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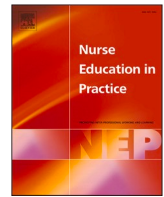

Review

What challenges and enablers elicit job satisfaction in rural and remote nursing in Australia: An Integrative review☆

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ABSTRACT

Aim: To explore challenges and stressors experienced by rural and remote area nurses and identify any interventions that aided in decreasing stress and increasing job satisfaction.

Background: Demand for a generalist nursing workforce in rural and remote locations exposes nurses to the same conditions as people residing there: higher mortality rates and higher incidence of chronic diseases and inadequacies in accessing health services.

Design: Christmals and Gross's integrative review framework was used with specified inclusion and exclusion criteria. Four databases were searched with no date limits. Only Australian studies were searched as international scope of practice differences for nurses could have distorted findings.

Findings: Eighteen studies identified three broad themes: access to education; isolation (geographical, professional and personal) and recognition of role.

Discussion: Interlinked themes showed positives and negatives from differing viewpoints. Ambivalence to education stemmed from inadequate exposure to learning and was linked with geographical isolation. Isolation was found to be less of a challenge to nurses who had an existing emotional connection with the community.

Conclusion: The themes identified were recurrent and interconnecting. The benefits of working in small rural and remote communities are being used as a driver for recruitment. These benefits include higher wages, providing a sense of belonging and allowing nurses to work to their full scope and develop generalist nursing skills. The geographical isolation generates challenges through inequality in access to education and professional support, working outside their scope of practice, safety and vulnerability that comes with living remotely and adapting to extreme weather conditions.

Tweetable abstract: What are the challenges and enablers of rural and remote working and living that influence job satisfaction for rural and remote area nurses in Australia?

1. Introduction

Just under a third of Australians reside outside a major city and around 28% of the population live in rural and remote areas (Australian Institute of Health and Welfare [Australian Institute of Health and Welfare AIHW, 2020). Geographically, the Australian landscape is complex and unique; as such, definitions of rural and remoteness are difficult. Commonwealth Government classifications such as the Modified Monash Model (MMM) and the Australian Statistical Geography Standard – Remoteness Areas (ASGS_RA), divide the Australian landscape into specific categories based on their location, population size and accessibility to services (Australian Bureau of Statistics [AustralianBureau of Statistics ABS, 2018).

The Australian Institute of Health and Welfare and National Rural Health Alliance data highlights health disparities for people living in rural and remote areas including higher mortality rates and hospitalisations and inequalities in accessing health services (Australian Institute of Health and Welfare (AIHW), 2019; NRHA, 2019). A high

☆ Whilst this review concentrated solely on Australian rural and remote area nurses, commonalities may apply to international rural and remote nurses. Further research should focus on international benchmarking quality interventions and assessing rural and remote area nurses' perceptions of the impact working rurally and remotely has on job satisfaction.

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proportion of the population who reside in rural and remote areas are Indigenous Australians; 65% of Indigenous Australians live in remote and very remote locations in comparison to 6.3% who live in major cities or regional areas (Australian Institute of Health and Welfare AIHW, 2019). Furthermore, Indigenous Australians have a mortality rate that is 1.6 times greater than non-Indigenous Australians (Australian Institute of Health and Welfare AIHW, 2020) with around 80% of the mortality gap being accredited to chronic disease (Australian Institute of Health and Welfare AIHW, 2010) These factors contribute to a higher mortality rate and more hospitalisations for people who live in rural and remote areas. The other major factor contributing to poorer health outcomes for people living in rural and remote areas is poorer access to health care services (Australian Institute of Health and Welfare AIHW, 2020).

The rural and remote nursing supply requirements of 1200 full-time nurses per 100,000 population, surpasses major city demand by 0.2% (Australian Institute of Health and Welfare AIHW, 2009; NRHA, 2019). On average, nurses working in remote and very remote areas also worked 4.5 hours per week above the national average and are 1.8 years older (Australian Institute of Health and Welfare AIHW, 2009). Nursing workforce is continuing to grow but is not consistent with population growth (Australian Institute of Health and Welfare AIHW, 2009). Francis and Mills (2011) also suggest that a new generation of nurses are more discerning than their predecessors. Demands for better working conditions and career opportunities will force rural nursing leaders to create a workplace culture that more effectively encourages recruitment and retention. The challenge to attract a rural-generalist nursing workforce has changed recruitment strategies that entice through incentives and highlight the advantages of working rurally.

1.1. *Aims*

This integrative review examined Australian studies that explored stressors concomitant with rural and remote nursing. The aim was to identify challenges and enablers associated with these stressors and ascertain if there were any interventions that decreased stress experienced by rural and remote nurses and/or improved job satisfaction. The term RANs (remote area nurses) will be used in this report and will refer to both rural and/or remote nurses throughout.

2. Methods

An integrative review framework was used (Table 1) primarily for its diversity of inclusive methodological sources (Christmals and Gross, 2017). Appraising both qualitative, quantitative and mixed methods research studies in nursing allows an identification of themes central to the rural specialisation, thus presenting a holistic perspective and synthesis of the literature. The identified contribution that integrative reviews make to research helps provide a varied perspective to a phenomenon, particularly in evidence-based nursing (Ganong, 1987; Hopia et al., 2016; Whittemore and Knafl, 2005); consequently, aligning soundly with the subject under investigation. Comprehensive and inclusive objectivity of quantitative, qualitative and mixed methods demands a greater insight and attention to detail. Therefore, an integrative literature review framework (Christmals and Gross, 2017) was followed.

2.1. *Search strategy*

The following four electronic databases were searched: CINAHL, Cochrane Library, EBSCOhost and Scopus. These four were chosen for their relationship to health and nursing, but also to provide a wide range of key search types: abstract and index, high-quality independent evidence, evidence-based practice and abstract and citation of peer reviewed literature. Search terms included 'Australia', 'rural', 'remote', 'generalist', 'satisfaction', 'nurs* ', 'stress* ' (with * representing a search term truncation allowing for terms starting with 'nurs' and 'stress'). During this systematic search, some international studies, in particular Canadian, were yielded. Despite the similarities in the remote working environments between Australia and Canada, there are differences in Australian and Canadian nurse education and scope of practice (Faculty of health sciences and, 2020). These disparities were deemed to potentially conflict with the aims and findings of the review and they were discounted. To enable as much rich data as possible, there were no date limits put on the search. A second search expanded search terms to include 'enablers' and 'challenges'. A third search reviewed the reference lists of already accessed papers (ancestry searching). Joanna Briggs (JBI) Critical Appraisal Checklists (Munn et al., 2015) and Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018) were used to appraise the studies. Findings for the search results are presented below. (Fig. 1).

2.2. *Inclusion criteria*

The empirical phase of the integrative review framework is split into G6 – the screening tool and G7 – extraction of information using the assessment tools, shown below. (Table 2)

The first and second searches yielded 164 papers following removal of 27 duplicates . After reading the titles and abstracts for relevance, papers were either categorised as being Included, Excluded or Maybe. Comments were added for all papers categorised as being 'maybe' or 'excluded' and the reference list of each excluded paper was checked for any potential further studies. There were 115 papers excluded that did not meet the phase 1 criteria. A further 49 full text articles were then assessed against the criteria and refined to 16. The third search yielded 28 articles, of which 26 were excluded, with reasons, when assessed against phase 1 criteria.

Phase 2 addressed the interpretive phase of the framework. Articles

Table 1
Integrative review framework.

Conceptual Phase		Empirical Phase	Interpretive Phase		Communication Phase
Introduction and Background	Research methodology	Data search, evaluation, and extraction	Data analysis and interpretation	Discussion, conclusion and recommendations	
G1 G2	G4 G5	G3 G6 G7	G8	G9	G10
G: Stages of the Integrative Review					
G1 Formulate review purpose and question G2 Delineate Inclusion and Exclusion Criteria	G4 Adopt a data collection tool. G5 Set rules of inference for data analysis and interpretation	G3 Conduct literature search. G6 Revise data collection tool to fit review purpose. G7 Extract relevant information from included articles	G8 Systematically analyse data. G9 Discuss and interpret data		G10 Write research report and paper for publication

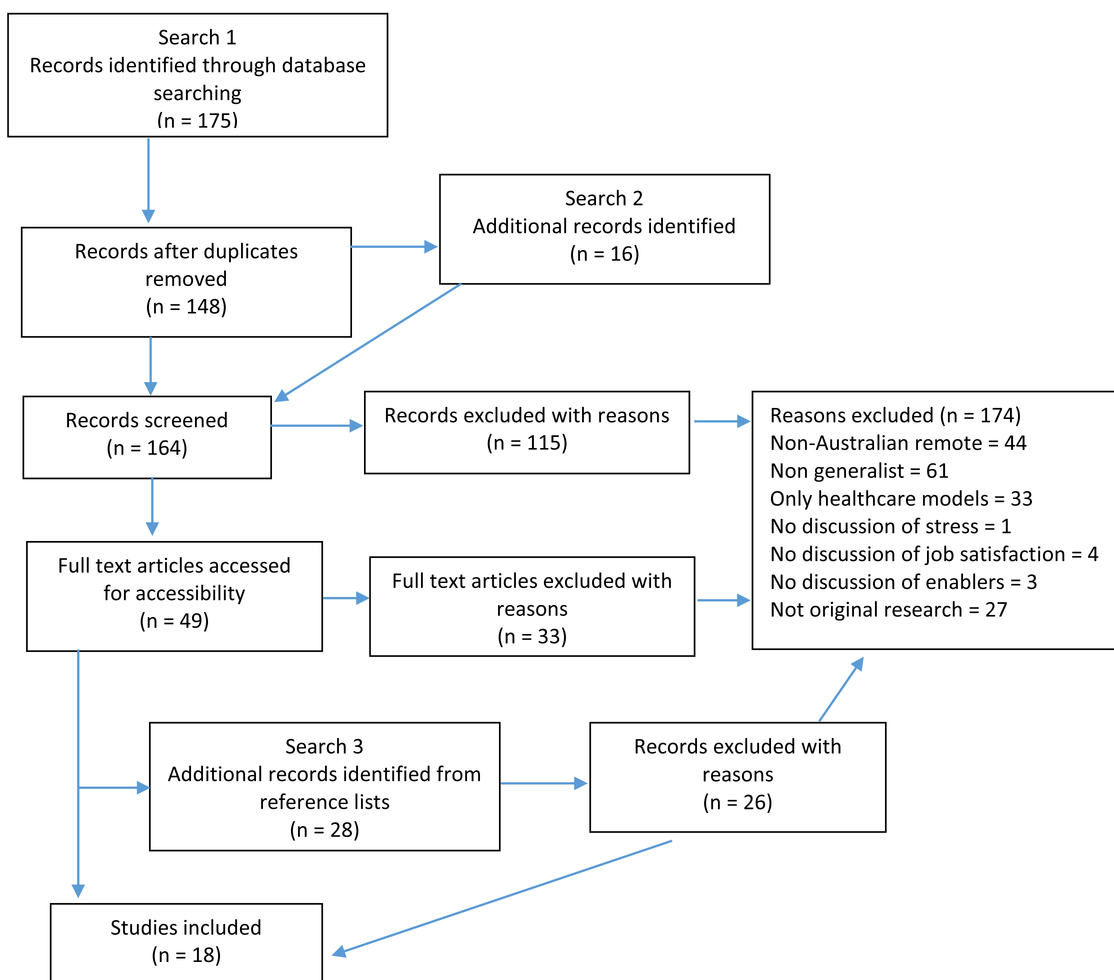

Fig. 1. Search results. PRISMA Flowchart 2020.

Table 2
Empirical and Interpretive Phases.

Empirical Phases	
Phase 1	**Screening Tool Criteria:** Is the study published in English? (YES/NO/ UNCLEAR) – Stop if No Does the study include rural nurses working in remote Australian locations (YES/NO/ UNCLEAR) – Stop if No Does the study only include nurses working in generalist areas? (YES/NO/ UNCLEAR) – Stop if No Does the study only discuss healthcare models in rural areas? (YES/NO/ UNCLEAR) - Stop if Yes Does the study discuss stressors/stresses of rural nurses? (YES/NO/ UNCLEAR) – Include if Yes Does the study discuss rural nurses' job satisfaction? (YES/NO/ UNCLEAR) - Include if Yes Does the study discuss enablers for rural and remote nursing? (YES/NO/ UNCLEAR) - Include if Yes Does the study discuss education needs of rural nurses? (YES/NO/ UNCLEAR) - Include if Yes Non-original research studies were not included
Phase 2	Mixed Methods Appraisal Tool (MMAT) (Munn et al., 2015) Joanna Briggs Institute (JBI) Assessment Tools (Hong et al., 2018) Qualitative Research Studies reporting prevalence data Analytical cross-sectional studies Case series

were systematically analysed using critical appraisal tools which are, as suggested by Aveyard (2019), recommended to ensure all papers are reviewed with equal rigor. Table 3 documents each articles' appraisal method and quality. Despite some evidence of methodological weaknesses highlighted through the critical appraisal tools, it was considered that identified and documented validation of data analysis and/or coding deemed an acceptable medium quality to the articles. Therefore, the critical appraisal of papers in phase 2 led to the final 18 articles being included.

3. Results

3.1. Settings and methodologies

The 18 Australian studies were based in the Northern Territory (NT) (2), Victoria (Vic) (5), New South Wales (NSW) (4), Tasmania (TAS) (1), Western Australia (WA) (1), Queensland (QLD) (3) and Australia wide (2). The studies, summarised in Table 3, applied varied methodological approaches, positive affirmation for the decision to perform an integrated review. Six mixed-methods studies (Cant et al., 2011; Connell et al., 2019; Hegney et al., 2002a; Kidd et al., 2012; Paliadelis et al., 2012; Warburton et al., 2014) used a convergent triangulation model, surveys, questionnaires, interviews and focus groups. Opie et al. (2010) used structured questionnaires in their cross-sectional study, the findings of which were later evaluated by Lenthall et al. (2018) using participatory action research. The two grounded theory studies (Bragg and Bonner, 2015; Mills et al., 2007) employed semi-structured and open-ended interviews. Semi-structured interviews were used in both phenomenological studies (Adams et al., 2019; Terry et al., 2015) and all five qualitative studies (Heidelbeer and Carson, 2013; Kenny and Duckett, 2003; Lea and Cruickshank, 2015; Parker et al., 2013; Smith

Table 3
Summary of studies.

First Author (Year) Ref number	Research Aims	Location/Method/Sample	Findings/results	Appraisal method and quality
Adams (2019)	Understanding the experience of isolation for health workers in industrial settings	Western Australia Phenomenology Semi-structured, face to face and telephone interviews 7 participants	3 themes were: role dissonance, gaining and maintaining skills; and isolation – split into geographical, personal, and professional. Remote health workers exposure to isolation impacts scope of practice. Similarities of healthcare professionals in industrial context with RAN. Broad practice role restricted by legislative, professional, organisational boundaries.	JBI Critical Appraisal Checklist for Qualitative Research • No evidence of locating researchers culturally / theoretically or addressing influence on the research. • Validity of the data does not appear compromised. • Deemed medium quality
Bragg (2015)	To understand rural nurse resignations by exploring 3 leftovers 'comeback themes from the substantive grounded theory of conflicting values	New South Wales Grounded Theory: Face to face Interviews and open-ended questions 12 participants	3 'comeback' themes were: window period after resignation, not being offered an exit interview and rural nurses leaving the profession. Potential to address reasons for resignation. There were fewer options available, in very remote areas, to continue nursing following resignation. Exit interview data will improve nurse retention.	JBI Critical Appraisal Checklist for Qualitative Research • No evidence of locating researchers culturally / theoretically or addressing influence on the research. • Strong evidence of validation of coding. Data does not appear compromised. • Deemed medium quality
Cant (2011)	Rural registered nurses' experiences of advanced clinical nursing practice whilst enrolled in an advanced primary care course of study.	Victoria Mixed methods: focus groups and online questionnaire Convergent triangulation model 32 participants	2 Themes were: developing skills for AP and enhancing patient care. AP training equipped nurses with the skills and knowledge for the AP role. Increased positive professional relationships. Positively impacted patient care. Early stages of role – lack of national legislative recognition and role definition.	Mixed Methods Appraisal Tool • Addressed all quality criteria in this tool. • Deemed high quality for inclusion
Connell (2019)	To describe the development and evaluation of an educational resource aimed to provide the non-midwifery workforce in R&R health facilities with basic knowledge and skills to assist women who present when birth is imminent	Queensland Mixed methods: Online course modules and face-to-face workshops Anonymous surveys 639 participants	Widespread, state-wide, uptake of the program. Blended learning assured continued accessibility. Highly rated content and teaching methods. Unexpected interest from non-midwifery staff in birthing facilities – rural and urban. Course mandated in 1 HHS. 1 metro non-birthing hospital ED nurse uptake.	JBI Critical Appraisal Checklist for Studies Reporting Prevalence Data • Unclear if the analysis for each component was conducted at the same response rate leading to coverage bias. • Evidence of 2 researchers independently coding the same data. • Deemed medium quality
Hegney (2002)	To investigate the reasons that R&R nurses, employed in health districts that experienced higher than average turnover, resigned from QH between Jan1999 - May 2000	Queensland Mixed methods mail survey 146 participants	Top 31 factors categorised into: professional issues – teamwork, skill acquisition, organisational structures, and rural related issues. Demographic data supports a predominantly female, older, and rurally sourced workforce that needs to be targeted. Demonstrates the potential benefits and positives of rural nursing from those who have resigned.	Mixed Methods Appraisal Tool • No evidence of locating the researchers culturally / theoretically or addressing influence on the research. • Data does not appear compromised as pre-coded questionnaires. • Deemed medium quality
Hegney (2015)	Do R&R nurses have different levels of personal well-being than nurses working in major cities. Do R&R nurses perceive their work environment to be more or less favorable than nurses working in major cities?	Queensland Cross-sectional: On-line survey 2679 participants	Remote area nurses had lower levels of secondary traumatic stress than nurses in major cities. Nursing foundations for quality care were perceived more favourably by nurses in major cities. There was no difference between nurses across their geographical locations for stress, anxiety, depression, compassion satisfaction, burnout, resilience.	JBI Critical Appraisal Checklist for Analytical Cross-Sectional Studies • Addressed all quality criteria in this tool. • Deemed high quality.
Heidelbeer (2013)	Questions asked about life and professional work history patterns in the NT. Perception of the impact of non-resident work on their professional and private lives	Northern Territory Qualitative descriptive: Semi-structured interviews 7 participants	Participants worked 'short-term' 1–6-month placements. Place of work compartmentalised, and social interaction limited. Self-selected role benefits outweighed the burdens. Context specific professional impacts raised regarding continuing competency.	JBI Critical Appraisal Checklist for Qualitative Research • No evidence of locating the researchers either culturally / theoretically or addressing influence on the research. • Evidence of validation of coding. Data does not appear compromised. • Deemed medium quality
Kenny (2003)	To explore overall issues that impact on service delivery of rural hospitals in Victoria	Victoria Qualitative descriptive: Semi-structured interviews 60 participants	2 themes were: rural workforce and education for rural practice. Lack of medical support and supervision for nurses a common characteristic leading to	JBI Critical Appraisal Checklist for Qualitative Research • Influence of the researchers on the research is not addressed

(continued on next page)

Table 3 (*continued*)

First Author (Year) Ref number	Research Aims	Location/Method/Sample	Findings/results	Appraisal method and quality
			increased pressure. Diversity of nursing needed. Experienced nurses lacking tertiary level education and graduate nurses lacking clinical experience. Education needs to be skill and academic focussed.	• Cultural/theoretical locating of the researchers unclear. • Evidence of cyclical processes of analysis. Data analysis appears non-compromised. • Deemed medium quality.
Kidd (2011)	To explore the experiences of general nurses working in rural hospital settings with regards to their ED responsibilities	Victoria Mixed methods: questionnaire and focus groups 53 participants	Lack of ED skills confidence. Context relevant, adequately funded, and accessible education an issue. High job satisfaction despite challenges. Inadequate professional recognition of rural nurses.	Mixed Methods Appraisal Tool • Not evident if the two components of the research consistent with the participants. • Evidence of consultation / consensus, combining the two domains. • Deemed as medium/high quality.
Lea (2014)	What are the new graduate nurses perceptions and experiences of support through a rural TtoPP What are the functional elements of a rural TtoPP	New South Wales Qualitative exploratory: Interviews conducted at time intervals 15 participants	3 themes were: Getting started at the 3–4-month milestone: Initial transitional shock theory and previous rural exposure assisted transition. Settling in at the 6–7-month milestone: continued learning support, feeling more settled, relationships built and increased leadership roles. Just another nurse at the 11–12-month milestone: feeling accepted and increased responsibility but lacking support. Desire to stay in rural practice. Overall TtoPP did not provide support needed, especially for rural practice.	JBI Critical Appraisal Checklist for Case Series • Addressed all quality criteria in tool. • Deemed high quality for inclusion.
Lenthall (2018)	Follow up from Opie 2010 - Levels of occupational stress in the remote area nursing workforce	Northern Territory Participatory action research: Occupational stress intervention implementation 37 participants	Evaluation of occupational stress interventions. Very few measurable changes. Differences between Central Australia and NT intervention priorities. Many interventions not implemented – 5 reasons were: Unstable workforce, lack of funding, lower standards of equipment and infrastructure, interagency complexities, implementation time too short.	JBI Critical Appraisal Checklist for Qualitative Research • No evidence of locating the researchers culturally / theoretically or addressing Influence on the research in this or the previous Opie study. • Evidence of validation of coding. Data does not appear compromised. • Deemed medium quality.
Mills (2007)	To examine rural nurses' experiences of mentoring	Victoria Grounded theory: Semi-structured interviews 9 participants	Experienced rural nurses cultivated novices through supportive mentoring relationships using 3 frames of reference: Culture, politics, and clinical practice. Mentoring strategies included orientation to local cultural norms. Expected outcomes of increased confidence for neophyte nurses.	JBI Critical Appraisal Checklist for Qualitative Research • Addressed all quality criteria in tool. • Deemed high quality for inclusion.
Opie (2010)	To identify key workplace demands and resources for nurses working in very remote Australia and measure their levels of occupational stress	Australia wide Cross sectional: Questionnaires 349 participants	Nurses working in very remote Australia experience significantly higher levels of psychological distress and emotional exhaustion compared with other professional populations. Reported moderate levels of job satisfaction. Most significant job demands were: Emotional demands, Staffing issues, Workload, Responsibilities & expectations, Social issues. Key job resources were: Supervision, opportunity for professional development and skill development. Need to reduce job demand and increase job resources.	JBI Critical Appraisal Checklist for Analytical Cross Sectional Studies • Very broad inclusion criteria only defined. • Data does not appear compromised. • Deemed medium quality.
Paliadelis (2012)	Understand the challenges faced by rural acute care clinicians and the impact these challenges have on their capacity to carry out their role.	New South Wales Mixed methods: Survey, focus groups and workshops 226 participants	Identified challenges from survey and focus group discussion were: Workforce issues, access, equity & opportunity, resources, and contextual issues. Workshops identified positives of: Broad range of clinical experience, greater autonomy, and feelings of embeddedness in rural community. Workshops solutions to challenges were: Workforce issues – being flexible, Interprofessional support, access, equity &	Mixed Methods Appraisal Tool • Addressed all quality criteria in tool. • Deemed high quality for inclusion.

(*continued on next page*)

Table 3 (*continued*)

First Author (Year) Ref number	Research Aims	Location/Method/Sample	Findings/results	Appraisal method and quality
			opportunity – overcoming isolation, formal mentorship, and access to study leave, resources – consideration of impact of withdrawal of services, improved IT services and contextual issues – valuing and being valued, encouraged participation.	
Parker (2013)	To investigate the factors contributing to effective Interprofessional practice (IPP) in rural contexts, to examine how IPP happens and to identify barriers and enablers	New South Wales Qualitative descriptive: Semi-structured Interviews 22 participants	3 sections of findings were: Views and experiences of IPP were: Valued by all and it was complex and varied. Barriers to IPP were: Workload and workforce limitations, Non-valuing team members, Fragmentation of services and Overcoming barriers. Enablers to IPP were: Connection to the community, Pivotal roles, and Funding, Proximity and colocation, Workload, and workforce drivers. Clear evidence of IPP but uneven implementation.	JBI Critical Appraisal Checklist for Qualitative Research • Addressed all quality criteria in tool. • Deemed high quality for inclusion.
Smith (2019)	Explore the lived experiences and the perceptions of NPs who work in rural and remote settings in relation to barriers and enablers to their extended scope of practice roles	Australia wide Qualitative: Semi-structured Interviews 20 participants	3 levels of barriers and enablers were found. Macro level barriers were: National policy, lack of jobs and inadequate funding. Macro level enablers were: Scope of role, support for education and state of health service policy. Meso level barriers were: Local health service policy, workload, lack of community understanding. Meso level enablers were: Community support, networks, and local health service manager support. Micro level barriers were: Lack of role clarity, health professional status and isolation. Micro level enablers were: Colleague support, Interprofessional teamwork, capabilities of NP and promotion of role.	JBI Critical Appraisal Checklist for Qualitative Research • Addressed all quality criteria in tool. • Deemed high quality for inclusion.
Terry (2015)	The types of workplace health and safety issues that rural community nurses encounter and its impact on providing care to rural consumers	Tasmania Phenomenology: Semi-structured Interviews 15 participants	3 WHS themes Geographical environment: Driving long distances and working in isolation. Physical environment: Unpredictable client behaviour, poor home conditions, animals, and smoking issues. Organisational environment: Vertical and horizontal violence, workload, burnout, and work-related stress. Service objectives being met in some instances under the auspice of WHS practices. Meeting the needs of the community was achieved but in a reactive not proactive approach.	JBI Critical Appraisal Checklist for Qualitative Research • No evidence of locating the researchers either culturally / theoretically or addressing influence on the research. • Evidence of validation of coding. Data does not appear compromised. • Deemed medium quality.
Warburton (2014)	In-depth exploration of the organisational (extrinsic) and individual/social (intrinsic) factors associated with the retention of older rural healthcare workers	Victoria Qualitative section of Mixed methods: Semi-structured Interviews 17 participants	Extrinsic themes were: Valued by the organisation, workload pressures, feeling valued, support, flexibility, and lack of options, interpersonal conflict, and interpersonal practice. Intrinsic themes were: Intention to retire, family influences, enjoyment of current work, financial influences, health, sense of self, social input, and adjustment to change. Many factors were linked together by participants. Strategies for retention of older rural healthcare workers were: Reduce workload, two-way communication, financial remuneration and professional development.	JBI Critical Appraisal Checklist for Qualitative Research • No evidence of locating the researchers either culturally / theoretically or addressing influence on the research. • Data does not appear compromised. • Deemed medium quality.

Advanced practice [AP] Emergency department [ED] Hospital and health service [HHS] Interprofessional practice [IPP] Work health & safety [WHS] Nurse practitioner [NP] Registered nurses [RNs] Remote area nurse [RAN] Rural and remote [R&R] Transition to practice program [TtoPP]

et al., 2019). Hegney et al. (2015) used online surveys in their cross-sectional study.

3.2. Themes

The stressors that were found to be concomitant with working in a rural and remote nursing setting were grouped under three key themes: access to education; isolation and recognition of role. In reference to

each of these themes, findings will be presented on what the enablers and/or challenges were, associated with each stressor. Furthermore, any interventions that were reported to decrease stress experienced by rural and remote area nurses (RANs) and therefore improve job satisfaction, will also be presented in relation to each key theme.

3.2.1. Access to education

The predominant stressor discussed in these studies centered on the challenge of accessibility affecting uptake of education, rather than the education itself. These significant barriers to this access were not, according to Kidd et al. (2012) evident for RANs' metropolitan counterparts. A central finding addressed was education needs for RANs: the necessity for regular, appropriate, high quality and accessible training (Adams et al., 2019; Connell et al., 2019; Hegney et al., 2002a; Heidelbeer and Carson, 2013; Kenny and Duckett, 2003; Kidd et al., 2012; Lea and Cruickshank, 2015; Mills et al., 2007; Smith et al., 2019; Warburton et al., 2014) to be delivered in a timely manner (Heidelbeer and Carson, 2013).

Enablers in this theme were sparse. Recognition of the support needed by RANs was identified in several studies, with Queensland Health (QH) leading the way with financial and leave entitlement assistance (Connell et al., 2019; Hegney et al., 2002a; Kidd et al., 2012). Whilst Smith et al. (2019) found gaining initial skill acquisition a positive, the generalist nature of the RANs' work and high level of educational needs highlighted by Hegney et al. (2002a), signifies the challenges related to education. These challenges stem from the interface between the diverse nature of the skill acquisition and necessary skill maintenance. These challenges, coupled with rural and remote locations, then highlights the difficulties faced by health facilities to deliver appropriate education (Connell et al., 2019).

Funding and ability to backfill featured consistently as barriers (challenges) to the professional development of RANs in these studies. Hospitals encountered significant issues with backfilling staff leave (Connell et al., 2019; Hegney et al., 2002a; Kenny and Duckett, 2003; Warburton et al., 2014). A Chief Executive Officer was quoted in one study underlining the issue: "We know that they need better education, but it is really hard. If we let them go, we can't replace them. Who is going to staff the wards? We are short already" (Kenny and Duckett, 2003, p. 616). Hegney et al. (2002a) also reported the scholarship scheme in their study was abandoned due to backfilling constraints. Despite funding assistance, the Australian Nursing and Midwifery Federation (ANMF), reported in Kidd et al. (2012) that nurses continued to need to use annual and long service leave to attend education.

Further challenges for access to education were linked with isolation, a theme discussed in depth below. Paliadelis et al. (2012), suggested that insufficient exposure to infrequent patient presentations relevant to specialist health areas may also lead to lack of competence and confidence in those specific areas., Therefore, specialist skill maintenance must sometimes be gained from education rather than from practice. Adams et al. (2019) also intimated that in remote locations, nurses are more likely to become overwhelmed and conform to organisational needs to provide specialist skills when the need does arise, thus stepping outside their scope of practice, regardless of educational preparation. Aligning education to match the practice requirements would again require solving the challenge of backfilling.

The backfilling issue would, as many suggested (Connell et al., 2019; Kenny and Duckett, 2003; Lea and Cruickshank, 2015), lessen if nurses were able to access education in the remote setting where they work, ideally through a blended approach to delivery (Connell et al., 2019; Kidd et al., 2012). However, the ageing demographic of remote nurses increased the likelihood of their education being non-university based and therefore potentially eliciting fear of online or tertiary education and a lack of interest in pursuing it, when they were so close to their retirement (Kenny and Duckett, 2003; Warburton et al., 2014). Conversely, there were also requirements for a high level of commitment to education, portrayed by participants in Mills et al. as "having passion" and "leading by example" (Mills et al., 2007, p. 588).

Whilst the call to Health Departments for increased priority of education through supportive funding and backfilling was overwhelming (Adams et al., 2019; Hegney et al., 2002a; Heidelbeer and Carson, 2013; Lea and Cruickshank, 2015; Lenthall et al., 2018; Terry et al., 2015), there were interventions offered in some studies (Connell et al., 2019; Kenny and Duckett, 2003; Lea and Cruickshank, 2015). Successfully overcoming the barriers of geographical distance, cost and backfilling does, however, appear achievable. The intervention applied by Connell et al. (2019) reported an approach of incorporating mixed mode education delivery and was received with positive evaluations showing a greater sense of job satisfaction. Both Lea and Cruikshank (2015) and Kenny and Duckett (2003) attempted to address backfilling issues through undergraduate preparation to fulfil the RAN role.

3.2.2. Isolation

Rural and remote living is geographically, socially and professionally isolating (Adams et al., 2019). Therefore, not surprisingly, isolation was viewed by participants in many of these studies as a stressor; with geographical, personal and professional isolation often intertwined. Despite isolation being considered a stressor, Paliadelis et al. described isolation as a "double-edged sword" (2012, p. 8); meaning there were both positive and negative aspects to isolation, when working remotely for registered nurses.

Several positive (enabler) aspects reported were higher wages (Adams et al., 2019; Cant et al., 2011; Heidelbeer and Carson, 2013) and the development of generalist skills and greater autonomy of practice (Adams et al., 2019; Cant et al., 2011; Lenthall et al., 2018; Paliadelis et al., 2012). One study indicated high retention rates were linked to a positive rural context and if the person themselves enjoyed this style of living (Hegney et al., 2002a). The rural and remote lifestyle, a sense of belonging and level of respect from the community, were all ranked highly as reasons to continue to work in non-metropolitan areas (Hegney et al., 2002a). Mills et al. (2007) further suggested that 'community embeddedness' resulted from nurses being part of their community and reported that successful transition to living and working remotely was more likely achieved if an emotional connection to the geographical place was present. The RNs' complex interactions with people in the community, in their varied roles (i.e., nurse, health care consumer, community member), endowed them with multiple perspectives and coined the phrase 'live my work' (Mills et al., 2007).

Transition to working rurally, according to Cant et al. (2011) and Lea and Cruikshank (2015), appeared to be less of a shock for nursing graduates and Registered Nurses (RNs) who had undergone distance study or remote placement during their education, supported by their university. This finding is congruent with the above findings highlighting the importance of nurses valuing a sense of belonging, an emotional connection with the community and wanting to feel like part of the community (Hegney et al., 2002a; Mills et al., 2007). This connection would therefore be more likely if they had previously lived in the community (i.e., undertaken a clinical placement) or if it was their hometown.

There were also several negative (challenges) aspects reported. Some workers recognised that they had given little thought beforehand, to the remoteness, including the significance of extremes in climate and weather (Adams et al., 2019). Safety was also a concern for many RANs in these studies. Physical distance and not having a 'back-up' were highlighted by Heidelbeer and Carson (2013) whilst Terry et al. (2015) focused on the vulnerability of health workers who visited people in their isolated homes.

Unfortunately, as recognised by Lenthall et al. (2018), many aspects of these rural and remote context conditions are unable to be changed. Adopting a zero-tolerance and risk assessment strategy to address violence between health consumers and healthcare providers (Terry et al., 2015), whilst being proactive and assisting in meeting the needs of the community, did not always adequately address the staff concerns

(Lenthall et al., 2018). Professional isolation was abundantly evident as a challenge in several studies (Adams et al., 2019; Hegney et al., 2002a; Heidelbeer and Carson, 2013; Lenthall et al., 2018; Paliadelis et al., 2012; Terry et al., 2015). Physical distances reduced health professionals' ability to partake in both formal and informal professional socialisation and information sharing (Adams et al., 2019; Heidelbeer and Carson, 2013). Adams et al. (2019) described overwhelming feelings of loss of professional identity. Participants in their study felt unprepared for the breadth of scope of practice needed, as mentioned in the above theme of Access to Education, regarding infrequent patient presentations requiring specialist skills. Their feelings were echoed in Heidelbeer and Carson's study, where participants identified that isolation made working outside of their scope of practice inevitable (Heidelbeer and Carson, 2013). This finding was contrary to Hegney et al. (2015) who reported the same levels of wellbeing and perceptions of the professional practice environment regardless of geographical setting.

Alongside professional isolation was the challenge of personal isolation. Several studies (Adams et al., 2019; Cant et al., 2011; Heidelbeer and Carson, 2013; Opie et al., 2010; Paliadelis et al., 2012; Terry et al., 2015) showed that geographical and personal isolation negatively challenged RANs. There was a sense of loss and powerlessness from the lack of family interaction and absence from significant events (Adams et al., 2019) coupled with confined working and living, higher levels of psychological distress (Opie et al., 2010), challenging rosters and loneliness (Heidelbeer and Carson, 2013).

An intervention that was mentioned that may help with personal and professional isolation was the introduction of 'fly in, fly out' (FIFO) arrangements for some rural health care workers. Despite this not being ideal for the community, due to the transient nature of RANs coming and going, many RANs who adopted a FIFO lifestyle, did rate this option highly due to the advantage of being able to disengage professionally when not working (Heidelbeer and Carson, 2013).

3.2.3. Recognition of role

One of the biggest draw cards for remote area nursing is the generalist nature of the work and the ability to practice to their full scope (Adams et al., 2019; Cant et al., 2011; Lenthall et al., 2018; Paliadelis et al., 2012). However, a varied understanding, acceptance and expectations of the RAN's role and scope of practice was evident in several studies and differed between the remote managers, the health services and the clients (Bragg and Bonner, 2015; Cant et al., 2011; Kenny and Duckett, 2003; Kidd et al., 2012; Mills et al., 2011; Parker et al., 2013; Smith et al., 2019; Warburton et al., 2014). These differences consequently brought both challenges and enablers to the RANs achieving job satisfaction. A cascade often flowed from one to another, for example, misunderstanding leading to non-acceptance leading to low expectations.

Enablers reported in the studies included client loyalty, ability to work to their full scope and Inter Professional Practice (IPP) through shared experiences. Warburton et al. and Smith et al. both reported client and community loyalty derived from trust and flexibility (Smith et al., 2019; Warburton et al., 2014). Whilst having the ability to work to their full scope is shown here as a positive outcome, in some studies (Adams et al., 2019; Lea and Cruickshank, 2015; Paliadelis et al., 2012) it was linked to a requirement of necessity pertaining to health service deficits (staffing levels or lack of another more qualified professional) rather than to fulfill the RAN's wishes and was often inconsistent. IPP was linked in Parker et al. (2013) to a shared experience of remote living and trust built on vested community interest.

The capabilities and scope of RANs' practice was frequently challenged and restricted by other health professionals working outside a rural and remote setting (Mills et al., 2011). The capabilities and scope of RANs' practice is, according to Mills et al. repeatedly questioned, with one RAN quoting "sometimes we are very put down by our city colleagues… will you send someone down [to the city] so we can show them how to…" (2011, p. 587). The mindset of medical staff towards RANs appeared evenly divided between those who showed respect and gratitude for their generalist abilities versus those who showed professional rivalry (Parker et al., 2013). The latter attitude suggests a concern for multi-professional working and is a potential contributing factor for the professional isolation described by many RANs (Parker et al., 2013).

Role recognition confusion further extends to the endorsed Nurse Practitioner (NP). Initially the role was developed, according to Smith et al. (2019), to service the need for a new model of rural and remote healthcare. The scope of this extended generalist NP role from the RANs has also been limited by a highly debated role definition and lack of access to the Medicare Benefits Schedule (MBS) and Pharmaceutical Benefits Scheme (PBS) (Smith et al., 2019) and presents both enablers and challenges.

Whilst Cant et al. (2011) and Smith et al. (2019) both agree that the increased scope of practice of an NP enables an increase in job satisfaction, they also concur that the lack of respect for the enhanced skills of the NP and lack of recognition by colleagues are both barriers to collaborative practice that consequently increased professional isolation. Interprofessional practice (IPP) is imperative to offering professional support and recognition (Parker et al., 2013); however, it is sometimes hampered by lack of role clarity between health professionals and a conflict between personal and organisational values (Bragg and Bonner, 2015). Achieving and building such a commitment and cooperation between professionals requires the need for relationship-orientated leadership behaviours (Smith et al., 2019).

4. Discussion

This integrative review focused on both challenges and enablers associated with job satisfaction for RANs. Whilst each theme has been discussed separately, with supporting evidence for each synthesised from the relevant studies; it should be noted that none of the themes sat in isolation from each other.

The reviewed literature presents an understanding of the unique world of rural and remote area nursing, whilst showing an interconnection between the themes explored, that are entrenched within the context of living and working in rural and remote communities. Whilst many enablers, including those of a generalist role, greater autonomy and a sense of belonging and community were identified in the studies, Paliadelis et al. (2012) suggested that having greater autonomy which was not accompanied by professional education and support was a 'double-edged sword'. The challenges: lack of access to education, professional isolation and loneliness and a lack of role recognition and vulnerability, were highlighted but with minimal interventions or solutions suggested.

Such are the distinctive needs of rural and remote health services, that small community benefits featured as a driver to recruitment in many of the studies. The benefits displayed of a small community with a sense of belonging and high level of community respect (Hegney et al., 2002a; Mills et al., 2007; NRHA, 2019) are further promoted in the Queensland Government (QG) (Queensland Health, 2017) report 'Advancing rural and remote service delivery through workforce'. This report applies a broader perspective to identify with potential employees, in relation to themselves as a family member and as a person rather than just an employee, which also speaks to the concept of Mills et al. 'live my work' (Mills et al., 2007). Acknowledgement of the benefits of previous engagement in the rural and remote setting is also highlighted in this QH report (Queensland Health, 2017) with the contribution of collaborative university partnerships; a benefit also highlighted by Lea and Cruickshank (2015). The recognised enticement benefits of the isolated rural and remote lifestyle (Adams et al., 2019; Cant et al., 2011; Lenthall et al., 2018; Mills et al., 2007; Paliadelis et al., 2012), however, appear as equally restricting barriers to job satisfaction for many of the same reasons: living and working in the same community, lack of escape and high expectations of community members

(Adams et al., 2019; Hegney et al., 2002a; Heidelbeer and Carson, 2013; Kenny and Duckett, 2003; Warburton et al., 2014).

Having the ability to embed into the community was very dependent on the ability to emotionally connect with the lifestyle (Mills et al., 2007). For nurses that chose to entrench fully into rural and remote working, this appeared an easier transition (Mills et al., 2007). However, some nurses chose the option of a flexible 'non-resident' (CRANAplus, 2018; Heidelbeer and Carson, 2013) lifestyle, making it difficult for them to become accustomed to the micro dynamics of working and living in a rural and remote community. Onnis (2016) suggests that not every RN is suited to working in the specialty of rural and remote area nursing.

Safety issues for RANs, despite being highlighted in three of the studies (Heidelbeer and Carson, 2013; Lenthall et al., 2018; Terry et al., 2015) did not appear to warrant political concern until the tragic death of a RAN in 2016 (CRANAplus, 2020) and subsequent outpouring of anger from within the health industry (DOH, 2016). Since that time, safety for rural and remote health workers has been high on the agenda, driving the CRANAPlus remote health workforce safety and security report (NRHA, 2017) and the Northern Territory Remote area nurse safety report (DOH, 2016). In 2017, the attendees at the National Rural Health Conference in Cairns (NRHA, 2017) heard that safety remained a major challenge in both recruiting and retaining RANs.

Professional isolation linked both challenges of access to education and scope of practice anxieties and was reported in many of the studies as the most concerning challenge to remote working (Adams et al., 2019; Connell et al., 2019; Hegney et al., 2002a; Kenny and Duckett, 2003; Kidd et al., 2012; Lea and Cruickshank, 2015; Mills et al., 2007; Warburton et al., 2014). One of the characteristics central to the recruitment strategy of Queensland Health (Queensland Health, 2017) is for rural and remote nurses to have greater autonomy and the ability to work within their full scope of practice. A scope of practice is defined by CRANAplus as "the full spectrum of roles, functions, responsibilities, activities and decision-making capacity which individuals in the profession are educated, competent and authorised to perform" (CRANAplus, 2018, p. 7). Repeated reporting throughout these studies, however, suggested that remote nurses were unable to adhere to this definition. And, perhaps even more concerning, they remained obliged to practice within the expanded scope that they were not educationally updated to fulfil.

There are resolutions and interventions to providing education offered in some of these studies by means of their study design and/or discussion. The recognition by Hegney et al. (2002a) that managerial issues exist is positive and relevant; however, identifying the managers as sole offenders is neither realistic nor helpful. Provision of educational opportunities by managers, can be as difficult to achieve as attendance to these opportunities by staff. Nurse Educators (NEs) are also exposed to the same challenges and enablers as any other RANs and yet NEs fall into a much narrower recruitment bracket (Cleary et al., 2014). Enabling achievement of education goals for health services, managers, educators and nurses is complex and can easily be blocked by any one of the stakeholders, thus causing frustration and dissatisfaction for everyone involved (Hegney et al., 2002a; Kidd et al., 2012; Warburton et al., 2014).

In a bid to address access to education issues, Hegney et al. (2002a) discussed a Queensland statewide rotational up-skill program for RANs between metropolitan and rural facilities. Whilst, at first glance, the scheme was well intentioned, the blatant disregard for the existing skills held by the RAN and the assumption that they need to 'learn something' from their metropolitan counterparts acknowledges the frustration felt in some of these studies (Cant et al., 2011; Kenny and Duckett, 2003; Kidd et al., 2012; Mills et al., 2007; Parker et al., 2013; Smith et al., 2019; Warburton et al., 2014). The professional isolation felt by many of these RANs led to feelings of lack of value and confidence. The low-level care image depicted of rural and remote nursing through documents like the Clinical Services Capability Framework (Queensland Government, 2018), gives an impression of a workforce incapable of higher-level skills. In fact, most of the studies in this review present an illustration of remote area nurses as multifaceted and generalist (Adams et al., 2019; Hegney et al., 2002a; Heidelbeer and Carson, 2013; Kenny and Duckett, 2003; Kidd et al., 2012; Paliadelis et al., 2012). The generalist nature of the role means they expect anything to walk through their doors (Mills et al., 2007).

The disrespect displayed by some medical practitioners towards the role of advanced Nurse Practitioners was suggested by Cant et al. to be accredited to the lack of scope definition (2011). Indeed, this disregard for the scope of practice was shown by Clarin (2007) to commonly form a barrier to effective communication and teamwork between nurses and medical staff. Nursing in a rural and remote location demands specific protocols and guidelines to assist health professionals (Burrows et al., 2019). With the myriad of expanded roles (Moola et al., 2020): rural and isolated practice registered nurses (RIPRN); Immunisation program nurse (IPN); and Sexual health program registered nurse (SRH), it is not surprising there is confusion about scopes of practice. Those varying scopes and confusion about them, have resulted in the theme of scope of practice being viewed as both an enabler and a barrier to job satisfaction.

5. Limitations

There was one identified potential limitation to this integrative review. Due to the generalist nature of rural and remote area nursing, it was deemed appropriate for this literature review to exclude studies focused on non-generalist nurses. Nurses working across a myriad of locations and clinical areas need to provide a broader expanse of both immediate and ongoing care. Studies were omitted if they included nurses working only in emergency departments or only in mental health nursing. Whilst emergency medicine is unpredictable in nature, it could be argued that emergency nurses are more accustomed and prepared to deal with a variety of presentations (Burrows et al., 2019). Indeed, Kidd et al. suggested that "a patient presenting via the emergency department was often deemed more 'scary' to deal with than a similar patient who might need the same care but as an inpatient" (2012, p. 13).

There were also limitations identified for the studies included in this review, noted following completion of the appraisal tool checklists. None of these studies addressed how the researchers' positionality may have influenced their data analysis. For example, the researchers did not acknowledge what impact, if any, their cultural or theoretical background may have had on their analysis process and subsequent results. These studies also did not describe the researchers' application of reflexivity during data collection and analysis. Whilst there does not appear to be conflict or potential influence from any of the researchers, the rigour of these studies could have been more clearly established by such clarification statements (Moola et al., 2015).

6. Conclusion

This review highlights enablers and challenges to job satisfaction encountered by rural and remote nurses. There are identified, recurrent, interconnected themes over the seventeen years of these studies. These recurrent themes indicate that the challenges, such as accessible, relevant education and safety, that remote area nurses face are real and hindering. Despite being identified in several policy driven reports (Australian Health Ministers' Advisory Council Rural Health Standing Committee (Australian Health Ministers' Advisory Council Rural Health Standing Committee (AHMAC), 2012; Australian Institute of Health and Welfare AIHW, 2009; CRANAplus, 2018; Queensland Health, 2017) these themes are either considered too insignificant or too insurmountable to be addressed.

Rural and remote nursing is not for everyone and could be described as a nursing speciality in health. However, those that embrace and immerse themselves in this lifestyle appear to have increased job

satisfaction, brought about by many enablers, compared with their metropolitan counterparts (Cant et al., 2011; Hegney and McCarthy, 2000; Hegney et al., 2002a, 2002b; Molinari and Monserud, 2008). Connell et al. (2019) showed where educational interventions were applied challenges were overcome and subsequently led to greater job satisfaction.

To enable these challenges to be addressed, it is essential to understand these enablers and challenges according to the perspective of those who are experiencing them (Bragg and Bonner, 2015). Their (the RANs') interpretation, however, needs to be approached sensitively and by those who can realistically implement change. Findings in this study indicate that the voices of the RANs and their advocates are loud and clear. The geographical distribution of the studies suggests there are comparable concerns across all Australian states and territories. There is also an opportunity to speculate parallels internationally and then to benchmark successful interventions.

There are obvious unchangeable factors to the rural and remote nursing context: geographical isolation and breadth of client needs. Nevertheless, professional isolation and the readiness and ability of RANs to fulfil their scope of practice are both issues that warrant immediate attention.

The authors suggest that funding needs to be allocated appropriately for providing education and the resources needed to successfully sustain skill levels. Future research should focus on the RAN's perceptions of the impact that professional isolation has on their likelihood of working outside their scope of practice and the concomitant effects that doing so may have, on themselves, the people they nurse and the health services where they work.

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References

NRHA]. (2019). *Nurses in rural, regional and remote australia,*. ⟨https://www.ruralhealth.org.au/sites/default/files/publications/fact-sheet-nurses.pdf⟩.

Australian Institute of Health and Welfare (AIHW). 2009. *Nursing and midwifery labour force 2009*. ⟨https://www.aihw.gov.au/reports/workforce/nursing-midwifery-labour-force-2009⟩.

Adams, M., Lazarsfeld-Jensen, A., Francis, K., 2019. The implications of isolation for remote industrial health workers. Rural Remote Health 19 (2). https://doi.org/10.22605/RRH5001.

Australian Institute of Health and Welfare (AIHW). 2020. Australia's Health 2020 (978–1-76054–319-8).

Australian Health Ministers' Advisory Council Rural Health Standing Committee (AHMAC)*National Strategic Framework for Rural and Remote Health* 2012.

Australian Institute of Health and Welfare (AIHW), 2010. *Contribution of chronic disease to the gap in adult mortality between Aboriginal and Torres Strait Islander and other Australians* (Cat. No. IHW 48.

Australian Institute of Health and Welfare (AIHW)*Rural & remote health*. AIHW 2019.

Aveyard, H., 2019. Doing a Literature Review in Health and Social Care: A Practical Guide, fourth ed. Open University Press.

Bragg, S., Bonner, A., 2015. Losing the rural nursing workforce: Lessons learnt from resigning nurses. Aust. J. Rural Health 23 (6), 366–370. https://doi.org/10.1111/ajr.12251.

Burrows, G., Calleja, P., Cooke, M., 2019. What are the support needs of nurses providing emergency care in rural settings as reported in the literature? A scoping review. Rural Remote Health 19 (2), 4805.

Cant, R., Birks, M., Porter, J., Jacob, E., Cooper, S., 2011. Developing advanced rural nursing practice: a whole new scope of responsibility. Collegian 18 (4), 177–182. https://doi.org/10.1016/j.colegn.2011.08.001.

Christmals, C., Gross, J., 2017. An integrative literature review framework for postgraduate nursing research reviews. Eur. J. Res. Med. Sci. 5 (1), 7–15.

Clarin, O., 2007. Strategies to overcome barriers to effective nurse practitioner and physician collaboration. J. Nurse Pract. 3 (8), 538–548. https://doi.org/10.1016/j.nurpra.2007.05.019.

Cleary, M., Horsfall, J., Hayter, M., 2014. Data collection and sampling in qualitative research: does size matter? J. Adv. Nurs. 70 (3), 473–475. https://doi.org/10.1111/jan.12163.

Connell, J., Kelly, J., Nagle, C., 2019. Imminent birth education for rural and remote settings: an evaluation study. Aust. J. Rural Health 00 (0), 1–7. https://doi.org/10.1111/ajr.12547.

AustralianBureau of Statistics [ABS]. 2018. Data byregion. Retrieved 2.04.2018 from http://stat.abs.gov.au/itt/r.jsp?databyregion&ref=CTA2.

CRANAplus. (2018). *Framework for remote and isolated practice*. ⟨https://crana.org.au/uploads/pdfs/CRANA-Framework-for-Remote-and-Isolated-Practice-2018.pdf⟩.

CRANAplus. (2020). *Remote health workforce safety and security report: Literature review, consultation and survey report.* ⟨https://old2021.crana.org.au/uploads/pdfs/CRANAplus_SS_PS_2020.pdf⟩.

Department of Health. (2016). Remote area nurse safety - On-call after hourse security. N. T. Government. ⟨https://digitallibrary.health.nt.gov.au/prodjspui/bitstream/10137/927/1/Remote%20Area%20Nurse%20Safety.pdf⟩.

Francis, K., Mills, J., 2011. Sustaining and growing the rural nursing and midwifery workforce: Understanding the issues and isolating directions for the future. Collegian 18 (2), 55–60. https://doi.org/10.1016/j.colegn.2010.08.003.

Ganong, L., 1987. Integrative reviews of nursing research. Res. Nurs. Health 10 (1), 1–11. https://doi.org/10.1002/nur.4770100103.

Hegney, D., McCarthy, A., 2000. Job satisfaction and nurses in rural Australia. JONA: J. Nurs. Adm. 30 (7/8), 347–350.

Hegney, D., McCarthy, A., Rogers-Clark, C., Gorman, D., 2002a. Retaining rural and remote area nurses. J. Nurs. Adm. 32 (3), 128–135.

Hegney, D., McCarthy, A., Rogers-Clark, C., Gorman, D., 2002b. Why nurses are attracted to rural and remote practice. Aust. J. Rural Health 10 (3), 178–186. https://doi.org/10.1046/j.1440-1584.2002.00447.x.

Hegney, D., Eley, R., Osseiran-Moisson, R., Francis, K., 2015. Work and personal well-being of nurses in Queensland: does rurality make a difference? Aust. J. Rural Health 23 (6), 359–365. https://doi.org/10.1111/ajr.12206.

Heidelbeer, D., Carson, D., 2013. Experiences of non-resident nurses in Australia's remote Northern Territory. Rural Remote Health 13 (3), 1–12. ⟨https://search.ebscohost.com/login.aspx?direct=true&db=cin20&AN=104217093&site=ehost-live⟩.

Faculty of health sciences and wellness. 2020. Certificate of obstetric nursing. Humber college. Retrieved November 2020 from ⟨https://healthsciences.humber.ca/programs/obstetric-nursing-rn.html⟩.

Hong, Q., N., Pluye, P., Fabregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M., P.,, Griffiths, F., Nicolau, B., O'Cathain, A., Rousseau, M., & Vedel, I., 2018. *Mixed Methods Appraisal Tool (MMAT)*,.

Hopia, H., Latvala, E., Liimatainen, L., 2016. Reviewing the methodology of an integrative review. Scand. J. Caring Sci. 30 (4), 662–669. https://doi.org/10.1111/scs.12327.

Kenny, A., Duckett, S., 2003. Educating for rural nursing practice. J. Adv. Nurs. 44 (6), 613–622. https://doi.org/10.1046/j.0309-2402.2003.02851.x.

Kidd, T., Kenny, A., Meehan-Andrews, T., 2012. The experience of general nurses in rural Australian emergency departments. Nurse Educ. Pract. 12 (1), 11–15. https://doi.org/10.1016/j.nepr.2011.05.001.

Lea, J., Cruickshank, M., 2015. The support needs of new graduate nurses making the transition to rural nursing practice in Australia. J. Clin. Nurs. 24 (7–8), 948–960. https://doi.org/10.1111/jocn.12720.

Lenthall, S., Wakerman, J., Dollard, M., Dunn, S., Knight, S., Opie, T., Rickard, G., MacLeod, M., 2018. Reducing occupational stress among registered nurses in very remote Australia: a participatory action research approach. Collegian 25 (2), 181–191. https://doi.org/10.1016/j.colegn.2017.04.007.

Mills, J., Francis, K., Bonner, A., 2007. Live my work: rural nurses and their multiple perspectives of self. J. Adv. Nurs. 59 (6), 583–590. https://doi.org/10.1111/j.1365-2648.2007.04350.x.

Mills, J., Field, J., Cant, R., 2011. Rural and remote Australian general practice nurses' sources of evidence for knowledge translation: a cross-sectional survey. Int J. Evid. Based Health 9, 246–251. https://doi.org/10.1111/j.1744-1609.2011.00220.x.

Molinari, D., Monserud, M., 2008. Rural nurse job satisfaction. Rural Remote Health 8 (4). https://doi.org/10.22605/RRH1055.

Moola, S., Munn, Z., Sears, K., Sfetcu, R., Currie, M., Lisy, K., Tufanaru, C., Qureshi, R., Mattis, P., Mu, P., 2015. Conducting systematic reviews of association (etiology): The Joanna Briggs Institute's approach. Int. J. Evid. Based Healthc. 13 (3), 163–169. https://doi.org/10.1097/xeb.0000000000000064.

Moola, S., Munn, Z., Tufanaru, C., Aromataris, E., Sears, K., Sfetcu, R., Currie, M., Qureshi, R., Mattis, P., Lisy, K., Mu, P.-F., 2020. Systematic reviews of etiology and risk. In: Aromataris, E., Munn, Z. (Eds.), JBI Man. Evid. Synth.. https://doi.org/10.46658/JBIMES-20-01.

Munn, Z., Moola, S., Lisy, K., Riitano, D., Tufanaru, C., 2015. Methodological guidance for systematic reviews of observational epidemiological studies reporting prevalence and incidence data. Int J. Evid. Based Health 13 (3), 147–153.

National Rural Health Alliance. (2017). National Rural Health Conference. Cairns.

Onnis, L., 2016. What is a sustainable remote health workforce? People, practice and place. Rural Remote Health 16 (3), 3806. https://doi.org/10.22605/RRH3806.

Opie, T., Dollard, M., Lenthall, S., Wakerman, J., Dunn, S., Knight, S., MacLeod, M., 2010. Levels of occupational stress in the remote area nursing workforce. Aust. J. Rural Health 18 (6), 235–241. https://doi.org/10.1111/j.1440-1584.2010.01161.x.

Paliadelis, P., Parmenter, G., Parker, V., Giles, M., Higgins, I., 2012. The challenges confronting clinicians in rural acute care settings: a participatory research project. Rural Remote Health 12 (2). ⟨www.rrh.org.au/journal/article/2017⟩.

Parker, V., McNeil, K., Higgins, I., Mitchell, R., Paliadelis, P., Giles, M., Parmenter, G., 2013. How health professionals conceive and construct interprofessional practice in rural settings: a qualitative study. BMC Health Serv. Res. 13 (1), 500. https://doi.org/10.1186/1472-6963-13-500.

Queensland Government. (2018). *Clinical Services Capability Framework (CSCF) Maternity services*. ⟨https://www.health.qld.gov.au/_data/assets/pdf_file/0024/444273/cscf-maternity.pdf⟩.

Queensland Health. (2017). *Advancing rural and remote service delivery through workforce: A strategy for Queensland 2017–2020*. ⟨https://www.health.qld.gov.au/_data/assets/pdf_file/0039/672978/rural-remote-workforce-strategy.pdf⟩.

Smith, T., McNeil, K., Mitchell, R., Boyle, B., Ries, N., 2019. A study of macro-, meso- and micro-barriers and enablers affecting extended scopes of practice: the case of rural nurse practitioners in Australia. BMC Nurs. 18 (1) https://doi.org/10.1186/s12912-019-0337-z.

Terry, D., Lê, Q., Nguyen, U., Hoang, H., 2015. Workplace health and safety issues among community nurses: a study regarding the impact on providing care to rural consumers. BMJ Open 5 (8), e008306. https://doi.org/10.1136/bmjopen-2015-008306.

Warburton, J., Moore, M., Clune, S., Hodgkin, S., 2014. Extrinsic and intrinsic factors impacting on the retention of older rural healthcare workers in the north Victorian public sector: a qualitative study. Rural Remote Health 14 (3). https://doi.org/10.22605/RRH2721.

Whittemore, R., Knafl, K., 2005. The integrative review: updated methodology. J. Adv. Nurs. 52 (5), 546–553. https://doi.org/10.1111/j.1365-2648.2005.03621.x.