challenges identified by students and health service staff. *Australian Journal of Clinical Education* 2022; **11**(1): 29–40. DOI link
- 68** Elliott J, Luk M, Varshney K, Williams K, Wright J. Assessing medical student satisfaction with rural placement: the Australian rural clinical school support survey. *Australian Journal of Rural Health* 2023; **31**(5): 957–966. DOI link, PMID:37551553
- 69** Webster S, Lopez V, Allnut J, Clague L, Jones D, Bennett P. Undergraduate nursing students' experiences in a rural clinical placement. *Australian Journal of Rural Health* 2010; **18**(5): 194–198. DOI link, PMID:21040080
- 70** Wolfgang R, Wakely L, Smith T, Burrows J, Little A, Brown LJ. Immersive placement experiences promote rural intent in allied health students of urban and rural origin. *Journal of Multidisciplinary Healthcare* 2019; **12**: 699–710. DOI link, PMID:31692520
- 71** Leggo C. Narrative inquiry: attending to the art of discourse. *Language and Literacy* 2008; **10**: 1. DOI link
- 72** Bradshaw C, Atkinson S, Doody O. Employing a qualitative description approach in health care research. *Global Qualitative Nursing Research* 2017; **4**: 2333393617742282. DOI link, PMID:29204457
- 73** Dalton L, Baker PG, Walker J. Rural general practitioner preceptors – how can effective undergraduate teaching be supported or improved? *Rural and Remote Health* 2004; **4**(4): 335. DOI link
- 74** Fisher K, Depczynski J, Mitchell E, Smith A. Factors influencing nursing and allied health recent graduates' rural versus urban preferred principal place of practice: a cross-sectional data linkage study. *Australian Journal of Rural Health* 2024; **32**(1): 117–128. DOI link, PMID:38014427
- 75** Terry D, Peck B, Baker E, Schmitz D. The rural nursing workforce hierarchy of needs: decision-making concerning future rural healthcare employment. *Healthcare* 2018; **18**(9). 1232–1248, PMID:34575006
- 76** MacKay S, Smith A, Kyle R, Beattie M. What influences nurses' decisions to work in rural and remote settings? A systematic review and meta-synthesis of qualitative research. *Rural and Remote Health* 2021; **21**(1): 6355. DOI link, PMID:33653078
- 77** Trede F, McEwen C, Kenny A, O'Meara P. Supervisors' experiences of workplace supervision of nursing and paramedic

students in rural settings: a scoping review. *Nurse Education Today* 2014; **34(5)**: 783–788. DOI link, PMid:24698307

**78** Johnson GE, Wright FC, Foster K. . The impact of rural outreach programs on medical students' future rural intentions and working locations: a systematic review. *BMC Medical Education* 2018; **18**: 196. DOI link, PMid:30107795

**79** Spencer J, Woodroffe J, Cross M, Allen P. 'A golden opportunity': exploring interprofessional learning and practice in rural clinical settings. *Journal of Interprofessional Care* 2015; **29(4)**: 389–391. DOI link, PMid:25300807

**80** Killam LA, Carter LM. Challenges to the student nurse on clinical placement in the rural setting: a review of the literature. *Rural and*

*Remote Health* 2010; **10(3)**: 1523. DOI link, PMid:20715883

**81** Moran M, Miles S, Martin P. Australian rural service learning student placements: a national survey. *BMC Medical Education* 2024; **24**: 216. DOI link, PMid:38429667

**82** Seaman CE, Green E, Freire K. Effect of rural clinical placements on intention to practice and employment in rural Australia: a systematic review. *International Journal of Environmental Research and Public Health* 2022; **19(9)**: 5363. DOI link, PMid:35564758

**83** Rowe A, Jackson D, Fleming J. Exploring university student engagement and sense of belonging during work-integrated learning. *Journal of Vocational Education & Training* 2023; **75(3)**. 564–585



## Appendix I: Keyword combinations

Key concept 1	Key concept 2	Key concept 3	Key concept 4
<b>Health personnel</b>	<b>Preceptorship</b>	<b>Rural health service</b>	<b>Social environment</b>
"Students, Health Occupations"	Placement*	Rural	Social*
"Allied Health Personnel"	OR	OR	OR
OR	WIL	Remote	Communit*
"Dentists"	OR	OR	OR
OR	"work integrated learning"	"modified Monash"	Connect*
"Nurses" OR "Nutritionists"		OR	OR
OR		Region*	Belong*
"Occupational Therapists"			OR
OR			Cultural*
"Pharmacists"			OR
OR			Engage*
"Physical Therapists"			OR
OR			Involve*
"Physicians"			OR
OR			Support*
Nurs*			OR
OR			Lifestyle
Physician*			OR
OR			Experience*
Doctor*			OR
OR			Immersion
Dentist			
OR			
"Allied health"			
OR			
Physiotherap*			
OR			
"occupational therap**"			
OR			
"speech therap**"			
OR			
"speech pathologist**"			
OR			
Dental*			
OR			
Paramed*			
OR			
Ambulance*			
OR			
Psychologist*			
OR			
Dietetic*			
OR Dietitian*			
OR Dietician*			
OR			
Nutritionist*			
OR			
"social worker**"			
OR			
"Aboriginal health practitioner**"			
OR			
Pharmac*			

## Appendix II: Exemplar of search strategy used in PubMed

((MESH.EXACT("Health Personnel") OR MESH.EXACT("Allied Health Personnel") OR MESH.EXACT(Dentist) OR MESH.EXACT(Nurse) OR MESH.EXACT(Nutritionist) OR MESH.EXACT("Occupational therapist") OR MESH.EXACT(Pharmacist) OR MESH.EXACT("Physical Therapist") OR MESH.EXACT(Physician)) OR (TI,AB,IF(Nurs\*) OR TI,AB,IF(Physician\*) OR TI,AB,IF(Doctor\*) OR TI,AB,IF(Dentist\*) OR TI,AB,IF("Allied health") OR TI,AB,IF(Physiotherap\*) OR TI,AB,IF("occupational therap\*\*") OR TI,AB,IF("speech therap\*\*") OR TI,AB,IF("speech pathologist\*\*") OR TI,AB,IF(Dental\*) OR TI,AB,IF(Paramed\*) OR TI,AB,IF(Ambulance\*) OR TI,AB,IF(Psychologist\*) OR TI,AB,IF(Dietetic\*) OR TI,AB,IF(Dietitian\*) OR TI,AB,IF(Dietician\*) OR TI,AB,IF(Nutritionist\*) OR TI,AB,IF("social worker\*\*") OR TI,AB,IF(Pharmac\*))) AND ((MESH.EXACT(Preceptorship) OR MESH.EXACT("Students, Health Occupations")) OR (TI,AB,IF(Placement\*) OR TI,AB,IF(WIL) OR

TI,AB,IF("work integrated learning")))) AND ((MESH.EXACT("Rural Health") OR MESH.EXACT("Rural Health Services")) OR TI,AB,IF(Rural) OR TI,AB,IF(Remote) OR TI,AB,IF("modified Monash") OR TI,AB,IF(Region\*)) AND ((MESH.EXACT("Social Environment")) OR (TI,AB,IF(Social\*) OR TI,AB,IF(Communit\*) OR TI,AB,IF(Connect\*) OR TI,AB,IF(Belong\*) OR TI,AB,IF(Cultur\*) OR TI,AB,IF(Engage\*) OR TI,AB,IF(Involve\*) OR TI,AB,IF(Support\*) OR TI,AB,IF(Lifestyle) OR TI,AB,IF(Experience\*) OR TI,AB,IF(attach\*) OR TI,AB,IF(identity) OR TI,AB,IF(immersion) OR TI,AB,IF("rural immersion"))

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