

Rural and Remote Continuing Nursing Education: An Integrative Literature Review

Michelle Pavloff, BSN, MN, PhD(c), RN¹

Pamela M. Farthing, BA, MSc, PhD student, RN²

Elsie Duff, BScN, MEd, PhD, RN, NP³

¹ Faculty, Saskatchewan Collaborative Bachelor of Science in Nursing, School of Nursing, Saskatchewan Polytechnic; Undergraduate Adjunct Professor, University of Regina, michelle.pavloff@saskpolytech.ca

² Research Chair, Diabetes Care, Saskatchewan Polytechnic; Faculty, Saskatchewan Collaborative Bachelor of Science in Nursing, School of Nursing, Saskatchewan Polytechnic; Undergraduate Adjunct Professor, University of Regina, pamela.farthing@saskpolytech.ca

³ Faculty, Saskatchewan Collaborative Nurse Practitioner Program, School of Nursing, Saskatchewan Polytechnic; Graduate Adjunct Professor, University of Regina, elsie.duff@saskpolytech.ca

Abstract

Background: Rural and remote nursing has unique practice requirements that create a need for distinct education and practice preparation. Preparing registered nurses (RNs) to work in rural and remote communities is essential for the support and advancement of rural and remote health, as there is a shortage of rural and remote health care providers.

Purpose: An integrative literature review was conducted to identify the current continuing education needs of rural and remote RNs internationally.

Sample: Eight studies were included in the integrative review of the literature. Countries reported in the literature included Canada ($n = 2$), Australia ($n = 2$), Sweden ($n = 1$) and the United States ($n = 3$).

Method: An integrative literature review on rural and remote nursing practice continuing education was conducted using Torracco's (2005) guidelines, in addition to Whittmore and Knafel's (2005) methodological strategies. A search strategy was created, tested, and approved by the research team. Themes were extracted, collated, analyzed, and knowledge synthesized.

Findings: Rural and remote RNs identified areas requiring enhanced ongoing training. The identified training areas were summarized into the following four themes: 1) Comprehensive specialized nursing practice for direct patient care, 2) Unanticipated events, 3) Non-direct patient care, and 4) Advanced specialty courses.

Conclusion: The autonomy, competency, and expertise that is expected of RNs working in rural and remote locations requires educational supports. Rural and remote nursing continuing education is required in the areas of: comprehensive specialized nursing practice for direct patient care, unanticipated events, non-direct patient care, and advanced specialty courses.

Keywords: Continuing education, Integrative review, Registered nurse(s), Remote, Rural

Rural and Remote Continuing Nursing Education: An Integrative Literature Review

Rural and remote registered nurses' (RNs) unique practice environment necessitates distinctive education and knowledge to perform in their role. Rural and remote RNs' scope of practice requires a significant autonomy to fulfill a variety of roles (such as leader, educator, and advocate) to address patient care. Addressing professional development competency in rural RN practice is challenging in non-urban areas, as continuing education (post basic education) has

financial, time, and access implications. For nurses who work in urban centres, access to education resources is greater than for rural nurses (Bushy, 2002; Kenny & Duckett, 2003; MacLeod et al., 2004); this includes access to continuing education opportunities.

Rural nursing is unique, given the generalist nursing expertise required for role competency. Rural RNs often work autonomously and provide care throughout the lifespan in areas such as community health, general practices, hospitals, and long term care. There is complexity and diversity in the nursing care provided to patients in rural and remote areas. Rural RNs in one work shift can, for example, manage farming accidents, obstetrical care, mental illness, and a variety of other issues (Endacott & Westley, 2006). Thus, the working environments in rural settings are challenging (Bish, Kenny, & Nay, 2012). The rural and remote nursing work environment, complexity and diversity of nursing care necessitates the need for educational opportunities that are designed specifically for rural and remote nurses (Bish et al., 2012; Eriksson, Bergstedt, & Melin-Johansson, 2015; Jacobson et al.2010; Molanari, Jaiswal, & Hollinger-Forest, 2011). To address this need, an examination of self-identified continuing education needs of rural and remote RNs globally was undertaken to examine the existing evidence. An integrative literature review to enhance the understanding of the unique education needs of rural and remote nurses was completed to inform teaching and learning.

Method

To examine the relevant literature, Whitemore and Knafl's (2005) integrative literature review methodological strategies and Torraco's (2005) guidelines were used to search rural and remote nurse's continuing education needs. Databases used included CINAHL Plus Full Text (EBSCOhost), Medline (Ovid) ®, and Scopus®. Main subject headings were combined with the operator 'AND' (e.g., continuing education AND rural AND nursing). A combination of

keywords and mesh headings were used to retrieve the relevant articles. From this search, articles were selected based on the inclusion and exclusion criteria. The scope of this integrative search was limited to peer-reviewed journal articles from any country, published in the English language from 2010-2016. Qualitative, quantitative, or mixed methods studies were included if the studies were conducted in rural or remote settings and identified continuing education needs of rural or remote RNs or RN midwives. Exclusion criteria included grey literature, theses, dissertations or editorials, studies focused on program development or evaluation, theoretical studies, studies that did not include RNs or midwives, urban based studies, studies that evaluated RN performance, studies that focused on nursing students, and studies on mentoring or patient education.

The electronic database search resulted in the retrieval of 40 articles in CINAHL, 51 articles in MEDLINE and 13 articles in Scopus (n = 104). Following this, two researchers screened articles that met inclusion criteria through review of title and abstract. Conflicts were resolved by a third member of the research team who reviewed of the title and the abstract for inclusion or exclusion. In total, four researchers went through three databases.

After duplicate articles were removed, 90 articles remained and were screened further for inclusion and exclusion criteria through a full reading of the text. Following this, 82 articles were excluded as they did not meet inclusion criteria, leaving 8 studies to be included in the integrative review of the literature. The quality of the data from the selected studies was evaluated using Polit and Beck's (2012) critique guidelines. A range of research methods were used for the inclusion articles: mixed method (n = 2), qualitative (n = 3), quantitative (n = 3). Countries reported in the inclusion articles were Canada (n = 2), Australia (n = 2), Sweden (n = 1) and the United States (n = 3). The findings are summarized by defining rural and remote and identifying learning needs.

Results

Definitions of Rural and Remote

The definitions of rural and remote varied throughout the literature in this review. MacKinnon (2010) described rural using a Statistics Canada definition: “populations (of less than 10,000) living in towns and municipalities outside the commuting zone of larger urban centres” (du Plessis, Beshiri, Bollman, & Clemenson, 2001, p. 1). Another Canadian study described rural as hospitals that were located outside of two large tertiary centers and five regional centers (Sedgwick & Pijl-Zieber, 2015). Similarly, Jacobson et al. (2010) used proximity to a metropolitan area in their American study to define rural. Counties’ population, sizes of cities and towns in the county, and the proximity of a county to a metropolitan area was used to define rural, as defined by the U.S. Department of Agriculture (Jacobson et al., 2010). Consistently, the definition of rural is conditional upon the population size and proximity to urban centres.

Accessibility, resources, and staff were also used to define rural and remote. In Australia, rural areas were described as having poor access to health care, high staff turnover, and limited professional development (Johnston, Maxwell, Maguire & Alison, 2012). Molanari et al. (2011) had a similar view of rural to describe American rural areas as being more complex and having long term nurse shortages. Further to this, there were differences in definitions of patient health and patterns of health provider use (Molanari et al., 2011). Jacobson et al. (2010) described rural areas as having different language, cultural needs, resource availability, and public health infrastructure than urban areas. The concept of rural was self-identified by the nurses who worked in a rural or critical access hospital in the United States or Canada (Wolf & Delao, 2013).

Identified Learning Needs

A study specific to palliative care competence and educational needs of staff working in home care, nursing homes, and group homes in rural Sweden was administered using a 20-item questionnaire (Eriksson et al., 2015). Of the 1062 staff who participated in the questionnaire, 70 were RNs. The researchers found that participants lacked education in palliative care and topics specific to palliative care (Eriksson et al., 2015). The education topics identified by RNs included: social issues such as relationships and spiritual/ existential issues such as doctrines, life and death. In total, 76% of RN participants identified a need for further education on palliative care needs (Eriksson et al., 2015).

Obstetrical care and support for education were identified in the MacKinnon (2010) study. Overall, the ethnographic research included 88 interviews with RNs and focused on their experiences and concerns in rural hospital settings. Part of the data in this study explored nurses' experiences providing rural maternity care. Nurses reported feeling unfairly burdened having to pay for their own continuing education, on their own time, and being required to find their own resources. Rural nurses also indicated that they learned maternity nursing from other nurses, on the job, as there was little exposure to this in their education programs (MacKinnon, 2010). MacKinnon (2010) identified that rural nursing continuing education needs to be supported to protect the public through possible increases in education funding, more transparency in education processes, and flexible staffing processes.

Bioterrorism-related preparedness and training needs of rural Texas RNs was examined using a cross-sectional survey of 3,508 rural registered nurses (Jacobson et al., 2010). Researchers found less than 10% of nurses surveyed were confident diagnosing or treating bioterrorism-related

conditions. Jacobson et al. (2010) also found that respondents were interested in future training opportunities (69%) to address their lack of emergency readiness.

An examination of the attitudes, experiences, and beliefs of Aboriginal health workers and RNs regarding diabetes mellitus (DM) training occurred using a descriptive qualitative design study conducted in Australia (King, King, Willis, Munt, & Semmens, 2012). There were 10 RNs included in this study. The researchers found that a course in DM is applicable for rural RNs and there is a need for special DM training for nurses working rural and with Indigenous clients (King et al., 2012). Providing a DM course provided support and helped to empower rural nurses and rural patients with DM (King et al., 2012).

Chronic obstructive pulmonary disease (COPD) experience, training, confidence, attitudes, and knowledge of rural and remote healthcare practitioners was examined using a descriptive cross sectional, observational survey of 31 rural and remote health care practitioners, including 13 nurses who worked in community health, public hospitals, or a private practice (Johnston et al., 2012). Participants' in this study self-rated training, confidence, and experience of managing patients with COPD as low (Johnston et al., 2012). Additionally, low participant scores for knowledge levels in understanding pulmonary rehabilitation occurred.

The relationship between lifestyle preferences, educational preparedness for the rural nursing generalist role, and the intent to move was determined in a descriptive correlational study of 106 novice and expert rural nurses in the United States (Molanari et al., 2011). Participants indicated they were not prepared to work as a rural RN where there was less preparedness for trauma, neurology, pediatrics, and crises management practice. RNs felt slightly more prepared in the areas of geriatrics, critical thinking, pharmacology, and leadership (Molanari et al., 2011). This study is important to address topic specific education for rural RNs.

Rural nursing is complex and challenging, as indicated in a Canadian study to assess the learning needs of new graduate nurses' preparation for rural nursing practice (Sedgwick & Pijl-Zieber, 2015). Further to this, inadequate orientations to rural nursing, combined with a lack of continuing education opportunities addressing emergency and critical care, creates problems for maintenance of competence (Sedgwick & Pijl-Zieber, 2015). Competency ratings that nurses self-rated as low included: pediatric advanced lifesaving, neonatal resuscitation, trauma nursing core, emergency procedures, medication side effects, medication administration, triage nursing assessments on patients of all ages, dysrhythmia assessment, and general medication knowledge (Sedgwick, & Pijl-Zieber, 2015). Thus, this study is useful to identify core topics for continuing education in rural nursing.

Education needs specific to emergency departments in critical access hospitals in the United States were identified by participants from 23 American states and Canada who engaged in focus groups during a national emergency nursing conference. Managing critically ill patients, traumatic injuries, patient behavioural problems, obese, pediatric, and obstetrical patients were topics that nurses identified as lacking (Wolf & Delao, 2013). Participants identified educational needs relating to low-volume high stakes patient situations, patients who had special devices, and post-operative patients who had new surgical procedures (Wolf & Delao, 2013). Thus, a common education need for rural nurses is critical or emergency nursing.

In this integrative review of the literature, unique education needs of rural and remote nurses were summarized in to four themes: comprehensive specialized nursing practice for direct patient care, unanticipated events, non-direct patient care, and advanced specialty courses. The four themes each encompass specific nursing areas described in the literature (see Figure 1).

Recommendations

One purpose of this integrative literature review of rural and remote RN continuing education needs was to identify needs from various countries. Sedgwick and Pilj-Zieber (2015) offered several recommendations such as tertiary care centers offering refresher shifts for new rural graduate nurses, or schools of nursing sharing simulation lab space to allow rural nurses to refresh their skills. Additionally, administrators may provide new graduate nurses access to mentors, purchase online training programs, and lobby politicians for more clinical nurse educator positions (Sedgwick & Pilj-Zieber, 2015). Interdisciplinary learning opportunities, orientation to the rural community, and advanced certification programs were also discussed as recommendations to support new graduate nurses (Sedgwick & Pilj-Zieber, 2015).

1. Comprehensive Specialized Nursing Practice for Direct Patient Care
 - Palliative (Eriksson et al., 2015)
 - Obstetrics (MacKinnon, 2010; Wolf & Delao, 2013)
 - Pediatrics (Molanari et al., 2011; Wolf & Delao, 2013)
 - Mental health/ behavioral (MacKinnon, 2010; Wolf & Delao, 2013)
 - Geriatrics (Molanari et al., 2011)
 - Diabetes care (King, et al., 2012)
 - Neurology (Molanari et al., 2011)
 - Cardiology (Sedgwick & Pijl-Zieber, 2015)
 - Respiratory (Johnston, et al., 2012)
 - Pharmacology (Sedgwick & Pijl-Zieber, 2015)
 - Bariatrics (Wolf & Delao, 2013)
 - Post-operative/special devices (Wolf & Delao, 2013)
2. Unanticipated Events
 - Emergency preparedness (Jacobson et al., 2010)
 - Emergency care: Trauma/crisis/ triage (MacKinnon, 2010; Sedgwick & Pijl-Zieber, 2015; Wolf & Delao, 2013)
3. Non-direct Patient Care
 - Technology (Molanari et al., 2011)
 - Management/leadership (Molanari et al., 2011)
4. Advanced Specialty Courses
 - Pediatric Advanced Life Support (PALS)
 - Neonatal Resuscitation Program (NRP)
 - Trauma Nursing Core Course (TNCC)
 - Triage - Canadian Triage and Acuity Scale (CTAS) (Sedgwick & Pijl-Zieber, 2015)

Figure 1. Continuing education needs identified by rural and remote registered nurses

The role of nursing administration is important to advocate for increased funding, transparency on financial resources, and flexible staffing processes to improve access to continuing education for rural nurses (MacKinnon, 2010). Nursing unions and regulatory bodies must address continuing education issues, as the skills required for rural nursing roles have a direct impact on patient safety and protection of the public (MacKinnon, 2010). Further to this, collaboration with other regulatory bodies, such as midwifery associations, may support ongoing education for rural nurses in areas such as maternity care (MacKinnon, 2010).

Periodic continuing education for high-risk births must be supported for rural nurses (Molanari et al., 2010). Nursing education programs must increase nursing student rural experiences and crises assessment/management practice (Molanari et al., 2010). Access to emergency preparedness (specifically related to bioterrorism related emergencies) was also noted to be an area that rural nurses identified as requiring continuing education (Jacobson et al., 2010). Further to this, professional organizations, licensing bodies, and communities were identified to play a role in improving the emergency preparedness of rural nurses when managing bioterrorism emergencies (Jacobson et al., 2010).

Short online videos is one strategy to deliver continuing education to rural nurses (Wolf & Delao, 2013). Such videos may focus on areas of knowledge and practice gaps. Knowledge gaps that were identified in the literature include: palliative care specific to RNs and the organization/facility that they are working in (e.g., home care, long term care) (Eriksson et al., 2015); managing patients with COPD, specifically pulmonary rehabilitation (Johnston et al., 2012); and supporting rural nurses who work with Indigenous patients that have diabetes (King et al., 2012).

Improving DM continuing education for rural and remote nurses requires a sustainable multifaceted approach. Some suggestions to improve and enhance rural remote nurses' knowledge of DM include financial support for diabetic education course development and delivery; support for access to a diabetes expert mentor; internet access to locate resources and potentially deliver/house courses about diabetes management; providing nurses with time at work to learn and study; collaboration with other health care providers who work with diabetic patients; support from managers; formal acknowledgement, remuneration, and role recognition of diabetes management qualifications; incorporating principles of Indigenous culture and learning in diabetes education (King et al., 2012). Providing ongoing, supported and easily accessible DM education resources for rural and remote nurses will ensure safe, effective care for diabetic patients in rural and remote areas.

Limitations to this integrative review included using three databases; this may have restricted access to valuable articles. The search strategy included a date limitation to explore the most recent literature; however, this may have excluded articles. Further to this, the role and scope of the RN in various rural and remote areas may differ, thus their identified needs may not reflect those of all rural and remote RNs. Several single studies examined content specific topics, such as palliative care or COPD, and thus may not be generalizable. Several studies were cross sectional or descriptive correlational in methodology, thus, the quality of the measurement tools is not known. There was no universal definition of the terms *rural* or *remote*, therefore the generalizability of the findings may be limited.

Conclusion

Identifying the knowledge gaps of rural and remote nurses to support continued education preparation for nurses as a first point of care to the healthcare system is important. The role

autonomy, competency, and expertise that is expected of RNs in rural and remote areas requires unique entry to practice and ongoing educational supports. Globally, rural and remote RNs require education to address role competence and scope of nursing practice. Initial nursing education preparation and continuing education opportunities are needed to address competency and safety for rural and remote RNs and patients. Rural and remote nursing continuing education is required in the areas of: comprehensive specialized nursing practice for direct patient care, unanticipated events, non-direct patient care, and advanced specialty courses. The challenge is to develop teaching and learning in rural and remote nurses' continuing education.

Areas for further research may include literature reviews on the types of programs currently available for rural and remote RN continuing education, and quality or types of tools to measure rural nurse competency. Additionally, research is required to assess the types of educational supports currently offered to rural and remote RNs through nursing unions, associations, licensing bodies, and administration.

Acknowledgements

The authors thank Saskatchewan Polytechnic for partial funding of this review through the Seed Applied Research Program. The authors also thank their research team member Chau Ha and research assistant Devendrakumar Kanani for their contributions to this integrative review.

References

Bish, M., Kenny, A., & Nay, R. (2012). A scoping review identifying contemporary issues in rural nursing leadership. *Journal of Nursing Scholarship*, 44(4), 411 - 417.
<https://doi.org/10.1111/j.1547-5069.2012.01471.x>

- Bushy, A. (2002). International perspectives on rural nursing: Australia, Canada, USA. *Australian Journal of Rural Health*, 10, 104 - 111. <https://doi.org/10.1111/j.1440-1584.2002.tb00018.x>
- du Plessis, V., Beshiri, R., Bollman, R.D., & Clemenson, H. (2001). Definitions of rural. *Rural and Small Town Canada Analysis Bulletin*, 3(3). Catalogue #21- 006-XIE. Ottawa: Statistics Canada.
- Endacott, R., & Westley, M. (2006). Managing patients at risk of deterioration in rural hospitals: A qualitative study. *Australian Journal of Rural Health*, 14, 275 – 279. <https://doi.org/10.1111/j.1440-1584.2006.00829.x>
- Eriksson, G., Bergstedt, T.W., & Melin-Johansson, C. (2015). The need for palliative care education, support, and reflection among rural nurses and other staff: A quantitative study. *Palliative & Supportive Care*, 13(2), 265 – 274. <http://doi.org/10.1017/S1478951513001272>
- Jacobson, H.E., Soto Mas, F., Hsu, C.E., Turley, J.P., Miller, J., & Kim, M. (2010). Self-assessed emergency readiness and training needs of nurses in rural Texas. *Public Health Nursing*, 27(1), 41 – 48. <https://doi.org/10.1111/j.1525-1446.2009.00825.x>
- Johnston, C.L., Maxwell, L.J., Maguire, G.P., & Alison, J.A. (2012). How prepared are rural and remote health care practitioners to provide evidence-based management for people with chronic lung disease? *The Australian Journal of Rural Health*, 20(4), 200 – 207. <http://doi.org/10.1111/j.1440-1584.2012.01288>
- Kenny, A., & Duckett, S. (2003). Educating for rural nursing practice. *Journal of Advanced Nursing*, 44(6), 613 - 622. <https://doi.org/10.1046/j.0309-2402.2003.02851.x>
- King, M., King, L., Willis, E., Munt, R., & Semmens, F. (2012). The experiences of remote and rural Aboriginal Health Workers and registered nurses who undertook a postgraduate

diabetes course to improve the health of Indigenous Australians. *Contemporary Nurse*, 42(1), 107 – 117. <http://doi.org/10.5172/conu.2012.42.1.107>

MacLeod, M.L.P., Kulig, J., Stewart, N.J., Pitblado, J.R., Banks, K., D'Arcy, C., Forbes, D., Lazure, G, Martin-Misener, R., Medves, J., Morgan, D., Morton, M., Remus, G., Smith, B., Thomlinson, E., Vogt, C., Zimmer, L., & Bentham, D. (2004). The nature of nursing practice in rural and remote Canada. Canadian Health Services Research Foundation. Retrieved from http://www.cfhi-fcass.ca/Migrated/PDF/ResearchReports/OGC/macleod_final.pdf

MacKinnon, K. (2010). Learning maternity: The experiences of rural nurses. *The Canadian Journal of Nursing Research*, 42(1), 38 – 55.

Moher D., Liberati A., Tetzlaff J., Altman D. G., The PRISMA Group (2009). Preferred reporting items for systematic reviews and meta-Analyses: The PRISMA statement. *PLoS Med* 6(6): e1000097. <https://doi.org/10.1371/journal.pmed1000097>

Molanari, D. L., Jaiswal, A., & Hollinger-Forest. T. (2011). Rural nurses: Lifestyle preferences and education perceptions. *Online Journal of Rural Nursing and Health Care*, 11(2), 16 - 26.

Polit, D. F., & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed.). New York, NY: Wolters Kluwer/ Lippincott Williams & Wilkins.

Sedgwick, M., & Pijl-Zieber, E. M. (2015). New rural acute care nurses speak up: “We’re it” but we’re not ready. *Journal for Nurses in Professional Development*, 31(5), 278 – 283. <http://doi.org/10.1097/NND.0000000000000188>

Torraco, R. J. (2005). Writing integrative literature reviews, conceptual frameworks, and theoretical frameworks: Terms, functions and distinctions. *Human Resource Development Review*, 4, 356 - 367. <https://doi.org/10.1177/1534484305278283>

- Whittemore R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing*, 52, 546 - 553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>
- Wolf, L. & Delao, A. M. (2013). Identifying the educational needs of emergency nurses in rural and critical access hospitals. *The Journal of Continuing Education in Nursing*, 44(9), 424 - 428.