Nursing Practice in Rural and Remote Canada II

British Columbia Survey Fact Sheet

Principal Investigators
Martha MacLeod
University of Northern British Columbia
Norma Stewart
U. Saskatchewan
Judith Kulig
U. Lethbridge

Co-Investigators
Ruth Martin-Misener
Dalhousie University, NS
Kelley Kilpatrick
Université de Montréal, QC
Irene Koren
Laurentian University, ON
Mary Ellen Andrews
U. Saskatchewan, SK
Chandima Karunanayake
U. Saskatchewan, SK
Julie Kosteniuk
U. Saskatchewan, SK
Kelly Penz
U. Saskatchewan, SK
Pertice Moffitt
Aurora College, NWT
Davina Banner
UNBC, BC
Neil Hanlon
UNBC, BC
Linda Van Pelt
UNBC, BC
Erin Wilson,
UNBC, BC
Lela Zimmer
UNBC, BC

Principal Knowledge User
Penny Anguish
Northern Health (BC)

The multi-method study, *Nursing Practice in Rural and Remote Canada II (RRNII)*, aims to provide insights into the work lives and practice experiences of registered nurses (RNs), nurse practitioners (NPs), licensed/registered practical nurses (LPNs), and registered psychiatric nurses (RPNs) in rural and remote communities in all Canadian provinces and territories. The study is intended to inform policy and practice decisions regarding nursing service capacity (nursing personnel and activities) and access to care in rural and remote Canada (http://www.unbc.ca/rural-nursing).

This survey partially replicates and considerably extends a national, cross-sectional survey of rural/remote RNs and NPs undertaken in 2001-2004, *The Nature of Nursing Practice in Rural and Remote Canada* (*RRNI*) (MacLeod, Kulig, Stewart, Pitblado, & Knock, 2004). The present *RRNII* survey places greater emphasis on primary health care (PHC) and includes all regulated nurses – NPs, RNs, and LPNs – who practice in all provinces and territories, and RPNs, who practice in the four western provinces as well as the territories.

This provincial fact sheet presents initial results from the national survey about the nature of nursing practice in rural/remote British Columbia (hereafter rural BC), including how nurses experience accessibility and quality of PHC in their workplace.

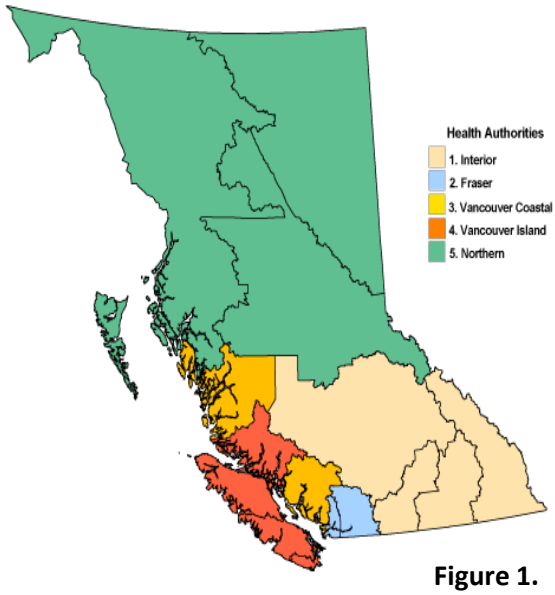


Figure 1.

A mail survey was distributed primarily through the nursing associations/regulatory bodies in each province and territory between April 2014 and September 2015. The questionnaire was sent to a target sample of nurses who resided in the rural areas (less than 10,000 core population) of each Canadian province and to all nurses who worked in Nunavut, Northwest Territories, and the Yukon.

We received a total of 3,822 completed questionnaires by mail or online (2,082 RNs, 163 NPs, 1,370 LPNs, and 207 RPNs) from across Canada. The national response rate was 40% (margin of error 1.5%). **From British Columbia, a total of 311 nurses responded: 157 RNs,**

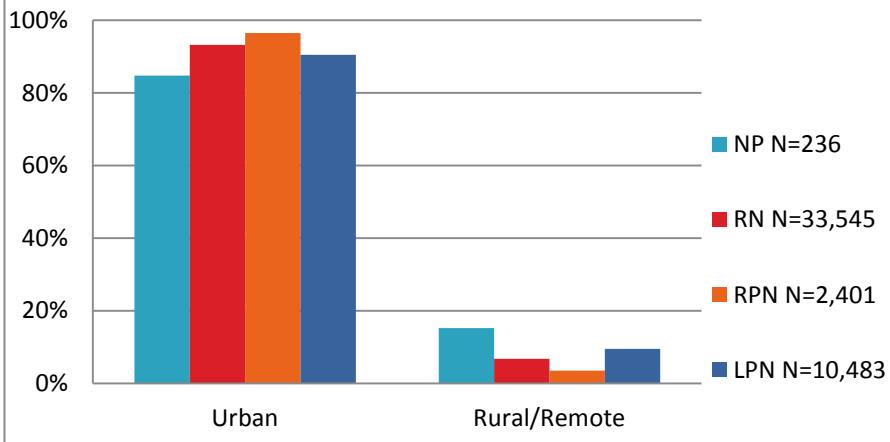
16 NPs, 129 LPNs, and 9 RPNs. The eligible sample for BC was 764 individuals and the response rate was 40% (n=311, margin of error 5.1%). For this reason, we can say the following: with 90% confidence, the total sample of rural RNs, NPs, LPNs, and RPNs in BC is representative of rural BC nurses as a whole; say with 99% confidence, the sample of rural NPs in BC is representative of BC NPs as a whole; and say with less than 85% confidence, the separate samples of rural RNs, LPNs, and RPNs are representative. In this fact sheet, we compare three sets of data: rural BC nurse data from the *RRNII* survey, rural Canada nurse data from the *RRNII* survey, and data for all BC nurses from the Canadian Institute for Health Information analysis of the 2015 regulated nursing workforce database (CIHI, 2016a). The CIHI data helps to situate the *RRNII* study findings in the context of the overall BC nursing workforce.

Who are the rural nurses in British Columbia?

British Columbia has a population of over 4.6 million, the majority of which is concentrated in the south of the province. In 2015, the rural population in BC accounted for 12% of the total population, and 7.2% of the province's 46,665 regulated nurses (RNs, NPs, LPNs, and RPNs) worked in rural settings (CIHI, 2016a). The geographic distribution of nurses in BC is illustrated in **Figure 2**.

The regulated nursing workforce in BC grew by 29% between 2006 and 2015, from 36,303 to 46,665. The proportion of rural RNs in BC grew by 9.1% from 2006 to 2015 (CIHI, 2016c), and by 38% for LPNs (CIHI, 2016b), while the proportion of the rural population itself grew by less than 2% during this time.

Figure 2. The Regulated Nursing Workforce in BC by Nurse Type and Geographic Distribution.



CIHI, 2016b; CIHI, 2016c; CIHI, 2016d

The majority of rural BC nurse respondents (52%) in the *RRNII* survey reported growing up in a community with a population of less than 10,000. Of those currently working in a rural community, 64% reported living in their primary work community. Nurses who lived outside of their primary work community commonly travelled to work on a daily (53%) or weekly (27%) basis with travel time typically equal to, or under, 7 hours per week (78%). The large majority of rural BC nurses were married or living with a partner (77%); 38% with dependent children.

Age and Gender

In the *RRNII* survey results, only 19% of rural BC nurses were under 35 years of age, whereas 33% were 55 years of age or older. These percentages are consistent with those seen for rural nurses in Canada overall (19% and 32%), but different than proportions for all nurses in BC overall (28% and 24%) (CIHI, 2016a). The proportion of rural BC NPs over the age of 45 (75%) was larger than that seen for rural BC RNs (68%), LPNs (54%), and RPNs (44%). See **Table 1** for an age distribution of rural RNs and LPNs in BC and Canada.

In the *RRNII* survey, the proportion of all male nurses (RNs, NPs, LPNs, and RPNs combined) working in rural BC (6.3%) was similar to that of rural male nurses in Canada overall (6.4%). Interestingly, the proportions of rural male RNs (5.2%), NPs (0%) and RPNs (11.1%) in BC were lower than for rural male RNs (6.2%), NPs (3.8%) and RPNs (15%) in Canada

overall. Conversely, the proportion of rural male LPNs (8.3%) in BC was higher than for rural male LPNs (5.6%) in Canada overall.

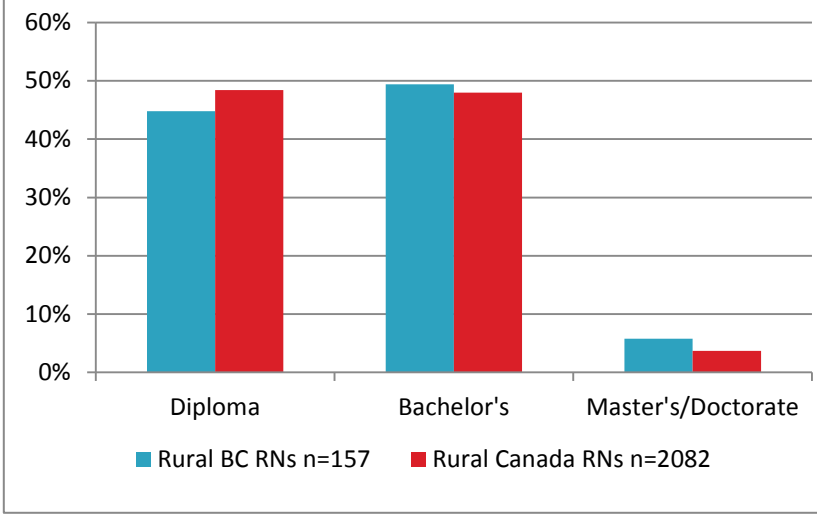
Table 1. Age Distribution of Rural RNs and LPNs in BC and Canada

		<25 %	25-34 %	35-44 %	45-54 %	55-64 %	≥65%
Rural BC RNs	(n=157)	0.0	14.2	17.4	33.5	30.3	4.5
Rural Canada RNs	(n=2,082)	1.1	17.8	19.1	27.2	29.6	5.3
Rural BC LPNs	(n=129)	3.3	23.3	19.2	23.3	27.5	3.3
Rural Canada LPNs	(n=1,370)	3.7	17.8	20.4	30.3	25.4	2.4

Education

In the *RRNII* survey, the level of nursing education among nurses in rural BC was similar to the education level of rural nurses in Canada overall, but slightly lower than that of all RNs and RPNs in BC. The highest obtained nursing education credential of rural BC nurses was a master's degree (7.5%), while the most commonly obtained highest nursing education credential was a diploma in nursing (67%), followed by a bachelor's degree in nursing (26%). For rural nurses in Canada overall, a diploma in nursing (68%) was the most commonly earned highest nursing education credential, followed by a bachelor's degree in nursing (28%). Nearly half of rural BC RNs (49%) hold a bachelor's degree in nursing as their highest credential compared to 48% of rural Canada RNs and 54% of BC RNs overall (CIHI, 2016a). All rural BC RPNs and the large majority of LPNs (98%) held a diploma in nursing as their highest credential, compared to 88% of rural RPNs and 99.6% of rural LPNs in Canada overall. A lower proportion of all BC RPNs held a diploma in nursing as their highest credential (78%). The large majority of rural BC NPs (88%) held a master's degree in nursing as their highest nursing credential, compared to 58% of rural NPs in Canada overall. Over 10% of rural RNs in BC hold a rural and remote certificate; compared to 3.0% of rural RNs in Canada overall, perhaps because of the provincial Rural Nursing Certificate Program at the University of Northern British Columbia. **Figure 3** shows the highest nursing education credential of rural BC RNs and rural RNs in Canada overall in the *RRNII* survey.

Figure 3. Highest Nursing Education Credential - Rural RNs



Where do rural nurses in British Columbia work?

The large majority of rural BC nurses who responded to the survey were employed in nursing (92%), while the remaining 7.8% were either on leave (4.2%) or were retired and occasionally working in nursing on either a casual or short-term contract basis (3.6%).

Table 2 shows the population of the primary work community of rural BC nurses. Looking at each group of nurse, 4.9% of rural BC LPNs and 9.7% of RNs reported working in a community with a population under 1,000, while 21% of rural BC NPs worked in a community with a population under 1,000. In comparison, a greater proportion of LPNs (12%) and RNs (15%) in rural Canada worked in a community of under 1,000. All rural BC RPNs worked in a community with a population equal to, or over, 10,000.

Table 2. Population of Primary Work Community, Rural Nurses in BC

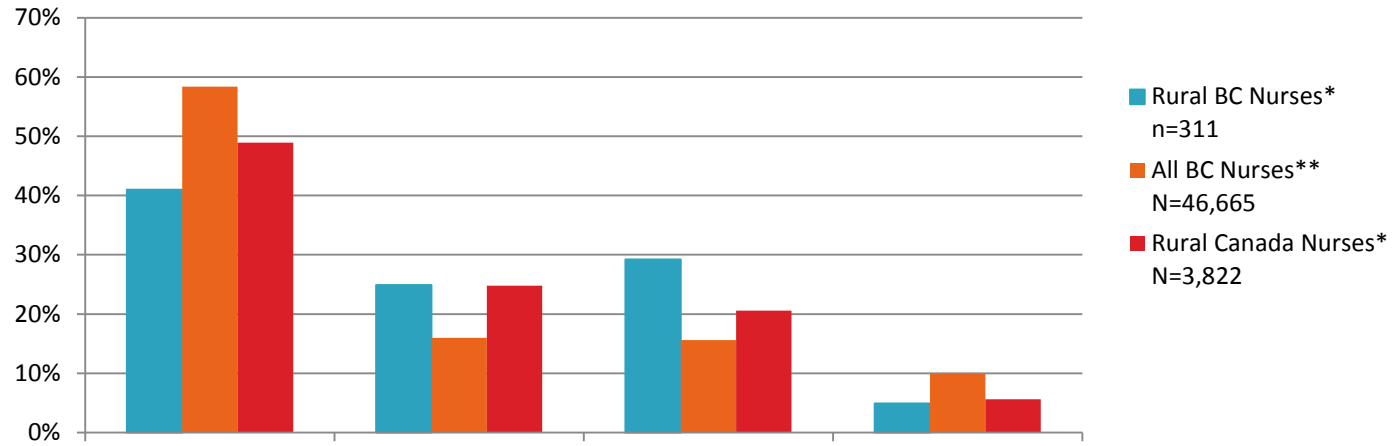
Community Population	% (n=311)
≤999	8.0
1,000-2,499	11.3
2,500-4,999	20.3
5,000-9,999	37.7
≥ 10,000	22.7

Nursing Employment Status

Rural BC nurses were more likely to be employed in a permanent full-time position (43%) than in a permanent part-time position (36%). In comparison, 54% of rural nurses in Canada overall were employed in a permanent full-time position. Interestingly, 25% of rural BC nurses reported being employed in a casual position, compared to only 17% of BC nurses overall and 16% of rural nurses in Canada overall (CIHI, 2016a). The proportion of BC RNs working full-time has steadily decreased since 2003 in both urban and rural locations. As well, the proportion of both urban and rural RNs in part-time positions has decreased since 2003, while the proportion in casual positions has increased (Place, MacLeod, Johnston, & Pitblado, 2014). The large majority of rural BC nurses worked as staff nurses (83%), followed by managers (7%), and nurse practitioners (4.6%).

Figure 4 shows the primary place of employment for rural BC nurses compared to all nurses in BC and to rural nurses in Canada overall. As Figure 4 shows, fewer rural BC nurses worked in a hospital setting (41%) compared to all nurses in BC (58%) and rural nurses Canada wide (49%). A greater proportion of rural BC nurses worked in a nursing home or long-term care facility (29%) compared to rural nurses in Canada overall (21%). Fewer rural BC LPNs reported working in a hospital setting (28%) compared to LPNs in BC overall (39%) and Canada overall (50%) (CIHI, 2016b). Most rural BC LPNs in the study reported worked in a nursing home or long term care facility (61%), compared to 37% of rural LPNs in Canada overall and 44% of BC LPNs overall (CIHI, 2016b). Rural BC RNs worked in a range of settings, most often in a hospital setting (53%).

Figure 4. Nursing Workforce in BC and Canada, Primary Place of Employment



Notes

Hospital *includes hospital, mental health centres, rehabilitation/convalescent centres and integrated facilities.*

Community health *includes community health centres, home care agency, nursing station (outpost or clinic), NP led clinic, multidisciplinary primary healthcare clinic, public health department/unit and physician's office/family practice unit or team.*

Nursing home/LTC *includes nursing home/long-term care facility.*

Other *place of work includes professional association/government, occupational health, private nursing agency/self-employed, educational institution and other place of work.*

What is the scope of practice of rural nurses in British Columbia?

A distinctive characteristic of rural nursing is its broad scope of practice, which is closely related to the rural context of each community and limited access to healthcare resources. In an attempt to shed some light on this phenomenon and find commonalities, nine main categories of practice were presented to respondents, each consisting of several items. Survey respondents were asked to mark all items they were responsible for. Note that the responses relate to what nurses perceive as their responsibilities rather than what may or may not be within their legislated scopes of practice. Detailed tables are included in **Appendix A**.

All rural BC NPs, and the large majority of rural BC RNs (90%), LPNs (78%), and RPNs (78%) reported working within their licensed scope of practice. These numbers compare to 83% of rural NPs, 84% of rural RNs, 77% of rural LPNs, and 90% of rural RPNs in Canada overall.

Figure 5 demonstrates the engagement of rural BC nurses in *Promotion, Prevention and Population Health* activities. A lower proportion of rural BC nurses reported that they provided these aspects of practice than rural nurses in Canada overall. For rural BC nurses, provision of chronic disease management (59%) and lifestyle modification programs (46%) were most often reported. These percentages compare to 68% of rural nurses in Canada overall who provide chronic disease management and 52% who provide lifestyle modification programs. **Figure 6** shows differences among the four nurse types in rural BC.

Figure 5. Promotion, Prevention and Population Health: Rural Nurses in BC and Canada

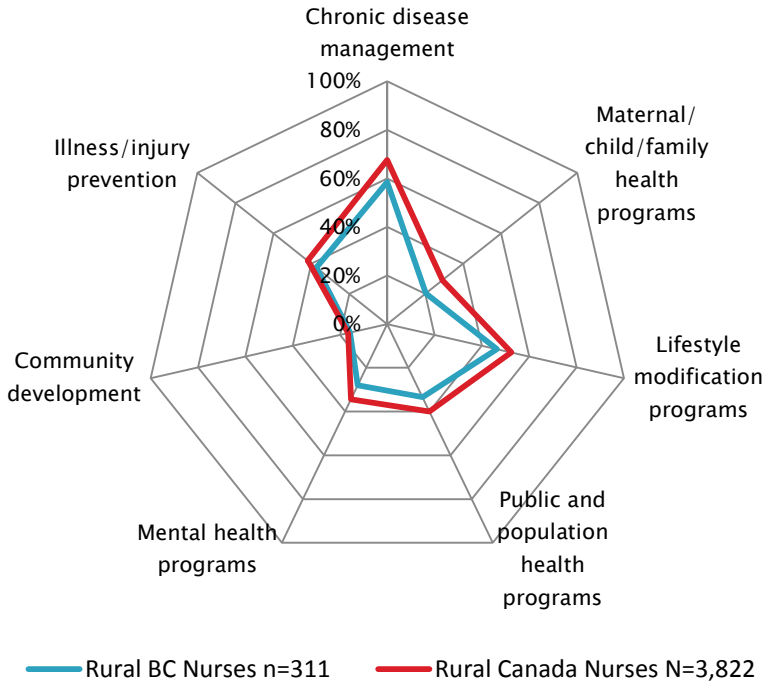
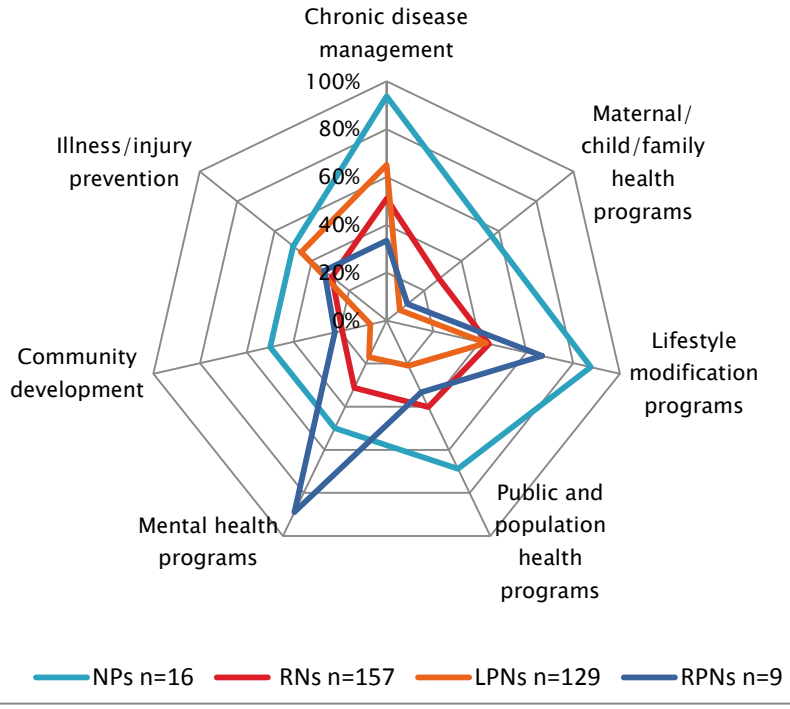


Figure 6. Promotion, Prevention and Population Health: Rural Nurses in BC



Regarding *Assessment*, rural BC nurses reported providing health and wellness assessments, with the majority indicating responsibility for older adult health assessment (70%), focused history and physical assessment (68%), and complete history and physical assessment (65%). These proportions compare to 68% of rural Canada nurses who reported they provide older adult health assessment, 67% who provide focused history and physical assessment, and 63% who provide complete history and physical assessment.

In terms of *Therapeutic Management,* the large majority of rural BC nurses reported responsibility for administering medication (87%) and the majority for dispensing medication (58%). The large majority of rural BC RNs (82%) and LPNs (95%) identified administering medication, and the majority of rural BC RNs (57%) and LPNs (62%) identified dispensing medication to be part of their responsibility. **Figure 7** shows dimensions of therapeutic management for rural BC NPs and rural Canada NPs.

In the category of *Diagnostics*, which included *Laboratory Tests*, *Diagnostic Tests*, and *Diagnostic Imaging*, rural BC nurses indicated they were responsible for taking and processing orders for laboratory tests (61%) and obtaining samples for laboratory tests (56%). The majority of rural BC RNs and LPNs noted they were responsible for taking and processing orders for laboratory tests (60% and 71%) and obtaining samples (57% and 55%).

Figure 7. Therapeutic Management: Rural NPs in BC and Canada.

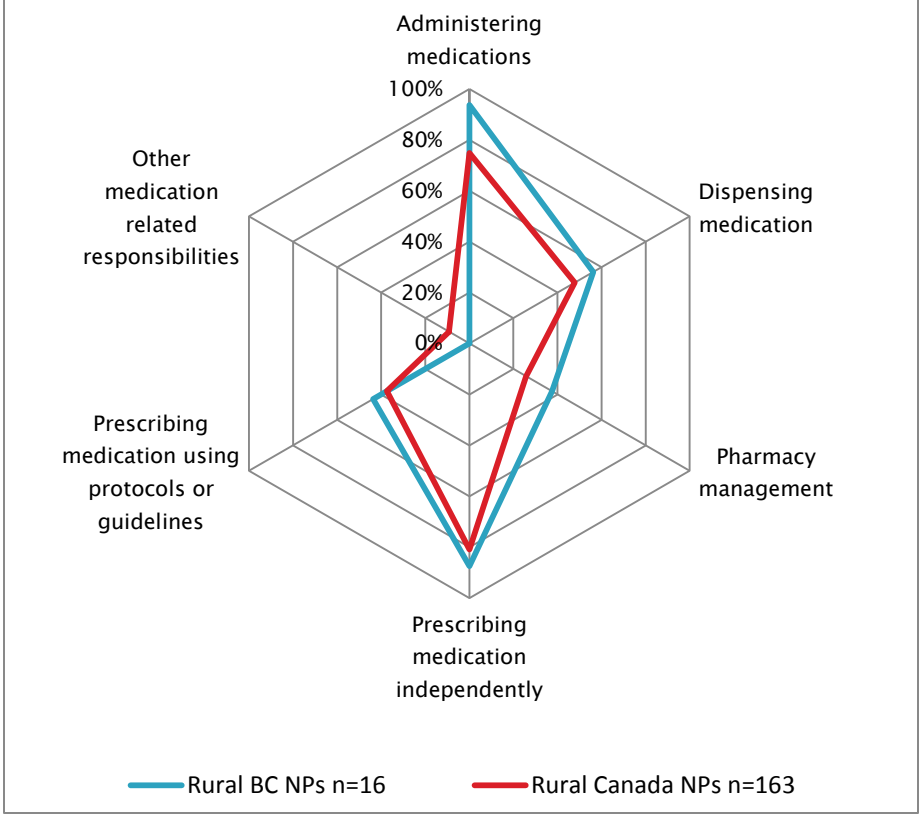
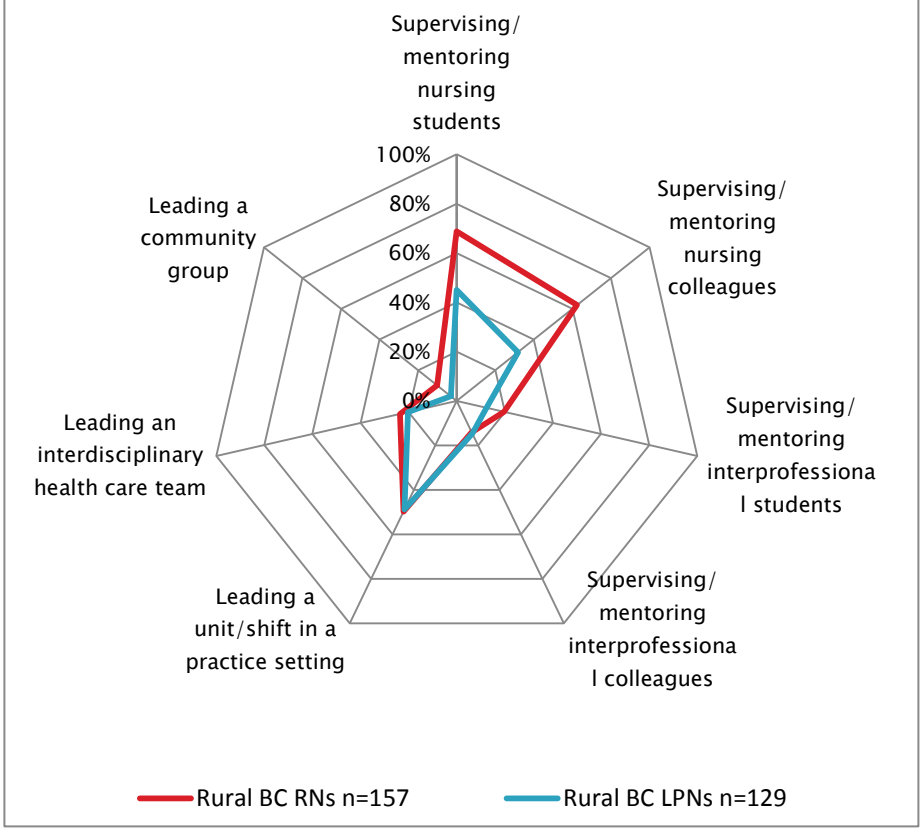


Figure 8. Leadership: Rural BC RNs and LPNs.



Important to note is that 54% of rural BC nurses reported they were not responsible for any aspect of diagnostic testing, although 42% of rural BC RNs and 44% of rural BC LPNs reported taking and processing orders for advanced diagnostic tests. Finally, the majority (51%) of rural BC nurses were responsible for taking and processing orders for diagnostic imaging. Half of rural BC RNs and 59% of rural BC LPNs said they were responsible for taking and processing orders for Diagnostic Imaging.

Regarding *Diagnosis and Referral*, rural BC nurses reported responsibility for several activities. The large majority of these nurses were responsible for following protocols or using decision support tools to arrive at a plan of care (79%), and the majority for independently making a nursing diagnosis based on assessment data (60%), pronouncing death (53%), and independently making referrals to other healthcare practitioners (50%). All proportions are greater than those seen for rural nurses in Canada overall (74%; 56%; 35%; 43%).

Nearly 50% of rural BC nurses indicated they were not responsible for any aspect of *Emergency Care and Transportation*, although 45% of rural BC RNs and 44% of rural BC LPNs identified that they organized urgent or emergent medical transportation. A minority of rural BC RNs (39%) said that they provided care during urgent/emergent medical transportation in comparison to 15% of rural BC LPNs; and 12% of rural BC RNs and 14% of rural BC LPNs noted they respond to or lead emergency calls as a first responder.

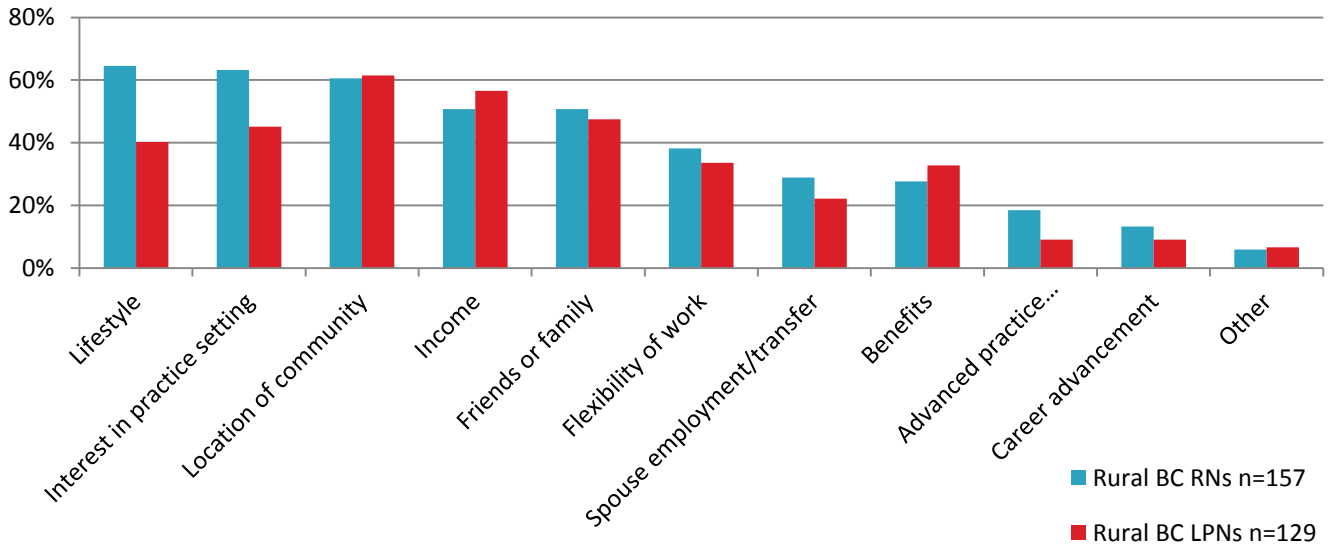
Finally, concerning *Leadership*, the majority of rural BC nurses were responsible for supervising/mentoring nursing students (60%), with 69% of rural BC RNs indicating they were involved in supervising/mentoring nursing students compared to 67% of rural Canada RNs. Rural BC RNs also reported responsibility for supervising/mentoring nursing colleagues (62%) and leading a unit/shift in a practice setting (50%). See **Figure 8** for a comparison of leadership activities between rural BC RNs and LPNs.

What are the career plans of rural nurses in British Columbia?

Recruiting and retaining nurses in rural nursing positions is an ongoing challenge (Kulig, Kilpatrick, Moffitt, & Zimmer, 2015). For all rural BC nurses, the most influential reasons they came to work in their primary work community were location of the community (60%), interest in the practice setting (50%), and lifestyle (50%). Across Canada, only 39% of rural nurses identified lifestyle as a recruitment factor.

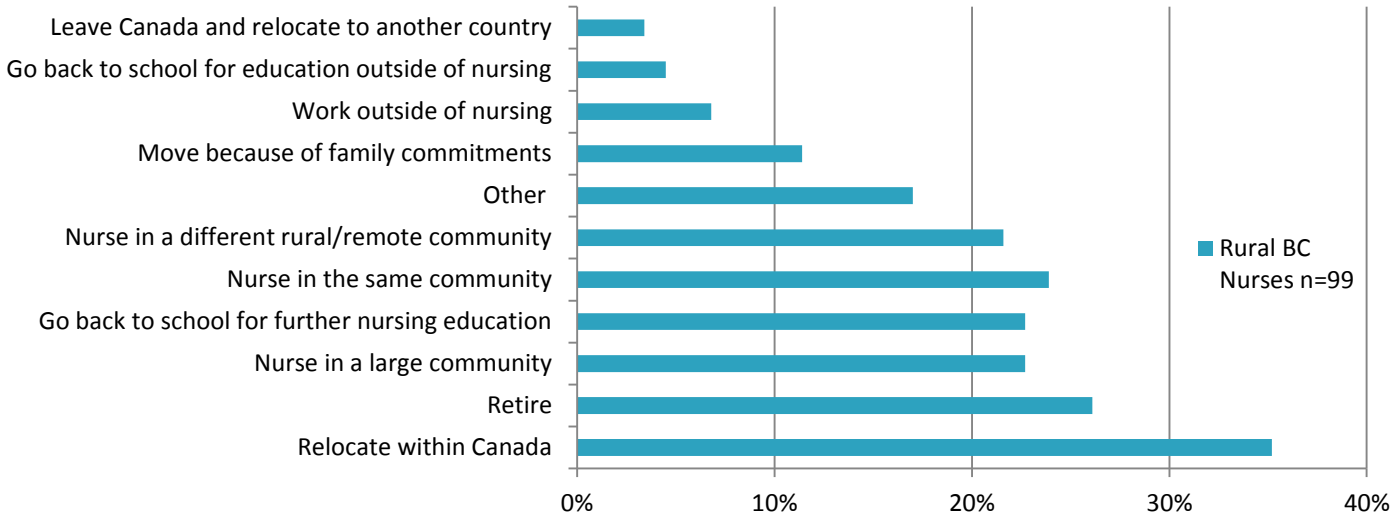
Rural BC nurses were asked the reasons why they continue working in their primary work community. The most commonly identified retention factors included location of the community (60%), interest in the practice setting (55%), lifestyle (53%), and income (53%). The strongest retention factors differed for RNs and LPNs. See **Figure 9** for a detailed breakdown of retention factors by type of nurse. The large majority of rural BC nurses agreed that they were satisfied with their primary work community (80%); the remaining 20% were either neutral or were dissatisfied.

Figure 9. Reasons why Rural BC Nurses Continue Working in their Community



In the *RRNII* survey results, 33% of rural BC nurses indicated that they were planning to leave their present nursing position within the next 12 months, which is a greater proportion than that found for rural nurses in Canada overall (26%). This included 32% of RNs, 23% of NPs, 34% of LPNs, and 56% of RPNs. Rural BC nurses who intended to leave reported a variety of career plans, which are illustrated in **Figure 10**. Most often, they intended to relocate within Canada (35%) or retire (26%), but some nurses also planned to go back to school or nurse in another community.

Figure 10. Future Plans of Rural BC Nurses who Intend to Leave Within the Next 12 Months



A minority of the rural BC nurses who stated they intended to leave said they would consider continuing to work in a rural/remote community if certain conditions were met, such as if they were to have opportunities to update their skills and knowledge (48%), have increased flexibility in scheduling (47%), receive an annual cash incentive (43%), utilize more of their skills (35%), and have access to online education (31%).

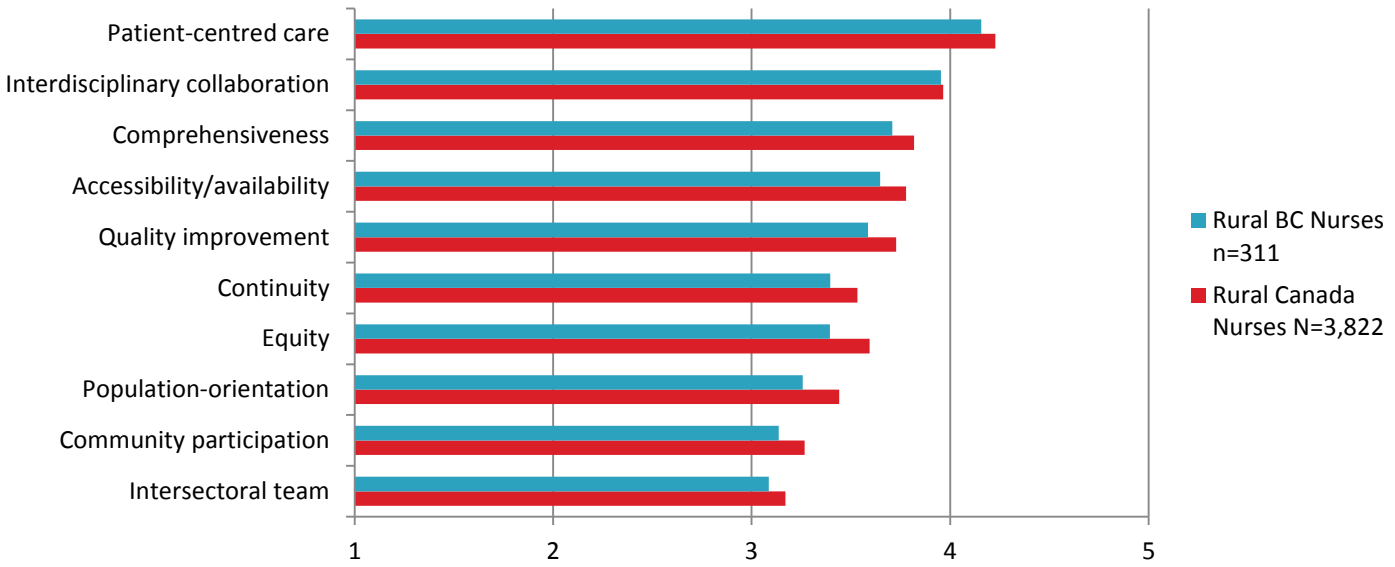
What do rural British Columbia nurses say about primary health care in their workplace?

In the *RRNI* survey findings, it was clear that rural nurses in all settings were engaged in primary health care. In the *RRNII* survey, nurses were asked about aspects of primary health care at their workplace through the Primary Health Care Engagement Scale (Kosteniuk et al, 2016). Items were grouped in 10 categories: patient-centred care, interdisciplinary collaboration, comprehensiveness of care, quality improvement, accessibility/availability, continuity of care, equity, population-orientation, community participation, and intersectoral team. Each item was rated on a 5 point Likert Scale (1= strongly disagree to 5= strongly agree). Mean scores are reported in **Figure 11**.

It is evident that rural BC nurses were engaged in primary health care, often to a slightly lesser extent than rural nurses in Canada overall, which is illustrated by slightly lower means in all categories as compared to rural nurses in Canada overall.

In general, rural BC nurses rated *Patient-Centred Care* strongly positively. Rural BC nurses reported that their workplace is a safe place for patients to receive healthcare services, that their patients are treated with respect and dignity, and that providers in their workplace are concerned with maintaining patient confidentiality. Moreover, rural BC nurses were positive that providers are supported in thinking of patients as partners.

Figure 11. Rural Nurses' Perspectives on Primary Health Care in their Workplace



Rural BC nurses rated *Interdisciplinary Collaboration* positively. Included are nurses' perceptions that where overlap in responsibilities occurs, it is understood who should take the lead with a patient. These nurses were strongly positive that a collaborative atmosphere exists between healthcare providers from different disciplines within their workplace and that healthcare providers from other disciplines consult them regarding patient care.

In terms of *Comprehensiveness*, rural BC nurses responded positively that patients are referred to necessary services when they require a service their workplace does not provide, that their workplace offers harm reduction or illness prevention initiatives, and that chronic conditions are addressed.

Regarding *Accessibility/Availability* to healthcare services, rural BC nurses were positive that services are organized to be as accessible as possible and that when their workplace is closed, patients can see a healthcare provider in person or can get medical advice by phone (if they need urgent care). Important to note is that rural BC nurses were strongly positive that patients needing urgent care can see a healthcare provider the same day when their workplace is open.

Rural BC nurses gave positive reports of *Quality Improvement*, identifying that patient charts are kept current and that there is a process in their workplace for responding to critical incidents. Rural BC nurses reported to a lesser extent, but still positively, that their workplace uses patient health indicators to measure quality improvement and that quality is regularly measured in their workplace.

Similarly, *Continuity of Care* was perceived positively by rural BC nurses, although an interesting pattern of results must be noted. These nurses were positive that they have a good understanding of their patients' health history and that they have easy access to information about their patients' past care provided by healthcare providers in their workplace. However, coordination of care across settings in a different matter. Coordinating care for patients that takes place outside of their workplace and getting access to information about patients' past health care provided outside of their workplace were difficult for some rural BC nurses. These dimensions were perceived negatively.

Equity of health care was perceived positively by rural BC nurses, who reported that healthcare providers understand the impact of social determinants of health, that all patients have access to the same healthcare services regardless of geographic location and regardless of individual or social characteristics, and that their workplace is organized to address the needs of vulnerable or special needs populations. Of some concern is that rural BC nurses reported that

patients in their workplace do not receive the healthcare services they need because they cannot afford it. This dimension was perceived negatively.

Regarding *Population Orientation*, rural BC nurses were positive about the fit between services in their workplace and the community's health care needs, that their workplace monitors patient outcome indicators, and that their workplace quickly responds to health needs of the community. These nurses also were positive that their workplace keeps current registries of patients who have chronic conditions and that their workplace has taken part in a needs assessment of the community.

Community Participation was positively regarded by rural BC nurses, who agreed that their workplace seeks input from the community about the healthcare services it needs, that their workplace supports healthcare providers in thinking of the community as a partner, and that their workplace has implemented changes which emerged from community consultations. Of importance is that rural BC nurses did not feel community members are treated as partners when making decisions about health care service delivery changes. This dimension was perceived negatively.

Finally, rural BC nurses reported positively on *Intersectoral Teams*. Although rural BC nurses were positive that their workplace works closely with community agencies, that they personally work closely with community agencies, and that there have been improvements in the way community services are delivered based on community agencies working together, rural BC nurses reported that community agencies do not meet regularly to discuss common issues that affect health. This dimension was perceived negatively.

Please note that the Primary Health Care Engagement Scale continues to be refined. Further details are available from the authors.

Limitations

The number of BC rural nurse respondents was sufficient for statistical reporting, but lower than the number expected. For this reason, we can say the following: with 90% confidence, the total sample of rural RNs, NPs, LPNs, and RPNs in BC is representative of rural BC nurses as a whole; say with 99% confidence, the sample of rural NPs in BC is representative of BC NPs as a whole; and say with less than 85% confidence, the separate samples of rural RNs, LPNs, and RPNs are representative. As we sampled only 30% (approximately) of the rural nurses in the province, we compared the age and gender characteristics of the study's sample with all rural nurses in the province to see how similar or different they were. The two samples were comparable, although our sample did underrepresent nurses aged 25-34, and overrepresented nurses aged 45-54 (CIHI, 2017). As such, findings should be interpreted with caution. As well, in this fact sheet, not all statistical measures are reported.

Summary

In 2015, 7.2% of the regulated nursing workforce in British Columbia was located in rural and remote areas where 12% of the population lived (CIHI, 2016a). This is a slight increase from 2010, when 6.7% of the nurses in BC were located in rural areas and cared for 12% of the population (Place, MacLeod, & Pitblado, 2014).

As a whole, rural BC nurses were of similar ages to rural nurses in Canada overall. Recent education initiatives in BC are evident in the *RRNII* survey findings. A larger proportion of rural BC NPs hold a master's degree as their highest attained nursing credential than do NPs in many other provinces across Canada. A greater proportion of rural BC RNs hold a rural and remote certificate compared to rural RNs in Canada overall.

A relatively large proportion of rural BC nurses are employed in casual positions, compared to rural Canada nurses overall. Although hospital settings were the most common primary place of employment for rural BC nurses, this was lower than the national proportion. Most rural BC LPNs were working in long term care facilities. There was a different geographic distribution of rural nurses in BC compared to Canada overall. A lower proportion of rural BC nurses worked in very small (<1,000) and very large (≥10,000) communities compared to rural Canada nurses overall. In rural BC, NPs most commonly worked in communities with populations under 1,000.

Different factors contributed to rural BC RNs and LPNs continuing to work in their primary work communities. For RNs, the top retention factors were with lifestyle, interest in the practice setting, and location of the community; for LPNs, these factors were location of the community, income, and friends or family. Rural BC nurses who intended to leave their present work position within the next 12 months would consider continuing to work in a rural or remote community if they were offered opportunities to update skills and knowledge, increased flexibility in scheduling, and an annual cash incentive.

The vast majority of rural BC nurses indicated that they work within their scope of practice, especially NPs and RNs. Rural BC nurses expressed positive views about primary health care in their workplaces and their contributions to it. However, these nurses did raise some concerns about the coordination of care across settings, patients not being able to afford health care services, community participation, and intersectoral teamwork.

References

Canadian Institute for Health Information [CIHI]. (2016a). *Regulated Nurses, 2015: Canada and Jurisdictional Highlights*. Ottawa, ON: CIHI.

Canadian Institute for Health Information [CIHI]. (2016b). *Regulated Nurses, 2015: LPN Data Tables*. Retrieved from: https://www.cihi.ca/sites/default/files/document/lpn_2015_data_tables_en.xlsx

Canadian Institute for Health Information [CIHI]. (2016c). *Regulated Nurses, 2015: RN/NP Data Tables*. Retrieved from: https://www.cihi.ca/sites/default/files/document/rn_np_2015_data_tables_en.xlsx

Canadian Institute for Health Information [CIHI]. (2016d). *Regulated Nurses, 2015: RPN Data Tables.* Retrieved from: https://www.cihi.ca/sites/default/files/document/rpn_2015_data_tables_en.xlsx

Canadian Institute for Health Information [CIHI]. (2017). *Health Workforce Database* [Custom Data Request].

Kosteniuk, J.G., Wilson, E.C., Penz, K.L., MacLeod, M. L. P., Stewart, N.J., Kulig, J.C., Karunanayake, C.P., & Kilpatrick, K. (2016). Development and psychometric evaluation of the Primary Health Care Engagement (PHCE) Scale: A pilot survey of rural and remote nurses. *Primary Health Care Research & Development*, 17, 72-86.

Kulig, J., Kilpatrick, K., Moffitt, P., & Zimmer, L. (2015). Recruitment and retention in rural nursing: It's still an issue! *Canadian Journal of Nursing Leadership*, 28(2), 40-50.

MacLeod, M. L. P., Kulig, J. C., Stewart, N. J., Pitblado, J. R., & Knock, M. (2004). The nature of nursing practice in rural and remote Canada. *Canadian Nurse, 100*(6), 27-31.

Place, J., MacLeod, M., Johnston, S. & Pitblado, R. (June, 2014). *Nursing Practice in Rural and Remote British Columbia: An Analysis of CIHI's Nursing Database*. Prince George, BC: Nursing Practice in Rural and Remote Canada II. RRN2-01-8. http://www.unbc.ca/rural-nursing

Additional references:

Canadian Institute for Health Information [CIHI]. (2002). *The Supply and Distribution of Registered Nurses in Rural and Small Town Canada, 2000.* http://www.unbc.ca/rural-nursing

Kulig, J., Kilpatrick, K., Moffitt, P., & Zimmer, L., (2013). *Rural and Remote Nursing Practice: An Updated Documentary Analysis*. Lethbridge: University of Lethbridge. RRN2-02. http://www.unbc.ca/rural-nursing

Pitblado, R., Koren, I., MacLeod, M., Place, J., Kulig, J., & Stewart, N. (2013). *Characteristics and Distribution of the Regulated Nursing Workforce in Rural and Small Town Canada, 2003 and 2010*. Prince George, BC: Nursing Practice in Rural and Remote Canada II. RRN2-01. http://www.unbc.ca/rural-nursing

To cite this fact sheet:

Jonatansdottir, S., Olynick, J., Garraway, L., Wilson, E., Kosteniuk, J., Mix, N., & MacLeod, M. (April, 2017). *British Columbia Survey Fact Sheet: Nursing Practice in Rural and Remote Canada.* Prince George, BC: Nursing Practice in Rural and Remote Canada II. RRN2-04-01

Further information about the full study is available from:

Nursing Practice in Rural and Remote Canada, II
University of Northern British Columbia
3333 University Way
Prince George, BC V2N 4Z9
Tel: 1-250-960-6405
Email: rrn@unbc.ca
http://www.unbc.ca/rural-nursing

Appendix A: Scope of Practice: Rural BC and Canada RNs and LPNs

	Rural RNs		Rural LPNs	
Promotion, Prevention, and Population Health	**BC % (n=157)**	**Canada % (n=2,082)**	**BC % (n=129)**	**Canada % (n=1,370)**
Chronic disease management	51.0	62.7	65.1	74.9
Maternal/child/family health programs	28.0	35.2	7.0	18.0
Lifestyle modification programs	43.9	50.7	42.6	50.1
Public and population health programs	40.1	43.4	20.9	32.3
Mental health programs	31.2	30.4	17.1	32.4
Community development/individual health capacity building programs	19.1	17.7	7.0	12.6
Illness/injury prevention	29.3	38.4	45.7	47.4
None of the above	27.4	21.8	21.7	17.3

Assessment	**BC %**	**Canada %**	**BC %**	**Canada%**
Complete history and physical assessment	58.6	59.6	75.2	68.5
Focused history and physical assessment	67.5	70.3	69.8	61.4
Infant and child health assessment	32.5	32.3	7.8	12.5
Older adult health assessment	57.3	61.2	84.5	79.7
Family assessment	26.8	25.0	11.6	16.9
Community assessment	18.5	16.2	8.5	10.6
Mental health assessment	38.2	40.7	34.9	34.3
Sexual assault assessment/exam	18.5	19.4	2.3	5.0
Third party assessment	16.6	18.7	5.4	8.6
Other assessment	1.9	2.5	0.8	0.9
None of the above	10.8	10.7	3.9	10.8

Therapeutic Management	**BC %**	**Canada %**	**BC %**	**Canada%**
Administering oral/SC/IM/topical/inhaled medications	82.2	80.0	94.6	89.5
Dispensing medication	56.7	54.2	62.0	63.8
Pharmacy management	25.5	25.3	17.8	15.8
Prescribing medication independently	3.8	7.8	0.8	3.3
Prescribing medication using protocols or guidelines	25.5	29.5	10.1	11.5
Other medication related responsibilities	8.3	8.3	7.0	5.8
None of the above	12.1	14.8	5.4	8.6

Laboratory Tests	**BC %**	**Canada %**	**BC %**	**Canada%**
Taking and processing orders for laboratory tests	59.9	64.5	71.3	61.2
Ordering laboratory tests	39.5	37.4	31.8	28.5
Obtaining samples for laboratory tests	57.3	57.3	55.0	57.0
Performing and analyzing on-site laboratory tests	28.7	29.8	16.3	19.7
Interpreting laboratory and diagnostic tests	45.2	46.2	27.1	24.5
None of the above	21.0	19.6	15.5	18.4

Diagnostic Tests	Rural RNs		Rural LPNs	
	BC % (n=157)	Canada % (n=2,082)	BC % (n=129)	Canada% (n=1,370)
Taking and processing orders for advanced diagnostic tests	42.0	46.4	44.2	41.1
Ordering advanced diagnostic tests	8.3	8.1	5.4	7.6
Performing advanced diagnostic tests	0.0	1.6	0.0	1.3
Interpreting and following up advanced diagnostic tests	8.9	13.3	7.0	6.1
None of the above	55.4	49.2	53.5	55.8

Diagnostic Imaging	BC %	Canada %	BC %	Canada%
Taking and processing orders for diagnostic imaging	49.7	53.7	58.9	48.3
Ordering routine diagnostic imaging	25.5	25.7	20.9	16.9
Ordering advanced diagnostic imaging	5.7	5.9	9.3	7.4
Performing diagnostic imaging	1.9	8.8	0.0	0.9
Interpreting and following up diagnostic imaging	5.1	14.3	1.6	3.3
None of the above	40.1	39.0	35.7	46.4

Diagnosis and Referral	BC %	Canada %	BC %	Canada%
Follow protocols / use decision support tools to arrive at a plan of care	75.2	76.3	87.6	74.3
Independently make a nursing diagnosis based on assessment data	70.7	65.9	45.0	36.4
Independently make a medical diagnosis based on assessment data	8.3	11.0	0.8	2.8
Independently make referrals to other healthcare practitioners	54.1	47.7	36.4	28.5
Independently make referrals to medical specialists	5.7	11.0	6.2	4.7
Certify mental health patients for committal	2.5	6.8	1.6	0.9
Pronounce death	47.8	42.7	62.0	22.9
None of the above	12.1	12.6	7.0	20.2

Emergency Care and Transportation	BC %	Canada %	BC %	Canada%
Organize urgent or emergent medical transport	45.2	52.0	44.2	35.5
Provide care during urgent/emergent medical transportation	38.9	35.4	14.7	19.6
Respond/lead emergency calls as a first responder	11.5	17.8	14.0	10.9
Respond/lead emergency search and rescue calls in rural, remote or wilderness settings	3.2	5.4	0.8	1.8
None of the above	50.3	41.3	47.3	52.8

Leadership	BC %	Canada %	BC %	Canada%
Supervising/mentoring nursing students	68.8	66.6	45.0	56.6
Supervising/mentoring nursing colleagues	62.4	61.2	31.8	31.9
Supervising/mentoring interprofessional students	19.7	19.6	12.4	8.5
Supervising/mentoring interprofessional colleagues	14.0	15.2	14.7	6.3
Leading a unit/shift in a practice setting	49.7	47.2	48.8	30.7
Leading an interdisciplinary health care team	23.6	21.8	20.2	11.6
Leading a community group	10.2	10.1	3.1	2.0
None of the above	12.1	12.7	24.0	27.4