

**EXPERIENCE EXCHANGE****Nursing education for rural and northern practice in Canada**

**Lela V. Zimmer, Davina Banner, Khaldoun Aldiabat, Gwen Keeler, Amy Klepetar, Heather Ouellette, Erin Wilson, Martha MacLeod**

School of Nursing, University of Northern British Columbia, Prince George, Canada.

**Correspondence:** Lela V. Zimmer. Address: School of Nursing, University of Northern British Columbia, Prince George, British Columbia, V2N 4Z9, Canada. E-mail: lela.zimmer@unbc.ca

**Received:** March 16, 2014

**Accepted:** May 11, 2014

**Online Published:** June 11, 2014

**DOI:** 10.5430/jnep.v4n8p162

**URL:** <http://dx.doi.org/10.5430/jnep.v4n8p162>

**Abstract**

An important way to address the chronic shortage of registered nurses in rural healthcare is to provide undergraduate education opportunities in rural settings. Few programs however, prepare all of their graduates for rural practice. The purpose of this article is to discuss undergraduate programs in a School of Nursing in mid-northern Canada with a focus on caring for rural populations. Issues posed by a vast, sparsely populated rural and northern geography for nursing education are explored. Key concerns in curriculum, clinical practice opportunities, student support, administration, and faculty engagement are discussed in light of how they may be embraced and addressed in ways that promote high quality nursing education, particularly undergraduate education. Central to the School and program's success is a practice-driven approach to nursing education that is built upon a multi-faceted partnership with the regional health authority. Instead of viewing rural nursing as a program component, this paper offers an approach to making rural practice central to the character of nursing education programs.

**Key words**

Rural nursing, Undergraduate nursing education, Practice-driven, Northern, Canada

**1 Background and significance**

There is mounting evidence that focusing education on theory relevant to rural health and community life along with practice experiences in rural and remote settings can help to increase and sustain the rural and remote healthcare workforce<sup>[1-3]</sup>. Educational programs that are attractive and accessible to individuals who have grown-up or lived in rural communities tend to produce graduates who choose to work and remain in rural communities<sup>[2-4]</sup>. An increasing number of undergraduate nursing programs are adding rural electives or preceptored clinical experiences in rural areas<sup>[5-9]</sup>. Inter-professional or intra-professional practice in rural communities is a focus of some placements<sup>[10]</sup>. Several programs in rural Australia<sup>[11-13]</sup> and the United States<sup>[14]</sup> prepare students to care for rural or remote populations. Few undergraduate programs exist in Canada that specifically aim to prepare nurses for practice in rural, remote and/or northern settings, including First Nations communities. In order to ensure high quality graduates while remaining grounded their contexts, rurally-focused programs require specifically tailored approaches to a number of key factors including: curriculum development, student clinical placement and support, and faculty development and scholarship

The purpose of this article is to discuss how the School of Nursing at the University of Northern British Columbia (UNBC) prepares registered nurses to meet the realities and challenges posed by their rural and northern context by focusing on serving the needs of rural populations through a vital and ongoing partnership with practice. The article outlines some of the ways in which the UNBC School of Nursing embraces the rural and mid-northern context in which it is situated, how ongoing practice partnerships are integral to the quality and relevance of its programs, and how creativity and flexibility assist in ensuring appropriate clinical practice experiences in a variety of communities. All of these approaches prepare graduates to practice within the multi-specialist<sup>[15]</sup> context of rural nursing.

## 1.1 The context for nursing education in Northern British Columbia

Northern BC spans the northern 2/3 of the province, an area of approximately the size of France or 650,000 km<sup>2</sup> with a population of about 300,000. Only one city, Prince George, has over 50,000 people; most communities are considered to be rural and several are remote. Most of the smaller communities are accessible by road, with some remote communities accessible only by boat or air. Northern BC is home to many First Nations' communities that represent approximately 13% of the northern BC population<sup>[16]</sup>. The economic bases of many of the communities in northern BC rely heavily on forestry, fishing, mining, tourism, and oil and gas extraction and are considered to be resource-dependent.

Residents of northern BC experience the isolation, distance to urban centres, extreme weather conditions, limited transportation, and sometimes limited internet/communication systems that are common in rural Canada. Compounding these factors, those in northern BC, like other rural Canadians, have poorer health than their urban counterparts<sup>[17, 18]</sup>. Access to services frequently requires travel and days away from home and work, particularly for patients requiring the care of specialist physicians or teams. Telehealth and other electronic technologies are alleviating factors in some communities but access remains a persistent challenge. Recruitment and retention of skilled workers are issues for all industries, including healthcare<sup>[19]</sup>.

The diverse geography and population distribution of northern BC present challenges for both post-secondary education and health care service delivery. Among these challenges is the range of weather conditions that occur throughout the year. For example, icy winter driving on predominantly two-lane highways is hazardous and conditions can cause road closures due to heavy snowfall or traffic accidents. Spring brings flooding, mudslides, and washouts, causing some roads to be impassable. In the fall, ice and fog can create delays or increase accident risk while travelling to provide or access care. These weather conditions also may impede or delay air travel to both small municipalities and remote sites.

Rural communities frequently have few resident health professionals and often depend on a nursing workforce to address their ongoing, urgent, and emergent health situations<sup>[20, 21]</sup>. The broad range of health concerns encountered by nurses in rural settings require them to develop finely honed assessment skills and clinical judgment, as well as the ability to work in a team whose members are often at a distance from one another<sup>[22-24]</sup>. Chronic nursing staff shortages persist in many rural, remote, and northern facilities<sup>[25, 26]</sup>, thus compounding the issues of access and poorer health status.

Northern Health (NH), which is one of six provincial health authorities, provides the majority of healthcare services to those living in northern BC. Services include acute care, mental health and addictions, home and community health, residential care, public health, and in collaboration with physicians, primary care. Besides a 200-bed regional health care centre in Prince George, there are 25 smaller facilities across NH, many of which provide a mix of emergency care, urgent care, medical-surgical inpatient care, as well as long-term care. The majority of facilities in NH with acute care services are very small: nine of the 17 have between 24 and 55 beds; seven have between three and 16 beds. Only the regional centre provides high acuity maternity services and has pediatric inpatients on a regular basis.

## 1.2 Nursing programs in the North, for the North

The University of Northern British Columbia is a small, research-intensive university with the mandate to serve the population of northern BC. Its catchment area is coterminous with that of NH. The University serves over 4000 students

on four campuses: the main campus in Prince George (municipal population: 72,000); and regional campuses in Quesnel (municipal population: 10,000), Terrace (municipal population: 11,500), and Ft. St. John (population: 18,600) <sup>[27]</sup>.

The UNBC School of Nursing offers three undergraduate programs and one graduate program. The main undergraduate program, the Northern Collaborative Baccalaureate Nursing Program (NCBNP): a four-year, BScN degree program that prepares students for entry to registered nursing practice <sup>[28]</sup> is offered in conjunction with two community colleges, the College of New Caledonia (CNC) in Prince George and Quesnel, and Northwest Community College (NWCC) in Terrace. Years One and Two of the NCBNP are provided by the community colleges in each of the three locations. Years Three and Four are delivered by UNBC. There are a total of 144 students in each of the four years: 96 in each year in Prince George, 24 in each year in Quesnel and Terrace. Twenty percent of Year One admission seats are set aside for First Nations applicants. Students undertake clinical practica in the 26 hospitals and over 100 other facilities and community agencies throughout NH.

The undergraduate programs offered to registered nurses (RNs) are a two-year Post-Diploma BScN Program; a province-wide Rural Nursing Certificate Program (RNCP), with an option for BScN completion; and two certified practice courses, Remote Nursing Practice and RN First Call. These programs for RNs have been developed in partnership with the Chief Nursing Officers across the Province so that relevant, reality-based rural nursing education can be provided to nurses throughout BC <sup>[22, 25, 29]</sup>. The graduate program includes a Masters of Science in Nursing (MScN) with a thesis stream and a Family Nurse Practitioner stream (MScN-FNP), both offered full- and part-time to approximately 50 students through distance and on-campus sessions.

This article focuses primarily on the School's undergraduate NCBNP program, especially how the focus on rural and northern nursing is enhanced and sustained through an ongoing partnership with practice.

### 1.3 The curriculum

From its inception in 1993, the UNBC School of Nursing has created its programs to be responsive to needs and realities of health care delivery to rural and northern communities, including First Nations communities. The School uses the rural definition that relates to the percentage of rural residents commuting to urban communities of 10,000 or more <sup>[30-33]</sup>. For the purposes of this article, northern refers to the "provincial north" <sup>[34]</sup>.

The School's undergraduate programs have been developed using community assessments and ongoing consultation with practice partners in NH and across the province. As a result, the curriculum and delivery modes of the nursing programs are tailored to the health needs of the populations within which the School is situated, and responsive to practice demands for nurses who are confident and competent to work in rural and remote health care settings.

The four-year undergraduate curriculum has evolved in response to the following trends:

- The need for nurses who are prepared to function in small rural and remote health care facilities where patient care often requires expanded decision-making and where there is limited back-up available;
- The development of new community-based nursing roles as regionalization and integration of health services progress;
- Increasing employment opportunities for RNs in First Nations communities <sup>[35]</sup>.

Some examples of the unique aspects of the NCBNP curriculum and its strong orientation to northern populations are reflected in required courses in First Nations Studies and the threads of cultural competence and cultural safety that are woven throughout nursing courses in the curriculum. In Year Four of the NCBNP, students can choose, as two of a number of focused practice options, a consolidated nursing practice course in First Nations Health and Wellness, or a course in Rural Health and Nursing, both of which include a seven to eight week preceptored practicum. These practica are

undertaken as immersion experiences, either in a First Nations community, or, in the case of the rural nursing focus, in a small rural hospital.

Courses focus on common and predictable health problems and emphasize the determinants of health and their relation to the health of populations. The reality of the lower health status in northern BC coupled with the roles that nurses take in addressing negative trends and promoting the health and strength of northern communities and populations, are brought home to undergraduate students in required epidemiology and community health courses that draw on examples from northern populations. However, most unique to the NCBNP are the clinical experiences available to students. During Years Three and Four of the NCBNP, all students from all three UNBC campuses travel for practice experiences throughout Northern Health. In addition to some time spent in the community referral hospital in Prince George, practice experiences include acute care practice in small rural hospitals and diagnostic and treatment centres, community health experiences in health units, community health centres serving First Nations communities, rural home care, and outpatient and community mental health services.

Of equal importance to theory and practice that fosters a relevant knowledge base are the exposures and relationships students develop with practitioners who live and work in rural and northern communities. The UNBC School of Nursing relies on a large number of part-time term faculty and preceptors to work with students in clinical settings. These faculty members are primarily nurses working for NH, chosen specifically for their knowledge and expertise in caring for rural and northern communities and populations. Accessing clinical placements, preceptors and part-time term faculty requires a vital and ongoing, mutually beneficial partnership between the UNBC School of Nursing and NH.

## 2 Partnerships with practice

Collaboration between universities and hospitals or health agencies is not a new phenomenon and models of collaborative relationship have evolved over time<sup>[36, 37]</sup>. The partnership between NH and UNBC is acknowledged within a memorandum of agreement outlining the interdependencies between the two organizations and sets a framework for partnering on research, undergraduate and graduate education, and practice development in all health related disciplines. The organizations' mutual commitment to improving the health and sustainability of northern communities and complementary strategic goals undergird their shared accountabilities for the development of excellence in nursing education and practice. Trusting relationships have formed over time between UNBC faculty and staff and NH staff at a variety of levels within both organizations. These collegial relationships have facilitated clinical placements for students to be secured across NH, even in very small facilities or community health offices with limited staffing.

The partnership has been fostered through open and honest communication that in turn has allowed for timely responsiveness to feedback, whether positive or negative. For example, recently, NH managers who had hired new NCBNP graduates advised the School's Coordinator of Undergraduate Programs that many of these novice nurses struggled with their organization in medical/surgical wards. Within a few weeks, faculty at the School reviewed the curriculum and noted that many of the consolidated practicum placements at the end of Year Three were not in medical/surgical areas as originally planned. It was found that the placements had been allowed to "drift" to areas that were less acute, slower paced, or more specialized such as maternity and mental health. Two reasons were identified: one was the wish on the part of some students to work in specialty areas, and the other was the inability of the School to secure enough acute care, preceptored placements across NH between May and July for all students.

Joint planning with the Regional Nursing Practice Leads and the Nursing Managers across NH led to action in both the School and NH. The School restricted the Third Year consolidation practicum to placements in medical/surgical and emergency areas only. One group had a practicum in May-June, and the other in July-August. At the same time, the Nursing Managers reassessed the availability of experienced staff, supported nurses to take the NH-provided preceptor training course, and created the needed acute care practicum placements. This minor revision to the curriculum was facilitated in a matter of months partly due to two factors, the School's willing and timely responsiveness, and appropriate

placements and suitable preceptors made available by NH. Three years into this change, NH managers have noted the improved strength and clinical preparedness of UNBC graduates.

The partnership that exists between UNBC and NH is mutually beneficial. Many registered nurses within Northern Health complete the Rural Nursing Certificate and more take specific courses within the Certificate program, such as the Rural Perinatal Care course; Emergency, Critical Care and Trauma; and Advanced Health Assessment/RN First Call. All of the Certificate courses are offered online, some with workshops and practicum requirements. Enrolled nurses travel from small communities to regional centres for skills workshops and preceptored clinical practicums. Practice opportunities in the regional centres not only enhance skills, but also foster relationships between the nurses at small and regional centres, which they draw on when problem-solving patient concerns in their home communities <sup>[29]</sup>.

At the urging of nursing practice leaders in NH and two other BC Health Authorities and drawing on evaluation data <sup>[29]</sup>, a curriculum revision was made to the NCBNP, in order that new graduates could come into rural nursing practice with more competence and confidence, as well as experience in the realities of rural nursing. Certificate courses, formerly only available to registered nurses, were offered to students in Years Three and Four of the NCBNP with minor revisions in course assignments. The courses serve as either nursing electives or Year Four consolidated nursing practice courses with tailored clinical practica. The courses are Living and Working in a Rural Community; Care of Older Persons; Mental Health and Addictions; Critical Care, Emergency and Trauma; Rural Perinatal Care; Chronic Disease Management, Palliative Care and Wound Care; and Advanced Health Assessment and RN First Call. As a result, pre-registration undergraduate nursing students interact with and learn from experienced RNs in online course work and discussion as well as in workshops and clinical practice, which further prepare the undergraduate students for the increased autonomy and clinical judgment required in rural and northern nursing contexts.

Ongoing challenges for UNBC and NH in undergraduate education include the small size of the facilities, limited numbers of full time RN staff, limited casual pools, and the impact of staff turnover in many of the practice settings. When the students are rotated through on a repeating basis, practicum placements may not be readily available as managers seek to protect their nurses from overload. The need to orient and preceptor newly hired RNs may take precedence over accommodation of student nurses. At times, there is a tension between utilizing nursing students as auxiliary staff and supporting them as supernumerary learners. In such situations, the ongoing relationships between the managers in the practice setting, clinical instructors, and program coordinators have facilitated respectful dialogue and mutual priority setting. Such collaboration has allowed for the resolution of these issues before they affect the quality of student clinical experiences.

The employment of NH registered nurses as clinical, and occasionally classroom instructors, is an important aspect of the partnership, which has strengthened the practice-based nature and relevance of curriculum delivery. Many RNs accept part-time term contracts with the University to provide clinical and classroom instruction. Frequently, NH managers work with the UNBC Undergraduate Program Coordinator to identify potential instructors and sometime adjust their work hours, as the opportunity provides RNs with a form of career development. These experienced nurses find that teaching as part-time term faculty members hones their own grasp on theoretical concepts and evidence-informed practice. Both UNBC and NH value the benefits to nursing students, to the development of the nurses themselves, and subsequently to the enhancement of patient care.

In order to create consistent program standards across the three UNBC campuses where the NCBNP is delivered, and with many instructors who are primarily clinicians, the School has created the position of School Lead for nursing practice areas (acute, pediatric, maternity, community, gerontology, and mental health). The Leads meet on a regular basis via teleconference with full-time and part-time term faculty, and practice experts from NH, to develop and revise course syllabi and teaching approaches in keeping with current practice and pedagogical trends, issues, and evidence. These sessions provide a means for faculty to maintain awareness of the evolving aspects of practice in the rural and northern context and to collaborate in ensuring the useful and relevant application of evidence to practice.

### 3 Creativity and flexibility in fostering clinical learning

Providing high quality clinical nursing education across a sparsely populated, vast geography has challenged the ingenuity of UNBC School of Nursing faculty and NH practice partners, especially in the case of educating for maternity and pediatric nursing. Although it is a challenge for many nursing programs to obtain sufficient clinical practicum opportunities in maternity and pediatrics, it is a particular challenge in northern BC, where substantial and consistent inpatient maternity and pediatric experiences are only available in the major centre in Prince George, which delivers 1000-1,499 babies yearly<sup>[38]</sup> and houses a 12-bed pediatric inpatient unit. In order to provide BScN students in Terrace and Quesnel with sufficient clinical experiences in inpatient maternal and child nursing, an innovative solution was developed in collaboration with practice partners.

Faculty from all three campuses worked with nurse managers and staff in Prince George to create a way for all students across the region to have similar exposure to these specialty areas. As a result of these efforts, students from the Terrace campus travel the nearly 600 km to Prince George during their winter semester, for three-day intensive experiences on the maternity and pediatric inpatient units. Students from Quesnel travel 120 km to do the same in the fall semester. In order to overcome the transportation hazards presented by winter roads, students take the NH Northern Connections bus, which provides transport for medical appointments<sup>[39]</sup>. Once again, partnership with NH, in this case for safe, inexpensive travel, has allowed the School to effectively optimize students' clinical practice experiences. A side benefit has been the exposure – often for the first time – of the students from small towns, to a referral centre practice context.

Clinical Teaching Units (CTUs) or Dedicated Education Units are frequently part of academic-service partnerships<sup>[40-42]</sup>, and with few exceptions<sup>[14]</sup>, are found in large urban hospitals. One-on-one clinical education and mentorship on such units becomes the responsibility of all RN staff members who, as the need arises, take on a preceptor role for any student working along side them during a given shift. Northern Health has been active in establishing CTUs in small facilities. Since the first NH CTU opened in 2008 on the regional hospital surgical unit, two small rural community hospitals, and the rehabilitation unit at the regional hospital, have become CTUs. These units can now accommodate twice the number of students that would be accommodated in one-to-one preceptorship pairs, with the added bonus of increased staff development through the involvement of all nurses in teaching and mentorship.

In the small rural facilities within NH, nursing students have a unique opportunity to work inter-professionally with other members of the healthcare team. For example, Year Three students often spend time one-on-one with specialist physicians and medical students in their clinics. During their community health practicum, Year Four students may plan and implement community health promotion projects or events. They work with a variety of professionals, including social workers, community mental health workers, wellness professionals, and various non-profit groups. In this way, the community nursing practice of undergraduate students is integrated with community initiatives.

In smaller facilities, where nurses are working in teams of only two or three, without the in-person presence of many other disciplines, nursing students are often called upon to be fully engaged in clinical decision-making about the care of patients. This demand for clinical judgment and decision-making may be in regard to clients with emergent, acute, perinatal and long-term care needs, often within the space of one shift. Graduates who go on to work in large urban hospitals routinely comment to faculty members about the benefits of their assessment skills, problem-solving ability and confidence in clinical decision-making, derived from their experience in rural settings.

#### The role of faculty scholarship in a rural and northern context

Fostering and supporting faculty research is a way that UNBC and the School of Nursing promote excellence in the undergraduate programs. For the most part, faculty scholarship is reliant upon the development and maintenance of collaborations and partnerships with other disciplines and the wider community. For nursing faculty, these partnerships are often formed within the practice context and may include the engagement of health care providers, decision makers, policy makers and community groups<sup>[43-46]</sup>. A major benefit of these collaborative relationships has been the development of

common goals and research that addresses gaps in existing knowledge relevant to rural and northern settings. Faculty members regularly engage in contextualized research that has the potential to directly improve health service delivery and population health <sup>[47, 48]</sup>. This is crucial in rural and sparsely populated regions where some of the greatest challenges pertaining to health human resources and population health are evident.

Partnered research programs have been facilitated through the alignment of goals and organizational processes at the University and Health Authority. This alignment of processes, such as ethical review, collaboration in the determination of research needs and priorities, and the collaborative development of facilities and resources, has made it easier for faculty members to develop programs of engaged scholarship <sup>[48, 49]</sup>, and find synergy in their teaching, research and service commitments. For instance, the partnered creation of high fidelity simulation laboratories across northern BC, that are shared by NH staff and physicians, the Northern Medical Program of the University of British Columbia, and the School of Nursing, has provided opportunities not only for enhancing the education of NH staff, nursing and medical students, but also for fostering inter-professional research in healthcare education.

The partnership between UNBC and NH has also created opportunities for nursing undergraduate and graduate students to become involved in a broad range of scholarship activities. Northern Health staff members are engaged in faculty-originated research, and faculty and students are engaged in quality assurance scholarship within NH. An example is the semi-annual Year Four students' presentation of research posters offering integrated literature reviews on questions and "bugbears" identified by nurses in practice <sup>[50]</sup>. Partnered research and scholarship not only support the improvement of practice and strengthen the capacity of current faculty members to provide excellent, rural and northern focused education to students, they also provide an important means to develop, attract and retain colleagues in the Health Authority and the University.

## 4 A framework for the development of rural nursing education

The elements contributing to successful rural and northern undergraduate nursing education can be distilled into a framework that may be useful for other schools of nursing seeking a practice-driven approach to nursing education <sup>[51]</sup> in order to meet the health care needs of rural populations. Such a framework has the following key components: embeddedness in rural populations and contexts; strong partnerships with practice; a reality-based, practice-driven mandate; creativity, flexibility and adaptation in curriculum planning and delivery. These components, depicted in Figure 1 are not discrete, but rather overlap and strengthen one another.

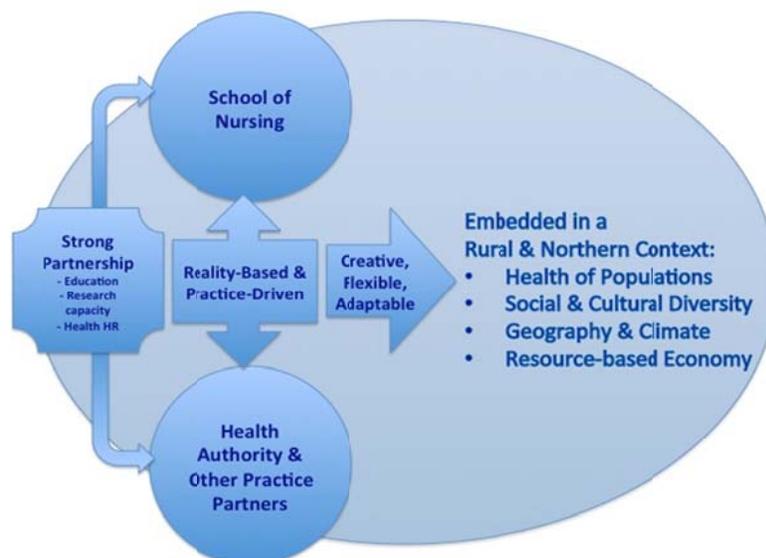


Figure 1. Framework for rural and northern nursing education

## 4.1 Embeddedness in rural populations and contexts

The UNBC School of Nursing's location and regional presence throughout the provincial north plays an obvious and important role in the nature of the undergraduate program. Many of the students enrolled in the program, including those who fill the admission seats set aside for First Nations applicants, come from rural communities; and many graduate with a commitment to return to live and work in these contexts. This, coupled with a curricular focus that promotes understanding of culture, rurality, and experience of northern community contexts, contributes to appropriate care of northerners, including the significant First Nations population encountered in all healthcare care settings. The School's approach embodies the University's commitment of responsiveness to the region it serves.

## 4.2 Reality-based, practice-driven mandate

UNBC was located in BC's provincial north for the benefit of northern populations and to address issues and concerns significant to the northern context. Likewise, the School of Nursing began with the intention of preparing a nursing workforce for the realities of rural and northern practice. This mandate has been reinforced over time by the continued and willing accessibility of School of Nursing faculty and administrators to practice partners who have helped to focus the direction of curriculum and program development on the need for skilled and critically thinking new graduates who will grow rapidly into the highly autonomous, multi-specialist role of the rural nurse <sup>[15]</sup>. The outcome of the approach is evidenced in the 70% of graduates who are hired by NH. Reports from practitioners note that these graduates successfully transition to work in rural acute care and community settings, as well as in referral hospitals.

The mandate to be reality-based and practice-driven is also reflected in the thrust of faculty research and scholarship. By collaborating with the Health Authority, questions, problems and issues relevant to the health of rural and northern populations and delivery of rural health services are being addressed in a timely way. Studies and projects are not necessarily isolated to nursing; many are multi-disciplinary, involving alliances not only between the Health Authority and University, but also community agencies, and rural/remote health researchers from across Canada dealing with many of the same realities related to rurality and northern geography.

## 4.3 Strong partnerships with practice

The development and delivery of a rural and northern focused program has been greatly facilitated by the School's partnership with practice demonstrated by open communication with, attention and responsiveness to, the needs, issues and trends identified by practice partners <sup>[51]</sup>. The employment of expert rural and remote nurses as instructors contributes to the quality and fulfillment of the School's educational goals; and employment of well and relevantly prepared graduates provides health human resource benefits for NH. Practice-academic partnerships also facilitate development of research capacity to benefit rural and northern populations. New relationships are now being forged between the School and the recently formed First Nations Health Authority to ensure attunement and responsiveness in registered nurse preparation that meets the evolving health service needs of First Nations communities.

## 4.4 Creativity, flexibility and adaptation in curriculum planning and delivery

The consistent delivery of the undergraduate curriculum over three geographically distant campuses across a vast rural and northern area has required creativity, flexibility and adaptation. The acquisition and accessibility of appropriate clinical practice experiences, working in coordination with management and staff at clinical practice sites, and preparing graduates for the requirements of rural practice have demanded innovations in curriculum development and delivery. A focus on how best to incorporate rural and northern relevant threads, foci and learning opportunities, has led to the successful integration of specialty rural courses within the undergraduate curriculum. Ensuring that graduates are prepared with those skills that are key to safe, competent rural nursing practice, while also preparing them to meet registered nurse entry-level competencies <sup>[28]</sup> needed to work in any setting, urban or rural, has resulted in a uniquely evolving undergraduate program.

It is in relationship with practice that the School meets ongoing challenges related to curriculum, and mutually beneficial solutions are found.

## 5 Conclusion

Three major approaches, nested within a framework for rural and northern nursing education, have contributed to the School's successes: first and foremost, partnerships with practice for a rural and northern focused curriculum and instruction; creativity and flexibility in providing clinical practice experiences for students; and the building of partnered rural and northern focused research capacity.

Partnerships with nurse leaders and nurses in practice have been key to program development and continue to contribute to the relevant, practice-driven nature of the School. Expert nurses practicing in rural and northern settings contribute to a vital, reality-based curriculum, and provide their skill and expertise in instruction to students. Creativity in working with communities, health care agencies and the Northern Health Authority has resulted in the provision of excellent clinical practice experiences for students, including in areas such as maternity and pediatrics where inpatient volumes may be low. Finally, seeking and building on the research and scholarship opportunities provided by the rural and northern context assists in attracting, building capacity in, and retaining current and future faculty members. Partnerships with nursing practice and other health care disciplines provide opportunities to create programs of research that contribute to the health and well being of rural and northern populations.

Development and implementation of the UNBC School of Nursing illustrates the importance for nursing education of maintaining the vital link with nurses in clinical practice. Just as nursing research should begin with and feed back into the needs, questions, and problems of practice, so nursing education needs to remain committed to the health, well being, and cultural safety of clients and populations as witnessed and understood from the standpoint of the practicing nurse. Situated in northern BC, the UNBC School of Nursing strives and is succeeding to prepare nurses to address the health of rural and northern Canadians.

## References

- [1] Bushy A, Leipert, B. Factors that influence students in choosing rural nursing. *Rural and Remote Health*. 2005; 5: article 387. Available from: <http://rrh.deakin.edu.au> PMID:15885026
- [2] Trepanier A, Gagnon MP, Mbemba GIC, Cote J, Pare G, Fortin J-P, et al. Factors associated with intended and effective settlement of nursing students and newly graduated nurses in a rural setting after graduation: a mixed-methods review. *International Journal of Nursing Studies*. 2013; 50: 314-325. PMID:23010132 <http://dx.doi.org/10.1016/j.ijnurstu.2012.09.005>
- [3] World Health Organization [WHO]. Increasing access to health workers in remote and rural areas through improved retention: global policy recommendations. Geneva: WHO; 2010. NLM Classification: WA 390. 80 p. <http://www.who.int/hrh/retention/guidelines/en/>.
- [4] Kulig J, Stewart N, Penz K, Forbes D, Morgan D, Emerson P. Work setting, community attachment, and satisfaction among rural and remote nurses. *Public Health Nursing*. 2009; 26(5): 430-439. PMID:19706126 <http://dx.doi.org/10.1111/j.1525-1446.2009.00801.x>
- [5] Coyle SB, Narsavage GL. Effects of an interprofessional rural rotation on nursing student interest, perceptions, and intent. *Online Journal of Rural Nursing and Health Care*. 2012; 12(1): 40-48.
- [6] Leipert B, Anderson E. Rural nursing education: A photovoice perspective. *Rural and Remote Health* [Internet]. 2012; 12: 2061. Available from: <http://www.rrh.org.au>. PMID:22668083
- [7] Sedgwick M, Yonge O. Undergraduate students' preparedness to "go rural". *Nurse Education Today*. 2008; 28(5): 620-626. PMID:18031871 <http://dx.doi.org/10.1016/j.nedt.2007.09.014>
- [8] Van Hofwegan I, Kirkham S, Harwood C. The strength of rural nursing: implications for undergraduate nursing education. *International Journal of Nursing Educational Scholarship*. 2005; 2(1): 27.
- [9] Yonge O, Ferguson L, Myrick F. Preceptorship placements in western rural Canadian settings: perceptions of nursing students and preceptors. *Online Journal of Rural Nursing & Health Care* [Internet]. 2006; 6 (2): 47-57. Available from: <http://rnojournal.binghamton.edu/index.php/RNO/issue/view/13>.

- [10] Hoffart C, Kuster-Orban C, Spooner C, Neudorf K. Intraprofessional practice education using a community partnership model. *Journal of Nursing Education*. 2013; 52(2): 104-107. PMID:23330665 <http://dx.doi.org/10.3928/01484834-20130121-01>
- [11] Birks M, Cant R, Al-Motlaq M, Rickards A. Increasing the pool of students in rural locations: a satellite model of nursing education. *Australian Journal of Rural Health*. 2011; 19: 103-104. PMID:21438954 <http://dx.doi.org/10.1111/j.1440-1584.2011.01192.x>
- [12] Clark S, Piercey C. E-learning provides nursing education in remote areas. *Australian Nursing Journal*. 2012; 20(4): 49. PMID:23252119
- [13] Playford D, Wheatland B, Larson A. "Does teaching an entire nursing degree rurally have more workforce impact than rural placements?" *Contemporary Nurse*. 2010; 35(1): 68-76. PMID:20636179 <http://dx.doi.org/10.5172/conu.2010.35.1.068>
- [14] Harmon LM. Rural model dedicated education unit: partnership between college and hospital. *The Journal of Continuing Education in Nursing*. 2013; 44(2): 89-96. PMID:23268577 <http://dx.doi.org/10.3928/00220124-20121217-62>
- [15] MacLeod M. We're it: The nature of nursing practice in very small rural and remote hospitals in northern British Columbia. Prince George, BC: University of Northern British Columbia. 1998. 22 p.
- [16] First Nations Health Council, Northern Health Authority, & Interim First Nations Health Authority. Northern partnership accord. 2012 May 11. Available from: [http://www.northernhealth.ca/Portals/0/About/PositionPapers/documents/HHC-Guidebook%20V2\\_18May2012\\_WEB\\_VERSION.pdf](http://www.northernhealth.ca/Portals/0/About/PositionPapers/documents/HHC-Guidebook%20V2_18May2012_WEB_VERSION.pdf)  
[http://www.fnhc.ca/pdf/Northern\\_Partnership\\_Accord\\_May\\_11,\\_2012.pdf](http://www.fnhc.ca/pdf/Northern_Partnership_Accord_May_11,_2012.pdf).
- [17] Northern Health. Health happens in communities: a guidebook for community leaders [Internet]. Prince George, BC: Northern Health; c 2012. Available from: [http://www.northernhealth.ca/Portals/0/About/PositionPapers/documents/HHC-Guidebook%20V2\\_18May2012\\_WEB\\_VERSION.pdf](http://www.northernhealth.ca/Portals/0/About/PositionPapers/documents/HHC-Guidebook%20V2_18May2012_WEB_VERSION.pdf).
- [18] DesMeules M, Pong R, Lagacé C, Heng D, Manuel D, Pitblado R, Bollman R, Guernsey J, Kazangian, A, Koren I. How healthy are rural Canadians? An assessment of their health status and health determinants. Canadian Population Health Initiative. Ottawa: Canadian Institute for Health Information; 2006. 205 p. Available from: [https://secure.cihi.ca/free\\_products/rural\\_canadians\\_2006\\_report\\_e.pdf](https://secure.cihi.ca/free_products/rural_canadians_2006_report_e.pdf).
- [19] Dumont J, Zurn P, Church J, Le Thi C. International mobility of health professionals and health workforce management in Canada: Myths and realities. Organisation for Economic Co-operation and Development Publishing; 2008. OECD Health Working Paper No. 40. Available from: [http://www.fnhc.ca/pdf/Northern\\_Partnership\\_Accord\\_May\\_11,\\_2012.pdf](http://www.fnhc.ca/pdf/Northern_Partnership_Accord_May_11,_2012.pdf)
- [20] MacLeod MLP, Kulig J, Stewart NJ, Pitblado JR. The nature of nursing practice in rural and remote Canada. Ottawa, ON: Canadian Health Services Research Foundation. Sept. 2004. Available from: <http://www.cfhi-fcass.ca/SearchResultsNews/04-09-01/65be4c3e-34e5-4824-8061-2a92f253b56a.aspx>.
- [21] Stewart NJ, D'Arcy C, Pitblado, JR, Morgan DG, Forbes D, Remus G, Smith B, Andrews ME, Kosteniuk J, Kulig J, MacLeod, M. L. P. A profile of registered nurses in rural and remote Canada. *Canadian Journal of Nursing Research*. 2005; 37(1): 122-145. PMID:15887769
- [22] MacLeod MLP, Lindsey AE, Ulrich CH, Fulton T, John N. The development of a practice driven, reality-based program for rural acute care registered nurses. *The Journal of Continuing Education in Nursing*. 2008; 39(7): 298-304. <http://dx.doi.org/10.3928/00220124-20080701-03>
- [23] MacLeod MLP, Martin-Misener R, Vogt C, Morton M, Banks K, Bentham D. "I'm a different kind of nurse": Advice from nurses in rural and remote Canada. *Canadian Journal of Nursing Leadership*. 2008; 21(3): 24-37. <http://dx.doi.org/10.12927/cjnl.2008.20060>
- [24] Mills J, Birks M, Hegney D. The status of rural nursing in Australia: 12 years on. *Collegian*. 2010; 17: 30-37. PMID:20394272 <http://dx.doi.org/10.1016/j.colegn.2009.09.001>
- [25] Place J, MacLeod M, John N, Adamack M, Lindsey E. "Finding my own time": Examining the spatially produced experiences of rural RNs in the rural nursing certificate program. *Nurse Education Today*. 2011; 32: 581-587. <http://dx.doi.org/10.1016/j.nedt.2011.07.004>
- [26] Pitblado JR. Geographical distribution of rural health human resources. In JC Kulig & AM Williams (Eds.) *Health in rural Canada*. Vancouver, BC: UBC Press; 2012. 83-100p.
- [27] BC Stats. 2011 census total population results: Municipalities by regional district. Victoria: BC Provincial Government; c 2011 Available from: <http://www.bcstats.gov.bc.ca/StatisticsBySubject/Census/2011Census/PopulationHousing/MunicipalitiesByRegionalDistrict.aspx>
- [28] College of Registered Nurses of British Columbia [CRNBC]. (2009). Competencies in the context of entry-level registered nurse practice in British Columbia. Pub. No. 375. Vancouver, BC: CRNBC. Available from: <https://www.crnbc.ca/Registration/Lists/RegistrationResources/375CompetenciesEntryLevelRN.pdf>
- [29] MacLeod M, Lindsey L, John N, Starck A, Adamack M, Zimmer L, O'Hara E. Rural Nursing Certificate Program: Practice-driven, reality-based specialty education in British Columbia. Final Report; 2011 July. Prince George, BC: University of Northern British Columbia.

- [30] Canadian Institute for Health Information. Supply and distribution of registered nurses in rural and small town Canada 2000. 2001 May. Ottawa, ON: Canadian Institute for Health Information. Available from: [http://www.cihi.ca/cihi-ext-portal/internet/en/document/spending+and+health+workforce/workforce/nurses/hhrdata\\_nursing\\_table](http://www.cihi.ca/cihi-ext-portal/internet/en/document/spending+and+health+workforce/workforce/nurses/hhrdata_nursing_table)
- [31] Canadian Institute for Health Information. Regulated nurses: Canadian trends, 2006 to 2010. 2011. Ottawa: Canadian Institute for Health Information. 180 p.
- [32] Du Plessis V, Beshiri R, Bollman, RD, Clemenson H. Definitions of "rural". Research and Rural Data Section, Agriculture Division Statistics Canada. 2002 Dec. Catalogue no. 21-601-MIE - No. 061. Ottawa: Statistics Canada. 43 p.
- [33] Pitblado JR, Koren I, MacLeod MLP, Stewart NJ, Kulig J. Characteristics and distribution of the regulated nursing workforce in rural and small town Canada, 2003 and 2010. 2013. Prince George, BC: University of Northern British Columbia. Forthcoming 2014 at [www.unbc.ca/ruralnursing](http://www.unbc.ca/ruralnursing)
- [34] Weller GR. Local government in the Canadian provincial north. *Canadian Public Administration*. 1981; 24(1): 44-72. <http://dx.doi.org/10.1111/j.1754-7121.1981.tb00328.x>
- [35] Zimmer L, Ollech S, Gagne L, Skeates S, Johnson S, Brisch E, MacLeod M. Phase III self study report to the College of Registered Nurses of British Columbia: Northern Collaborative Baccalaureate Nursing Program (NCBNP). 2010 Sept. Prince George, BC: University of Northern British Columbia School of Nursing.
- [36] Horns PN, Czaplijski TJ, Engelke MK, Marshburn D, McAuliffe M, Baker S. Leading through collaboration: a regional academic/service partnership that works. *Nursing Outlook*. 2007; 55(2): 74-78. PMID:17386310 <http://dx.doi.org/10.1016/j.outlook.2007.01.002>
- [37] Nabavi FH, Vanaki Z, Mohammadi E. Systematic review: process of forming academic service partnerships to reform clinical education. *Western Journal of Nursing Research*. 2012; 34(1): 118-141. <http://dx.doi.org/10.1177/0193945910394380>
- [38] Perinatal Services BC [Internet]. (2012). Number of births by facility, British Columbia, April 1, 2011 to March 31, 2012. c 2012. Available from: [http://www.perinatalservicesbc.ca/NR/rdonlyres/CE7AA076-C50A-461D-80AB-33D221886FF9/0/SurveillanceMapFacilityBirths20112012\\_27nov2012.pdf](http://www.perinatalservicesbc.ca/NR/rdonlyres/CE7AA076-C50A-461D-80AB-33D221886FF9/0/SurveillanceMapFacilityBirths20112012_27nov2012.pdf)
- [39] Safai J. A ride to care – a non-emergency medical transportation service in rural British Columbia. *Rural and Remote Health*. 2011; 11(1): article 1637. Available from: <http://www.rrh.org.au>
- [40] Budgen C, Gamroth L. An overview of practice education models. *Nurse Education Today*. 2008; 28: 273-283. PMID:17629596 <http://dx.doi.org/10.1016/j.nedt.2007.05.005>
- [41] Moscato SR, Miller J, Logsdon K, Weinberg S, Chorpensing L. Dedicated education unit: an innovative clinical partner education model. *Nursing Outlook*. 2007; 55: 31-37. PMID:17289465 <http://dx.doi.org/10.1016/j.outlook.2006.11.001>
- [42] Warner JR, Burton DA. The policy and politics of emerging academic-service partnerships. *Journal of Professional Nursing*. 2009; 25(6): 329-334. PMID:19942198 <http://dx.doi.org/10.1016/j.profnurs.2009.10.006>
- [43] Banner D, Grant LG. Getting involved in research. *Canadian Journal of Cardiovascular Nursing*. 2011; 21(1): 31-39. PMID:21361237
- [44] Jagosh J, MacAulay AC, Pluye P, Salsberg J, Bush PL, Henderson J, Sirett E, Wong G, Cargo M, Herbert CP, Seifer, SD, Green LW, Greenhalgh T. Uncovering the benefits of participatory research: implications of a realist review for health research and practice. *The Milbank Quarterly*. 2012; 90(2): 311-346. PMID:22709390 <http://dx.doi.org/10.1111/j.1468-0009.2012.00665.x>
- [45] MacLeod MLP. Building bridges with decision-makers: rules for rural and remote health researchers. *Rural and Remote Health*. 2006; 6: article 567. Available at: <http://www.rrh.org.au> PMID:16889469
- [46] Secret M, Abell ML, Berlin T. The promise and challenge of practice-research collaborations: guiding principles and strategies for initiating, designing, and implementing program evaluation research. *Social Work*. 2011; 56(1): 9-20. PMID:21314067 <http://dx.doi.org/10.1093/sw/56.1.9>
- [47] Nowotny H, Scott P, Gibbons M. 'Mode 2' revisited: the new production of knowledge. *Minerva*. 2003; 41: 179-194. <http://dx.doi.org/10.1023/A:1025505528250>
- [48] Stanton TK. New times demand new scholarship: opportunities and challenges for civic engagement at research universities. *Education, Citizenship and Social Justice*. 2008; 3(1): 19-42. <http://dx.doi.org/10.1177/1746197907086716>
- [49] Holland B. (2005). Scholarship and mission in the 21st Century university: the role of engagement. In *Engaging Communities: Proceedings of the 2005 Australian Universities Quality Forum*; 2005 July 6-8; Sydney, Australia. Melbourne, Victoria, Australia: Australian Universities Quality Agency. 196 p.
- [50] MacLeod, MLP. Addressing bugbears in practice while learning to read and synthesize research. *Syllabus Selection*. *Journal of Nursing Education*. 2009; 48(6): 356. PMID:19552324 <http://dx.doi.org/10.3928/01484834-20090515-10>
- [51] MacLeod, M L P, Farrell P. The need for significant reform: a practice driven approach to curriculum. *Journal of Nursing Education*. 1994; 33(5): 208-214. PMID:8051571