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Rural and Remote Content in Australian Undergraduate Nursing Courses: A Desktop Audit

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Abstract

Registered nurses, considered the mainstay of the health workforce in rural and remote areas, practice in an environment that demands a skill set that is quite different to that required in urban contexts. Evidence suggests new graduates are not always prepared to work confidently in this environment. The aim of this desktop audit was to review rural and remote content in undergraduate nursing courses offered within Australia in 2025. Publicly available course and subject information available on university websites was reviewed and analysed. Findings identified limited inclusion of rural/remote content as a primary subject area, although inclusion as a secondary topic in primary health care, Indigenous health, mental health, practicum preparation, digital health, chronic illness and professional practice subjects was identified. The infrequent inclusion of rural/remote content across courses raises questions about current approaches to undergraduate rural/remote nursing education. Implications for practice include collaborative curriculum deliberation between universities and stakeholders, and consideration of strategies within the university and practice environments that can strengthen the learning experiences of students and new graduate nurses.

I INTRODUCTION

Since nurses first worked in rural and remote areas of Australia in the early nineteenth century, learning for practice has been built on a variable combination of formal and informal learning shaped by the practice context and availability of learning opportunities. Despite their sustained presence as the mainstay of the health workforce in rural/remote contexts, rural/remote nurses have reported feeling underprepared for their roles (Beks et al., 2018; Muirhead & Birks, 2019; Riley et al., 2025). This is especially relevant for new graduates, whose learning and adaptation to rural practice is challenged by perceptions of inadequate skill mix (Lea & Cruickshank, 2015a), and providing care in an isolated environment, where the work can be unpredictable, and support available from other health professionals may be limited (Fowler et al., 2018). While opportunities for professional development, mentoring and post graduate study are available for new graduates, the role and nature of formal undergraduate education in preparing graduates for this context is uncertain. This desktop audit of rural/remote content within existing undergraduate Bachelor of Nursing Courses in Australia establishes a basis for deliberation on this issue.

II BACKGROUND

The nature of rural/remote nursing practice in Australia is shaped by a context that is characterised by distance, limited healthcare services and sparse populations, many of whom are subject to a range of health and access issues (Australian Institute of Health & Welfare (AIHW), 2024). Of the Australian population, 28% live in rural/remote locations, with 2% living in remote or very remote locations (AIHW, 2024). Rural/remote populations experience a higher prevalence of chronic conditions, higher mortality rates, higher rates of potentially avoidable deaths and lower life expectancy and an overall poorer health status than Australians living in cities (AIHW, 2024). Access and opportunities for employment are often limited, wages are lower and risk factors such as smoking, excessive alcohol consumption, reduced activity levels, overweight and obesity (AIHW, 2024), and affordability and availability of basic healthy foods such as fresh fruit and vegetables (Whelan et al., 2018) further impact on health outcomes for rural/remote populations (AIHW, 2024). The provision of health care in this environment is complex and demands a range of resources, service designs and models of care that support population health needs.

Rural/remote nursing has an important place in this context. Data released in 2023 identified a total of 20.9% of registered working nurses in Australia employed in rural/remote areas (18.7% rural; 2.15% remote) (Australian Nursing & Midwifery Federation (ANMF), 2024). Nurses form the largest proportion of the health workforce in rural/remote areas (Department of Health, Disability & Aging, 2023) and are employed across a range of settings including small hospitals, primary health care, community and outreach services (Department of Health, Disability & Aging, 2023). A substantial number of nurses also work in other rural/remote practice contexts including industry and tourism (Adams et al., 2019; Muirhead & Birks, 2019). Increasingly large numbers of fly-in- fly- out (McCullough et al., 2022) and casual staff (MacKenzie et al., 2023; Wakerman et al., 2019) also work in rural/remote contexts. Collectively, this increases the proportion of the nursing workforce that requires fit for purpose knowledge and skills to work in these practice contexts.

A *The nature of rural/remote nursing practice*

Historically, rural/remote practice has been poorly recognised by the nursing profession (Yuginovich, 2000). Both historical literature (Coyle et al., 2010; Cramer, 1998; Francis et al., 2002; Hegney, 1996; Hegney et al., 1999; Hegney et al., 1997; Mills et al., 2010) and contemporary literature (Muirhead & Birks, 2019; Rogers et al., 2025) have reported on the broad scope of practice of rural/remote nurses. However, there is a persistent "lack of specificity about the role" (ANMF, 2024, p. 5) and continued failure to recognise and value

their scope of practice (McElroy, et al., 2022). Generalist scopes of practice have typically been subordinated in Australia in favour of discreet specialisations with clear education pathways and credentialling. The generalist nature of the work includes regularly working with limited clinical support and resources across broad scopes of practice that include emergency and out of hours care, aged care, mental health, primary health care and palliative care (Muirhead & Birks, 2019). Often working independently while also professionally isolated (Adams et al., 2019; Hooker et al., 2023), rural/remote nurses are frequently responsible for managing emergencies until patients can be evacuated (Adams, et al., 2019), with limited options to seek support or re-allocate decision-making (Lord et al., 2013; Twigg et al., 2016). Their role often requires that they perform x-rays, dispense medication, provide ambulance response and other emergency and primary health care (McCullough et al., 2022). They often perform tasks typically associated with other health professionals (Muirhead & Birks, 2019) who may not be available within the region or at the times required (Francis & Mills, 2011; Hauenstein et al., 2014). Nurses are often the only providers of out-of-hours health care in many rural/remote communities (New South Wales Parliament, 2022) yet the required skills appear to be accrued via an ad hoc collection of short courses.

In response to the challenges of their practice context, rural/remote nurses have developed broad and unique scopes of practice that extend well beyond the standardised scopes of practice described for nursing (Hooker et al., 2023). Despite being described as working at a Nurse Practitioner level (Bagg, 2004) and even junior medical level (Baker, 2009) their scope of practice is not always recognised or valued (McElroy et al., 2022). The scope of practice of nurses and other health professionals working in rural/remote contexts, can be challenged by opposing regulatory and community expectations (Wiggins, 2022). Efforts to develop policy that recognise and address scope of practice challenges are ongoing (Australian Nursing & Midwifery Federation, 2022).

B Implications for educational preparation

For rural/remote nurses, stepping beyond their scope of practice in professionally isolated circumstances to meet organisational and community needs is unavoidable (Muirhead & Birks, 2019). However, this presents opportunities to include rural/remote content that promotes congruence between their practice and their educational preparation (Rogers et al., 2025). Nurses who are unfamiliar with the rural/remote practice context, particularly new graduates, have reported feeling underprepared for the breadth and complexity of the role: a situation that is potentially compounded by limited availability of other staff to provide mentoring and advice (Fowler et al., 2018; Rose et al., 2023; Twigg et al., 2016). This situation is further exacerbated by the current attrition of an ageing, experienced workforce in rural/remote areas that is intensified by significant workforce shortages, often being met by nurses with fewer than ten years' experience (Hooker et al., 2023), and a casualised/agency workforce (McCullough et al., 2022). The complexity of rural/remote nurses' roles, and of the challenges that they confront increases the imperative for improving undergraduate preparation (McElroy et al., 2022) to ensure early mobilisation of clinical skills (Stanley & Stanley, 2019) while also ensuring sufficient theoretical content to support rural/remote practice (Adams & Yen, 2024; Jones et al., 2025).

1 Undergraduate preparation for rural/remote nursing practice

Entry into practice as a Registered Nurse or Registered Midwife requires a bachelor's degree and registration with the Nursing and Midwifery Board of Australia (NMBA) to practice in all nursing contexts (NMBA, 2025). The curriculum for nursing education in Australia has undergone a series of transitions over the past 50 years, although has remained urban-centric and heavily focused on specialisation (Roberts et al., 2021). Nationally, 33 public universities offer bachelor's degrees in nursing leading to nursing registration (Australian Health Practitioner Regulation Agency (AHPRA), 2024).

Nursing, now established as a profession, is supported by a regulatory framework that ensures competent practice and public safety. The NMBA (2025), is responsible for nurse and midwife registration, developing standards, codes of practice and guidelines, managing complaints, approving accreditation standards and assessing internationally trained nurses who seek registration in Australia. The Board works in partnership with the registering authority, AHPRA (NMBA, 2025). The combined regulatory processes for which these organisations are responsible support the professional practice and accountability that is required by nursing professionals as they deliver safe, quality care to all populations and the communities they serve.

While all undergraduate courses in nursing are required to meet Australian Nursing & Midwifery Accreditation Council (ANMAC) standards (ANMAC, 2019), there is great diversity in terms of the arrangement of required knowledge areas across the syllabus and of the nature of optional pathways. Inclusion of rural/remote content is not clearly stipulated, although ANMAC (2019) accreditation standards include reference to knowledge of 'regional, national and global priorities' (p. 16) to be integrated within the program but makes no further mention specifically of rural/remote nursing practice.

Student placements form a critical component of student learning, with a requirement by ANMAC (2019) for a minimum of 800 hours of placement in relevant clinical contexts. Clinical placements can extend to rural/remote contexts although this is not compulsory. Of note, University Departments of Rural Health (UDRH) work collaboratively to support rural/remote health education and health students (including nurses), placements, and research (Australian Rural Health Education Network, 2025b). Of the 33 public universities that offered undergraduate nursing courses during 2025 (AHPRA, 2024), 19 have established UDRH programs (Australian Rural Health Education Network, 2025a). The influence of the UDRH on student practice intentions (rural and remote) has been considered positive (Walsh et al., 2023). Investment in UDRH will promote rural/remote nursing (Hooker et al., 2023). The Rural Health Multidisciplinary Training (RHMT) program (Department of Health, Disability & Aging, 2025) also provides support for placement experiences, however concerns of an over-reliance on placement experiences alone to prepare students for rural practice (Adams, 2023) have been raised. Theoretical content and specific pedagogies are required to enable students to interpret rural/remote experiences (Adams & Yen, 2024). It is with the theoretical component of student nurse learning about rural/remote practice that this paper is concerned.

III LITERATURE

A search of the academic literature was undertaken to identify recent peer viewed studies published between 2015 and 2025 that reported rural/remote health content areas presented in undergraduate nursing courses in Australia. A search for studies published within the last ten years from Cinahl, Ebsco, Medline and Informit databases, using key words found in titles and abstracts was conducted. Key words chosen to guide the search included 'nursing' 'syllabus' OR 'curriculum'; 'rural' OR 'remote' AND 'Australia'; and 'Bachelor' OR 'undergraduate' AND 'placement'. Citations and reference lists were scanned to identify other relevant studies, and Google Scholar and Scopus were used to identify citations.

The review found a dearth of literature that explored rural/remote content areas offered within undergraduate nursing curricula. In contrast, a plethora of studies focused on undergraduate rural/remote placement experiences. Further to nursing skill development, rural/remote placements have been advocated as a means for developing a rural nursing identity and an interest in working rurally (Seaman, et al., 2022); being able to engage in interprofessional practice and community engagement (Walsh et al., 2023) and developing confidence to work rurally (Crossley et al., 2023). Placement research has also identified the impact of placement on employment intentions (Sutton et al., 2021) and placement designs that support theory-practice learning and employment intentions including: hybrid design (placement-online learning) (Wiseman et al., 2024) longer placements (Seaman et al., 2022);

employed models (Kenny et al., 2021); and cross sector collaboration informed designs (Jones et al., 2022). However, studies reviewed did not explore to any depth the theoretical knowledge that accompanied or informed learning during these placements.

Other studies recommended rural/remote content for general inclusion in undergraduate nursing courses although not specifically related to placements. Knowledge areas included agricultural health and safety (Schuelke & Ellermeier, 2023), telehealth skills development (Knight & Prettyman, 2020), assessment skills, leadership skills in adapting technologies to the rural/remote contexts, and other advanced skills (Rusaanes et al., 2024). Recommendations were limited and their inclusion in current undergraduate nursing courses was not evident.

Literature categorised as pertaining to 'education' of health professionals (including rural/remote nurses), mostly reported on recruitment and retention strategies, rural/remote background, rurally located education and student self-reporting of placement experiences (Adams, 2023; Dalton, 2008; Reeve et al., 2020) rather than exploration of specific pedagogies, design and teaching strategies. Despite historical and ongoing health deficits in rural/remote communities (AIHW, 2024), there appears to be a paucity of literature that values rural/remote concepts within undergraduate nursing education curricula.

This review found few studies that explored rural/remote content in undergraduate nursing curriculum. While literature that explored placement experiences was plentiful, representation of the theory-rural/remote practice nexus was limited. In exploring the inclusion of rural/remote content across undergraduate nursing courses nationally, this research seeks to address these limitations.

IV RESEARCH AIM

The aim of this desktop audit was to review rural/remote content in undergraduate Bachelor of Nursing courses offered within Australia in 2025.

Research question:

How do public universities that offer undergraduate courses in nursing in 2025 include rural/remote content within course and subject details as presented on their websites?

V METHODOLOGY

Analysis of websites was considered useful in gaining an overview of the publicly available information that is presented to prospective students and others interested in nursing courses. The similarity between categories of course and subject information presented across all university websites provided researchers with a consistent and convenient source of data that was amenable to analysis.

To address the research question, a desk audit design was chosen to guide the collection and analysis of data from university websites. Desk audit designs involve the collation and analysis of secondary data from a wide range of sources including text available from web-based sources (Bassot, 2022). The use of desk audit designs to study nursing course websites has been reported recently in peer reviewed nursing literature (Dunn et al., 2024; Tutticci et al., 2024). In this research, the structure of the desk audit, informed by Turon and Kubik's (2021, p. 5) 'Desktop research method process' included five steps (A-E) as outlined below. Within this process, content analysis was used to guide data extraction and analysis.

A Determination of the research focus

A literature review clarified the research focus which was to audit and analyse rural/remote course and subject content as presented on undergraduate bachelor level nursing course

websites offered in Australia in 2025. The researchers agreed on relevant terms and definitions to be used in communicating this research (Table 1).

Table 1

Glossary of Terms Pertaining to this Research

Term	Definition
Course	The professional award which in most cases was the Bachelor of Nursing that includes all theoretical and practice experiences required for graduation.
Subject	The individual study areas that together make up the core syllabus offered within the course.
Topics	Small related knowledge areas that together make up each subject.
Subject Information	The summary of subject content, learning strategies and learning aims, and their contribution to overall course outcomes.
Learning outcome	The statements that signal the specific knowledge, skills, and attributes that students will achieve through their learning within the subject or course.
Syllabus	The list of subjects that make up the formal knowledge areas defined by the course.
Curriculum	The factors, implicit and explicit, within the learning environment that influence the learning experience. This includes the regulatory context, professional discipline, content, learning experiences including placement locations, people, processes and pedagogical frameworks.
Rural, remote, regional	These terms can be specifically defined by various frameworks that categorise sub-sections of geographical areas. As precise definitions were not evident within the detail provided by each university, the researchers considered these terms, often used collectively, to mean 'non-urban'. As rural and remote were not differentiated on websites, and frequently within the literature, the researchers used the term 'rural/remote' throughout the paper.
Rural/remote content	The theoretical constructs that inform rural/remote nursing practice

B Identification of data sources

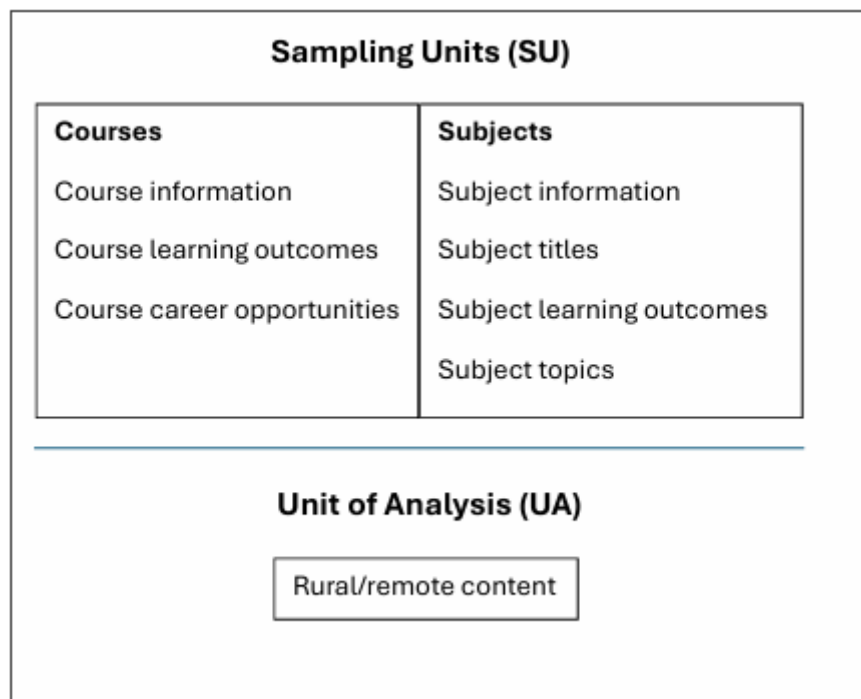
A list of ANMAC accredited nursing courses published by the Australian Health Professional Regulating Authority (2024) confirmed all courses that were relevant to the study. Included were courses offered by public universities, including Bachelor of Nursing, Bachelor of Science Nursing, and Bachelor of Nursing Science. Excluded were double degree courses which included syllabus from non-nursing courses. Graduate entry nursing (GEN) courses which offered a condensed program to graduates of non-nursing degrees were also excluded. Although GEN courses were identical to undergraduate bachelor courses in their pre-registration focus, the syllabus was not considered comparable. GEN courses were offered at a higher academic level (masters); students were given credit that was not specified; and few programs offered electives. Undergraduate nursing courses in private universities were smaller in number and were excluded to ensure anonymity.

C Extraction of data

Courses and corresponding subjects offered in 2025 that were displayed on university websites and via links to university handbooks were accessed between November 2024 and February 2025. Data extraction was guided by content analysis, considered a useful method for extracting large amounts of data from websites or other textual sources (Elo & Kyngas, 2008). The determination of categories (sampling units), from which data (units of analysis) that addressed the research question can be found (White & Marsh, 2006), was an initial step. Sampling units included the course characteristics as reported on each website (course information, learning outcomes, and career opportunities), and subject characteristics as reported within each subject (subject title, abstract, learning outcomes, and topics) (Figure 1).

Figure 1

Sampling Units (SU) and Units of Analysis (UA)



Within sampling units, the key unit of analysis determined by the research question (White & Marsh, 2006) was limited to 'rural/remote' content. To select units of analysis that best addressed the research question, the researchers undertook a preliminary search of subject and course details to determine if there were alternative terms that equally reflected rural/remote contexts. Terms such as 'varied geographical contexts', 'range of healthcare settings', 'diverse groups', 'local', 'regional' and 'global', 'underserved or disadvantaged communities', 'communities of need', 'with health and social disparities', 'minority groups' and 'vulnerable populations' were found across the course and subject information. These terms, which may have included rural/remote contexts, were non-specific and therefore excluded.

Once sampling units and the unit of analysis had been agreed upon between the researchers, a data extraction spreadsheet was created and a detailed review of every undergraduate nursing course, and of every subject listed within each course for each university was conducted. Course information, learning outcomes, and career opportunities were scrutinised for reference to 'rural/remote', and findings entered onto a spreadsheet.

Subjects were similarly scrutinised for reference to 'rural/remote' within titles, subject descriptions, learning outcomes, and topics. Their core and elective statuses were also recorded. As only a small number of subjects included assessment items, the researchers excluded this category. Each sampling unit was scrutinised for evidence of the unit of analysis (rural/remote), and findings entered onto the spreadsheet.

D Data collation

Once data extraction had been completed, the frequency of sampling units (course and subject characteristics) that contained the unit of analysis (rural/remote) was calculated and collated and summarised on a separate spreadsheet.

E Data analysis

Collated data that reflected the frequency of units of analysis within course and subject sampling units was presented within tables. Courses were analysed according to the presence of rural/remote within the website details: information, course learning outcomes, and future career opportunities. The emphasis on rural/remote knowledge within courses was variable. Percentages were calculated and entered into tables and comparisons made.

Data pertaining to subjects were analysed similarly. As the researchers noted commonality between subjects that referred to rural/remote as a secondary topic area, several sub-categories were identified. These sub-categories included primary health care, Indigenous health, mental health, practicum preparation, and a small range of less related theoretical subjects including digital health, chronic illness, and professional nursing practice. A frequency table was created to present this information and to enable interpretation.

F Ethics

The process of data collection in this research was confined to publicly available information and was therefore exempt from a requirement for ethical approval.

VI FINDINGS

A Courses

From a detailed exploration of 36 Australian public university websites, 33 offered an undergraduate course in nursing. Of this sample, 27 courses (82%) referred to rural/remote content within course information and/or career opportunities and/or learning outcomes (n=32). The frequency of 'rural/remote' within the sampling units presented in Table 2 identifies similar frequencies within course information and career opportunities, with minimal inclusion within learning outcomes.

Table 2

Relative Frequency of 'Rural/Remote' (UA) Within Information, Learning Outcomes and Career Opportunities (SU) (n=32)

Sampling units	Relative frequency n (%)
Course information	16 (50)
Learning Outcomes	1 (3.1)
Career Opportunities	15 (46.9)
Total	32

Inclusion of 'rural/remote' across sampling units within each course was varied. Table 3 presents the number and proportions of courses that included the unit of analysis (rural/remote) within each sampling unit. Explicit reference to 'rural/remote' within both course information and career opportunities was found in 12.1% of courses. More commonly, reference to rural/remote content within individual courses occurred only once within either course information (33.3%) or career opportunities (33.3%).

Table 3

Courses: Inclusion of UA (Rural/Remote) within SU (Course Information and/or Learning Outcomes and/or Career Outcomes)

Sampling Units	Courses (%)
Course information only	11 (33.3)
Learning outcomes only	0
Career opportunities only	11 (33.3)
Course information and career opportunities	4 (12.1)
Course information and learning outcomes	1 (3)
Courses that did not include rural/remote within course information, career opportunities, or learning outcomes	6 (18.2)
Total Courses:	33

B Subjects

Analysis of the websites of all 33 universities that offered undergraduate nursing courses, identified 737 subjects (approximately 20-24 subjects in each course). Within this sample, 26 subjects (3.5%) across 18 courses included explicit reference to rural/remote content within one or more of the sampling units: subject title, subject information, subject learning outcomes and subject topics (n=48). Table 4 presents the relative frequency of 'rural/remote' within subject sampling units. Of the 26 subjects that referred to rural/remote content, inclusion within the title was found in eight subjects (16.7%). Rural/remote practice in these subjects was the dominant knowledge area throughout the subject information, learning outcomes and topics. However, across the sample of 26 subjects, only one of these specialised rural/remote subjects was core (12.5%), with the remaining seven (87.5%) electives.

Not all subject websites included all categories. Subject information was included within all 26 subject websites across the sample, with 13 (52%) referring specifically to rural/remote content. Learning outcomes were found in 25 subjects with 16 (62.5%) referring specifically to rural/remote content. Of these, less than half also included rural/remote within subject information. Topics were included in 14 (56%) subjects, 11 (78.5%) of which included rural/remote content.

Table 4

Relative Frequency of Rural/Remote Within Subject Titles, Information, Learning Outcomes and Topics) (n=48)

Sampling Units	Frequency (%)
Subject title	8 (16.6)
Subject information	13 (27)
Learning outcomes	16 (33)
Topics	11 (22.9)
Total:	48

The 26 subjects that included rural/remote content were categorised further according to their key topic/practice focus, and their relative frequency in relation to the sample of all subjects

included in the study (N=737) calculated and presented in Table 5. Rural/remote nursing as a specialised subject area was offered as a single core subject in only one course, and as an elective in seven subjects across four courses. Rural/remote health was otherwise included as a topic within a sub-category of subjects that included primary health care, Indigenous health, mental health, practicum preparation, and a small range of theoretical subjects: digital health, chronic illness, and professional nursing practice. Of these subjects, reference to rural/remote was most frequent within primary health care. Despite the sub-categories of subject areas that referred to rural/remote, their presence across all subjects/courses included in the sample was limited.

Table 5

Frequency of Subject Areas Relative to (1) Rural/Remote Sample (2) All Subjects and courses

Subjects incl. Rural/remote	Frequency	(1) % Subjects incl. rural/remote n =26	(2) % All subjects N =737
Rural/remote Health (Elective)	7	26.9	0.95
Rural/remote health (Core)	1	3.8	0.14
Primary health care	8	30.8	1.1
Indigenous health	3	11.5	0.4
Mental health	2	7.7	0.27
Practicum preparation	2	7.7	0.27
Theoretical subjects			
Digital health	1	3.8	0.14
Chronic illness	1	3.8	0.14
Professional nursing practice	1	3.8	0.14
Total	26		3.5
Subjects that did not include 'rural/remote'	711		96.5
Total	737		

The emphasis on rural/remote content across all 26 subjects was variable. Table 6 presents an overview of the alignment of the units of analysis (rural/remote) across the sampling units: title, subject information, learning outcomes and topics. The data indicates variable inclusion of units of analysis (rural/remote) across the sampling units. Subjects that were specific to rural/remote practice contexts (23.1%) included rural/remote within titles, subject information and learning outcomes, with one also including topics. Subjects more commonly included rural/remote within topics only (23.1%), followed by learning outcomes (11.54%) and subject information (11.54%).

Table 6

Frequency of Rural/Remote (UA) in Subject Titles, Information, Learning Outcomes and Topics Within Subjects (n=26)

Subject Sampling Units	Frequency (%)
Subject information only	3 (11.54)
Learning outcomes only	3 (11.54)
Topic only	6 (23.1)

Title and subject information	1 (3.84)
Title and learning outcomes	1 (3.84)
Subject information and learning outcomes	1 (3.84)
Learning outcomes and topics	3 (11.54)
Subject information, learning outcomes and topics	1 (3.84)
Title, subject information and learning outcomes	6 (23.1)
Title, subject information, learning outcomes and topics	1 (3.84)
Total:	26

The findings revealed limited inclusion of rural/remote content within courses and subjects presented on Bachelor of Nursing university websites. These units of analysis were found in a small number of courses within information (50%), career outcomes (46.9%) and learning outcomes (3.1%). Within subjects, emphasis was confined to a small number of subjects that were specific to this field (0.95%) and more frequently as a secondary knowledge area also within a small number of subjects (3.5%).

VII ACHIEVING RIGOUR IN THIS RESEARCH

One of the risks when undertaking desktop research is bias (Baldwin et al., 2022). Establishing rigour throughout the research process is essential to offset bias, produce credible findings, enable readers to understand how the research was carried out and how well the conclusions represent the study findings (Gerrish & Lathlean, 2015).

In this research, selection of a focused research question positioned within the context of interest, supported by a literature review, and agreement between the researchers of key terms, were essential foundational steps. Sampling bias was avoided by inclusion of the entire population of accredited undergraduate nursing courses offered by public universities, as listed by the accrediting body, AHPRA (2024). The official websites of universities, and their corresponding academic handbooks were considered credible and consistent sources of data that informed the research question.

Rigour was also achieved as the researchers methodically and systematically collated data collected across all course and subject websites according to agreed sampling units and units of analysis. Importantly, where 'rural' or 'remote' was not included in subject titles, the researchers undertook a thorough analysis of subject information to find these terms within learning outcomes or topics. For example, the subject 'Mental health' did not clearly specify rural/remote nursing in the title. However, further exploration of mental health subject websites identified 'rural/remote' within learning outcomes and/or topics. Where this occurred, subjects were then grouped according to their specific knowledge areas and presented as secondary findings.

VIII DISCUSSION

This desktop audit aimed to review rural/remote content in undergraduate nursing courses offered in 2025 across Australia, as represented on publicly available information found on university websites. Analysis of course audit results identified 82% of courses within the sample included rural/remote content, mostly within course information or career opportunities. The analysis of subject audit results identified 3.5% of subjects within the sample included rural/remote content. Two categories emerged from the subject analysis: subjects that were explicit in their

focus on rural/remote content identified within subject titles; and subjects that included the rural/remote content as a secondary knowledge area, meaning there was mention within subjects that had a primary focus on another subject area.

A Inclusion of rural/remote content within course information

While most courses included rural/remote content within course information or career opportunities, only one referred to rural/remote within learning outcomes. It is accepted that learning outcomes at course level need to be sufficiently generic as to accommodate graduate outcomes (Biggs et al., 2022), and the dynamics of the professional practice environment. However, given the health of rural/remote populations is a long-standing national priority area (Department of Health, Disability & Aging, 2019), there is scope for greater visibility of this knowledge area within course learning outcomes.

A much stronger focus on rural/remote content within each university's course information and career opportunities was identified. However, of the courses that promoted graduate readiness for rural/remote practice under 'career opportunities', 53% did not include any explicit rural/remote content within their core subjects. While it is accepted that course websites provide a useful marketing opportunity, of which career opportunities are essential, website information that is consistent, complete and constructively aligned with course syllabus is worthy of consideration.

B Inclusion of rural/remote content within subject information

Eight subjects with a primary focus on rural/remote health were identified in this research. Only one of these subjects was a core subject. Greater frequency was found in a small group of core subjects where rural/remote nursing was included as a secondary knowledge area. These subjects include primary health care, mental health, Indigenous health, practicum preparation and three nursing theory subjects: digital health, chronic illness, and professional nursing practice. Although very small in number, inclusion of rural/remote content in these subjects is well justified and signals opportunities for broader inclusion

1 Primary Health Care

Primary health care (PHC), considered to be the first contact with a healthcare system (AIHW, 2024), can be provided by a range of health professionals including nurses. PHC has an important place in rural/remote contexts where communities may have limited access to services (AIHW, 2024). PHC as a separate subject was included in all 33 courses audited. Of these, eight referred specifically to PHC practice in rural/remote environments.

Given the health of rural and remote populations and the policy focus on PHC in rural and remote locations including 'Australia's Long Term National Health Plan' (Department of Health, Disability & Aging, 2019), such limited presence is surprising. While PHC is delivered across all practice contexts, a gap in PHC delivery within rural/ remote areas has been identified (AIHW, 2024; Mengistu et al., 2023) with access for remote populations of particular concern (Department of Health, Disability & Aging, 2023). The significance and future potential of nurses' roles in advancing PHC in rural/remote areas has been recognized in a range policy documents, nationally (Department of Health, Disability & Aging, 2021)) and internationally (National Academies of Sciences, Engineering, and Medicine, 2021; World Health Organization, 2021b; International Council of Nurses, 2024). Within the profession, the positive impact of nurse-led PHC clinics and services on gaps in service delivery in rural/remote contexts has been recognised and has implications for nursing education (Randall et al., 2024; Robinson et al., 2024). Furthermore, inclusion of generalised PHC concepts that are applicable to urban rather than rural/remote areas, may not be relevant for graduate nurses who choose to work in rural/remote communities. Inclusion of the rural/remote content within PHC subjects across all courses aligns well with recent research, practice evidence, and policy recommendations.

2 Indigenous health

Indigenous health, as prescribed learning, was included as a separate subject in all 33 courses audited in this study. Rural/remote content was included in only three Indigenous health subjects as a specific topic or learning outcome. This is consistent with Mills et al. (2018) finding of variability in the way Indigenous content is taught and integrated within health programming.

Several arguments support the inclusion of rural/remote content in Indigenous health subjects. Although most Indigenous peoples live in cities, the proportion who live in rural and remote locations (18%) is much greater than for non-Indigenous Australians (AIHW, 2024) and their disease burden and life expectancy is much worse than for those in non-remote locations (AIHW, 2024). The gap in health outcomes between Indigenous and non-Indigenous Australians, while decreasing, remains due to a range of issues including social determinants of health, health risk factors and access to services (AIHW, 2024). Strategies to address many of these challenges, recognised as National Health Priority Areas, are emphasised in the *National Agreement on Closing the Gap* (Department of the Prime Minister & Cabinet, 2020) and *Australia's Long Term Health Plan* (Department of Health, Disability & Aging, 2019). As the rural/remote healthcare workforce is comprised predominantly of nurses, who are well distributed across this context (Smith, 2016), inclusion of rural and particularly remote content in Indigenous subjects is worthy of broader consideration.

3 Mental health

Mental health, as prescribed learning, was included as a separate subject in all 33 courses examined in this study. An emphasis on mental health throughout all courses is consistent with ANMAC requirements (ANMAC, 2019). However, only two mental health subjects included secondary reference to the rural/remote context of mental health nursing.

Mental health, considered integral to overall health and wellbeing (World Health Organisation, 2021a), has become a central tenet of Australia's health care priorities. Reportedly, 43% of the population have experienced mental illness at some point in their lives, and in the past 12 months, 22% of the population had experienced mental illness and 3.3% had experienced suicidal thoughts or behaviours (Australian Bureau of Statistics, 2023). In recognition of the mental health challenges that an alarming number of Australians experience during their lives, mental health and suicide prevention have become focal areas of *Australia's Long Term National Health Plan* (Department of Health, Disability & Aging, 2019).

Mental health issues for rural/remote populations are similar to those of urban populations (National Rural Health Alliance, 2021), although the likely prevalence of mental illness that has not yet been diagnosed or treated, together with psychological distress may inflate this figure (Lawrence-Bourne et al., 2020). Unlike urban populations, rural/remote populations are exposed to a range of stressors that are particular to rural/remote contexts and face additional challenges of service access. Nurses, including those who have specialised in mental health, and those who work in generalist roles, have a central responsibility in caring for the mental health needs of rural/remote populations (National Rural Health Alliance, 2021). However, research reports generalist rural/remote nurses feel unprepared for aspects of their practice, including managing out-of-hours presentations in rural hospital emergency departments with minimal support from mental health professionals (Beks et al., 2018). Inclusion of mental health content within undergraduate courses in nursing is consistent with the focus on personal centredness that is desirable in contemporary healthcare practice (McCormack et al., 2021) and is an important trend in nursing education (Schwartz, 2019). However, while it may be unreasonable to expect new graduates who enter rural health to have the advanced skills required to manage complex mental health presentations, inclusion of rural/remote content within undergraduate mental health subjects is consistent with the profile of mental health across the population.

4 Practicum preparation

Practical skills development during clinical placements and simulation are embedded in nursing curricula and mandated by the ANMAC (2019) accreditation standards. Within the

sample, course and subject details on placement arrangements focused on learning outcomes to be achieved rather than on specific placement contexts, understandably as the supply of placement opportunities can be variable. Within the review, two practicum preparation subjects from the sample included rural/remote content. Within these subjects, the rural/remote context was included as a quite specific location for practice experience.

Rural and remote placement experiences can offer students significant benefits. While quality placements can enhance student employment intentions (Seaman et al., 2022), placements are also a powerful means for offsetting the effects of negative discourse that can more widely deter nurses from working rurally. Students have reported enjoying closer relationships with community and having opportunities to take initiative and work with greater autonomy as they develop critical thinking and time management skills (Adams, 2023; Lea & Cruickshank, 2015b). Likewise, students have reported feeling valued by community and health teams, believed that their care was more meaningful and that they were able to observe greater care continuity (Adams, 2023; Malatzky & Bourke, 2016). Nurses also report enjoying the challenge of broad and variable rural scopes of practice (McCullough et al., 2022; Rose et al., 2023) as well as acquiring a broader knowledge base and different skill set to their metropolitan colleagues (Lea & Cruickshank, 2017). Promotion of these strength-based perspectives of rural/remote nursing practice at the undergraduate level, alongside appropriately designed learning placement experiences if not already in place, may contribute to student interest and competence in this field of nursing (Jones et al., 2025).

Universities vary in their support for students undertaking rural/remote placements (Collett et al., 2020). However, where universities partner with University Departments of Rural Health, there is an expectation that students will be offered supported placements that are inclusive of learning experiences that are appropriate to the context (Rogers, 2021).

Although there are moves to increase the number or length of student placements in rural areas (Jones et al., 2025; Terry et al., 2024), Green et al. (2022) maintain that, in particular, it is the quality of the placement that is important, with social connectivity described as an essential element of well-designed longitudinal placements (Carrigan et al., 2024). Furthermore, placement experiences are few, and elective and financial support for rural placements is only recently becoming available (New South Wales Health, 2025). Most placement experiences take place in larger rural centres (Walsh et al., 2023) that some students have identified as providing equivalent experience to urban practice environments (Hanson et al., 2020) thereby failing to provide truly rural/remote experiences. Inclusion of content within practicum preparation subjects that is specifically directed toward preparation for rural/remote contexts may alert students to the possibility of valuable learning opportunities in this context.

5 Digital health, chronic illness, and professional nursing practice subjects

The review identified a further three single ungrouped subjects that incorporated rural/remote content as a secondary knowledge area, including digital health, chronic illness, and professional nursing practice. The rural/remote environment was mentioned in these subjects within unit information and/or learning outcomes as a context in which practice was carried out. Of note, digital health, mentioned in one subject, has been given attention in the nursing literature as a relevant contemporary skill for rural/remote nursing (Knight & Prettyman, 2020), and has been endorsed within the National Nursing and Midwifery Digital Health Capability Framework (Australian Digital Health Agency, 2020). Further, chronic illness is also relevant as data suggests an increased prevalence in rural/remote areas (AIHW, 2024). This evidence supports our recommendation that courses that offer these subjects strengthen their relevance to rural/remote contexts. The remaining subject area in this group that focused on professional nursing practice, included various topics with mention of rural/remote contexts. However, perhaps as a limitation of the desktop audit methodology, the relationship to the subject was not explicit.

C Inclusion of rural/remote practice as a primary knowledge area

The limited emphasis on rural/remote content as a primary knowledge area throughout the courses and subjects audited was a central finding from this research. Only eight subjects (seven electives) across three courses/universities included rural/remote content explicitly as a primary knowledge area. While it is accepted that course and subject websites may not include all that is taught in a subject, the low visibility of rural/remote content across the 33 courses studied warrants further consideration.

From these findings, some important questions emerge. Is rural/remote content a relevant knowledge area to include in undergraduate courses in nursing? If so how can it be applied to practice? If there is broader expectation by universities that new graduates will be ready for work in rural/remote contexts, as declared within their descriptions of course career opportunities, how can that be achieved? Is there an opportunity for a consistent approach across courses and should nursing regulators exert some influence in this area?

Aside from the limited inclusion of rural/remote content within the courses and subjects reviewed, several arguments support attention to these questions. The role of nursing in supporting healthcare in rural/remote communities has been established, and promotion of rural/remote content within nursing courses has a solid policy basis. Nationally, policies that emphasise these objectives include *Australia's Long Term Health Plan* (Department of Health, Disability & Aging, 2019), and the *National Regional, Rural and Remote Tertiary Education Strategy* (Department of Education, 2018). Internationally, policies include the *Global Strategic Directions for Nursing and Midwifery* (World Health Organisation, 2021b) and *Nurses: A Voice to Lead- invest in Nursing and Respect Rights to Secure Global Health* (International Council of Nurses, 2022). Of particular relevance to rural/remote nursing, the *WHO Guideline on Health Workforce Development, Attraction, Recruitment and Retention in Rural and Remote Areas* (World Health Organisation, 2021c) cites evidence of capacity to broaden practice scopes without compromising care quality where staff are appropriately prepared. This can facilitate job satisfaction and retention for a scope of practice that is both challenging and rewarding. Consideration of policy recommendations and background evidence provides a relevant resource for curriculum development.

Recommendations for enhancement of undergraduate rural/remote nursing content, have also emerged from the literature. Suggested knowledge areas include: managing overlapping personal and professional relationships (Osik-Szumer & Arnold, 2023); rural culture (Dwyer & Chaboyer, 2016; Francis et al., 2014; Hauenstein et al., 2014); relational care (Caldwell & Boyd, 2009); rural-specific ethics; specific privacy and confidentiality needs (Simpson & McDonald, 2017); emergency care (Burrows et al., 2019); community health literacy (Jones et al., 2020); and personal safety (McCullough et al., 2022). The emergence of these research findings demonstrates a growing awareness of rural/remote education and provides valuable insights for curriculum development.

Unfortunately, various factors can challenge the adoption and design of specific rural/remote health curricula including: institutional barriers such as the massification of education and misuse of curricula for audit and accountability, (Loughlin et al., 2021); professional silos (Frenk et al., 2010); a failure to value rural concepts (Bell et al., 2005; Downes et al., 2021); teaching staff who lack rural knowledge (Maley et al., 2009); and familiarity with rural/remote practice contexts (Page et al., 2016). Furthermore, a plethora of recent research reports ineffective approaches to undergraduate rural and remote education for nurses, (Adams & Yen, 2024; Kenny et al., 2021; Seaman, et al., 2022; Schwartz, 2019; Sutton et al., 2021; Terry et al., 2024; Walsh et al., 2023; Wiseman et al., 2024). Overcoming these barriers forms a necessary and likely ongoing process if measures to strengthen undergraduate rural/remote nursing education are adopted.

Further to these considerations, inconsistency of rural/remote content across courses reviewed suggests little consensus across the sector about the need for rural/remote knowledge and its relationship to placement experiences where available. While evidence suggests experience has greater influence on learning than formal education, there is scope for greater

integration of rural/remote course content to practice (Whiteing et al., 2022). Importantly, the adaptation of theory to practice is an essential requirement for a bachelor level qualification (Australian Qualifications Framework Council, 2013) and a requirement for course accreditation (ANMAC, 2019). As Hays et al. (2024, p. 3) note “there is usually no specific curriculum or assessment of rural practice, just a hope that the experience will enhance interest in a rural career”. The interaction between theory and practice as the basis of learning is well recognised (Biggs et al., 2022) and supported by the WHO that recommends: “... a match between curricula and outcomes is key to ensuring preparedness for rural practice” (World Health Organization, 2021b, p. 32). Ideally, rural/remote curricula are integrated within the context and the nurses’ role, where the required competencies are developed (Rusaanes et al., 2024) and placements are designed to provide appropriate support and experiences that enable transfer of formal learning to practice (Nyoni et al., 2021). With so few rural/remote subjects and scant inclusion of rural/remote content, opportunities for integration with practice may be limited.

D Place consciousness in rural/remote undergraduate nursing education

Concepts of space and place are generally poorly theorised in health professional literature resulting in a focus on individuals rather than sociocultural places for learning (Kitto et al., 2013). As a result, many nursing curricula have failed to recognise differentiated spaces and places within particularly undergraduate justice curricula (De Sousa et al., 2024; Habibzadeh et al., 2020). This allows rural knowledges to become invisible, marginalised and unrecognised (Downes et al., 2021).

Currently, undergraduate curricula are urban-centric (Roberts et al., 2021) and tend to focus on promotion of global citizenship (Gruenewald & Smith, 2008) causing rural content to become diluted amongst global deficit discourses of disadvantage, under-served communities and broader issues of social and spatial justice that deny acknowledgement of the attributes of rural social spaces when constantly positioned as in deficit (Hayes et al., 2025). Positioning rural health amongst subjects such as global health, refugee health and ethics subjects, distances particular rural knowledges from rural nursing practice which is spatially unjust.

To correct this, Lee et al. (2013) have argued for political, social, economic issues and the underpinning cultural and historical influences to be included in health curricula that would allow rural areas to be recognised as different and dynamic places which require particular health care, and therefore health staff with specific skills and knowledge. Furthermore, *The Regional, Rural and Remote Tertiary Education Strategy* (Department of Education, 2018) likewise calls for policy changes that recognise the diverse nature of rural/remote places, which suggests that students need to be exposed to critical (Halman et al., 2017), place-conscious (Gruenewald, 2003; Morgan, 2019; Roberts et al., 2021) pedagogical approaches as part of their learning to understand the mechanisms that reproduce spatial injustices (Nordberg, 2020). Therefore, a more robust theoretical and practical understanding of the socio-political, economic, geographical and cultural characteristics of rural/remote places would enable advocacy for improved resource distribution (Reeve et al., 2020), specific community needs and valuing local knowledge (Hayes et al., 2025). As Jones et al. (2020, p.4) note, “When health personnel acquire a deeper understanding of the communities in which they are located, they are better positioned to address inequities and contribute to improvements in health behaviours, public health planning, service access, and health literacy outcomes.” Thus, the prominent and pivotal nature of nursing work in rural/remote contexts, high workforce turnover, the national imperative for attention to rural/remote health and a higher need for rural/remote nurses to ‘hit the deck running’, creates an obligation for nursing education to focus greater attention on rural spatial injustices.

IX LIMITATIONS

Retrieval of data from each university’s website provided access to information that is available to prospective students and others who are interested in knowing about specific nursing courses. As a data source, websites are limited by the influence of marketing priorities, as well as an

incomplete picture of what is offered, as knowledge areas and student experiences that are embedded within learning and teaching processes may not be explicitly declared in these spaces. However, as website information about courses and subjects was linked to university handbooks, it was deemed a trustworthy source by the researchers and hence of value to this study

X CONCLUSION

The aim of this desktop audit was to review rural/remote content in undergraduate nursing courses offered within Australia in 2025. Findings from this research indicate that undergraduate nursing curricula as presented on university websites in Australia lacks substantive representation of rural/remote content. This is evidenced by limited reference to rural/remote content across course and subject websites. Rural/remote nursing has historically held a sustained and prominent presence in rural/remote areas; represents the largest proportion of the rural/remote health workforce; and provides a broad spectrum of care to populations with substantially different health needs. It is disappointing therefore, that rural/remote health and rural/remote nursing practice are not more significant topics for the Australian nursing profession, its regulatory bodies, and higher education. The findings from this review alert the nursing profession, curriculum designers, and regulatory bodies to consider how best to create a meaningful learning experience for undergraduate nursing students that integrates theory and practice within the rural/remote context.

XI IMPLICATIONS FOR PRACTICE

- Collectively, universities in consultation with stakeholders, and in partnership with UDRH, can consider how best to prepare undergraduate nurses for rural/remote practice, with reference to research on rural/remote nursing scopes of practice.
- Individually, universities can consider, during curriculum deliberations, how best to embed rural/remote content within courses and subjects, and how contextual learning can be augmented through relevant experience.
- Nursing academics and members of the profession can adopt place conscious learning in undergraduate rural/remote nursing education.
- Nursing academics and members of the profession can continue to undertake research and engage with policy to support deliberations on the inclusion of rural/remote content in undergraduate nursing education.
- Nursing academics and members of the profession can consider embedding rural remote content within existing knowledge areas including but not limited to: primary health care; Indigenous health; mental health; practicum preparation; digital health, chronic illness; and professional practice.
- Members of the nursing profession, academics and regulators can consider the visibility of rural/remote nursing within the regulatory framework that underscores the scope of undergraduate nursing education and can secure scope of practice guidelines that reduce ambiguities that are inherent in rural/remote practice.

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