Nursing Practice in Rural and Remote Canada II

Nova Scotia Survey Fact Sheet

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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 Nova Scotia (hereafter rural NS), including how nurses experience accessibility and quality of PHC in their workplace.

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,

Figure 1.

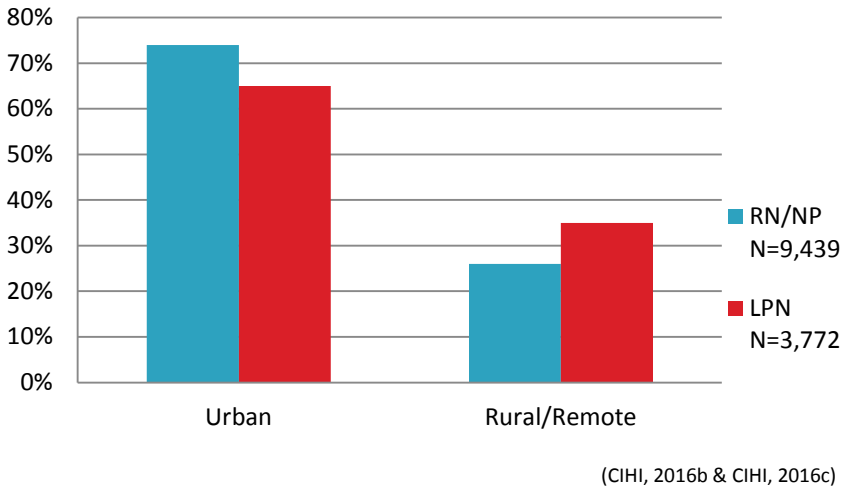
Northwest Territories, and the Yukon.

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 Nova Scotia, a total of 378 nurses responded: 210 RNs, 7 NPs, and 161 LPNs**. The eligible sample for NS was 797 individuals and the response rate was 47% (n=378, margin of error 4.8%). We can say the following: with 99% confidence, the sample of rural RNs, NPs, and LPNs in NS is representative of rural NS nurses as a whole; say with 85% confidence, the sample of rural RNs is representative of rural NS RNs; and say with less than 85% confidence, the separate samples of rural NPs and LPNs are representative. In this fact sheet, we compare three sets of data: rural NS nurse data from the *RRNII* survey, rural Canada data from the *RRNII* survey, and data for all NS 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 NS nursing workforce.

Who are the rural nurses in Nova Scotia?

In 2015, the rural population of NS accounted for 34% of the total population, and 28% (3,697) of the province's 13,213 regulated nurses (LPNs, RNs, and NPs) worked in rural settings (CIHI, 2016a). The geographic distribution of nurses in NS is illustrated in **Figure 2.**

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



(CIHI, 2016b & CIHI, 2016c)

The large majority of rural NS nurse respondents (78%) 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, 52% reported living in their primary work community. Nurses who lived outside of their primary work community traveled to work on a daily (68%) or weekly (23%) basis with travel time typically equal to, or under, 11 hours per week (95%). The large majority of rural NS nurses were married or living with a partner (82%); 44% with dependent children.

Age and Gender

In the *RRNII* survey results, 37% of rural NS nurses were 55 years of age or older, compared to 32% of rural nurses in Canada overall; whereas only 14% were under 35 years of age, compared to 19% of rural nurses in Canada overall. This difference is particularly striking for rural NS RNs, 47% of whom were 55 years of age or older, compared to 35% of rural RNs in Canada overall. See **Table 1** for an age distribution of rural RNs and LPNs in NS and Canada.

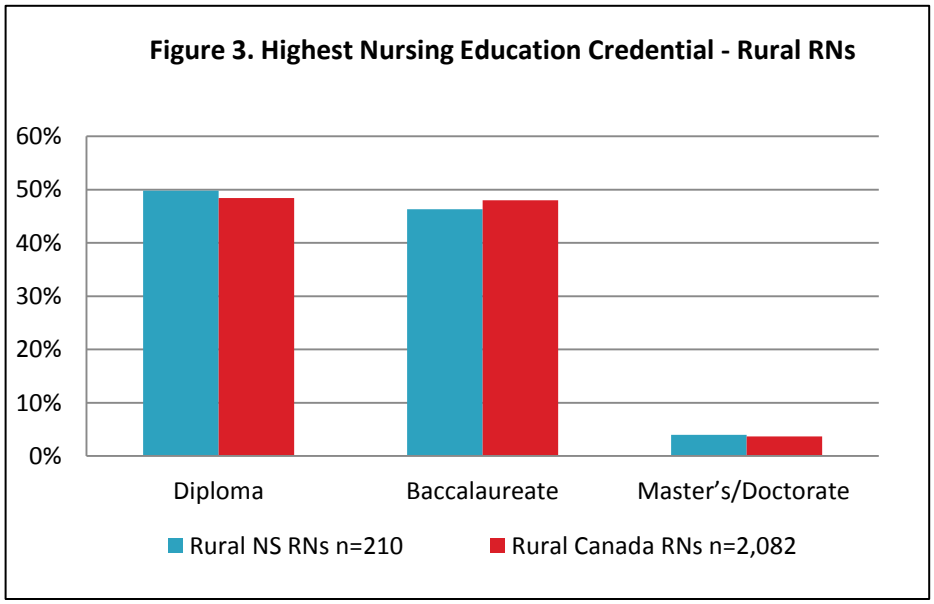
Table 1. Age Distribution of Rural RNs and Rural LPNs in NS and Canada

		<25 %	25-34 %	35-44 %	45-54 %	55-64 %	≥65 %
Rural NS RNs	(n=210)	1.0	9.5	13.5	29.0	38.5	8.5
Rural Canada RNs	(n=2,082)	1.1	17.8	19.1	27.2	29.6	5.3
Rural NS LPNs	(n=161)	3.2	16.2	22.7	32.5	23.4	1.9
Rural Canada LPNs	(n=1,370)	3.7	17.8	20.4	30.3	25.4	2.4

In the *RRNII* survey, the proportion of all male nurses (RNs, NPs, and LPNs combined) working in rural NS (3.6%) was lower than the proportion of rural male nurses in Canada overall (6.4%). Furthermore, only 2.5% of rural RNs in NS were male, compared to 6.2% of rural RNs in Canada overall.

Education

In the *RRNII* survey, the level of nursing education among RNs and LPNs in rural NS was close to the education level of rural nurses in Canada overall. The highest obtained nursing education credential of rural NS nurses was a doctorate degree, while the most commonly obtained highest nursing education credential was a diploma in nursing (71%), followed by a bachelor's degree in nursing (25%). 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%). All rural NS LPNs held a diploma in nursing, while rural NS RNs were likely to either hold a diploma (50%) or a bachelor's in nursing (46%) as their highest nursing credential. Across Canada, 99.6% of rural LPNs held a nursing diploma, with rural RNs likely to hold a diploma (48%) or a bachelor's degree in nursing (48%). **Figure 3** shows the highest nursing education credential of rural NS RNs and rural RNs in Canada overall.



Where do rural nurses in Nova Scotia work?

The large majority of rural NS nurses who responded to the survey were employed in nursing (90%), while the remaining 9.7% were either on leave (1.9%) or were retired and occasionally working in nursing on either a casual or short-term contract basis (7.8%). It was more common for retired rural nurses in NS to occasionally work in nursing (7.8%) than for retired rural nurses in other Atlantic provinces (2.9%). Looking at retired rural RNs, 11% of retired NS RNs were still occasionally working, compared to 6.1% of rural RNs in Canada overall. **Table 2** shows the population of primary work community of rural NS nurses. Considering each group of nurse, 4.4% of rural NS RNs and 2.7% of rural NS LPNs worked in a

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

Community Population	% (n=378)
≤ 999	3.6
1,000 - 2,499	7.5
2,500 - 4,999	11.4
5,000 - 9,999	36.4
10,000 - 29,999	32.8
≥ 30,000	8.3

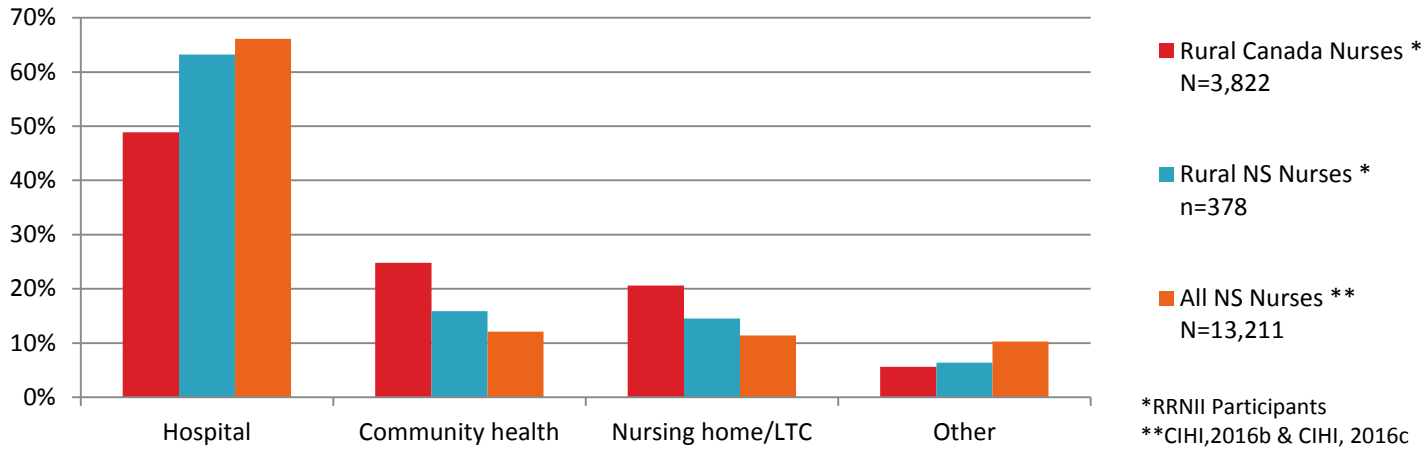
community with a population below 1,000, which is a lower proportion compared to rural nurses in Canada overall (RNs 15% and LPNs 12%).

Nursing Employment Status

Rural NS nurses were more likely to be employed in a permanent full-time position (65%) than in a permanent part-time position (22%). In comparison, 54% of rural nurses in Canada overall were employed in a permanent full-time position. The large majority of rural NS nurses worked as staff nurses (81%) and a small minority worked as managers (9.7%) and educators (5.7%). A lower proportion of rural NS RNs (2.9%) compared to rural RNs in Canada overall (5.1%) were working as clinical nurse specialists, but a larger proportion of rural NS RNs were working as educators (10% vs. 5.3%).

Figure 4 shows the primary place of employment for rural NS nurses compared to all nurses in NS and to rural nurses in Canada overall. As Figure 4 shows, the majority of the rural nursing workforce in NS worked in a hospital setting (63%), and the proportion was higher compared to rural nurses in Canada overall (49%). While 8.3% of rural NS RNs reported working in a nursing home or long-term care facility, 23% of LPNs reported this primary place of employment.

Figure 4. Nursing Workforce in NS 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 RNs and LPNs in Nova Scotia?

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**. As the number of NP respondents was only 7, we are reporting only on the nursing responsibility of rural NS and Canada RNs and LPNs.

Figure 5. Therapeutic Management: Rural RNs in NS and Canada

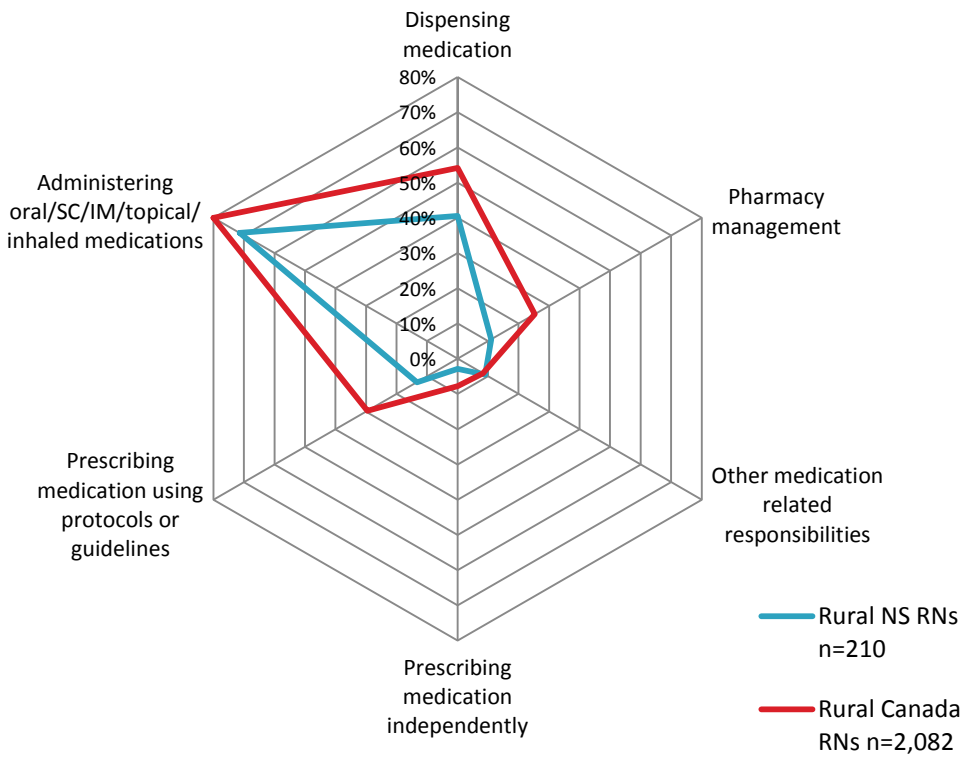
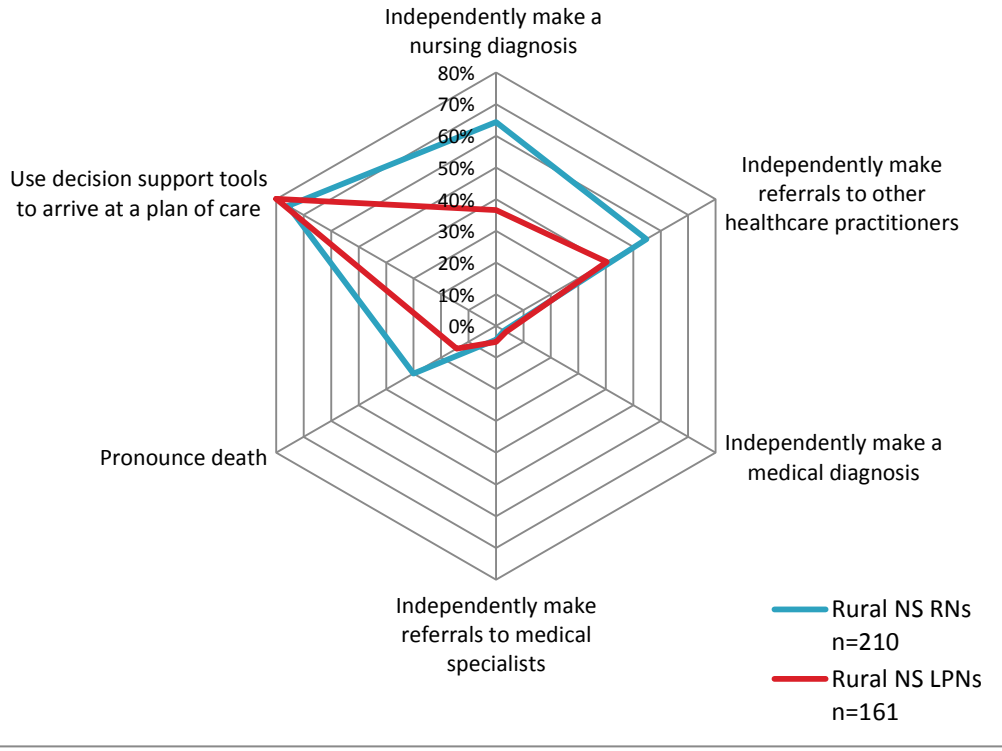


Figure 6. Diagnosis and Referral: Rural RNs and LPNs in NS



The large majority of rural NS RNs (96%) and LPNs (88%) reported working within their licenced scope of practice, compared to 84% of rural RNs and 77% of rural LPNs in Canada overall.

In terms of *Promotion, Prevention and Population Health,* rural NS RNs and LPNs reported being responsible for chronic disease management (59%; 78%), life-style modification programs (58%; 57%) and illness/injury prevention (48%; 53%).

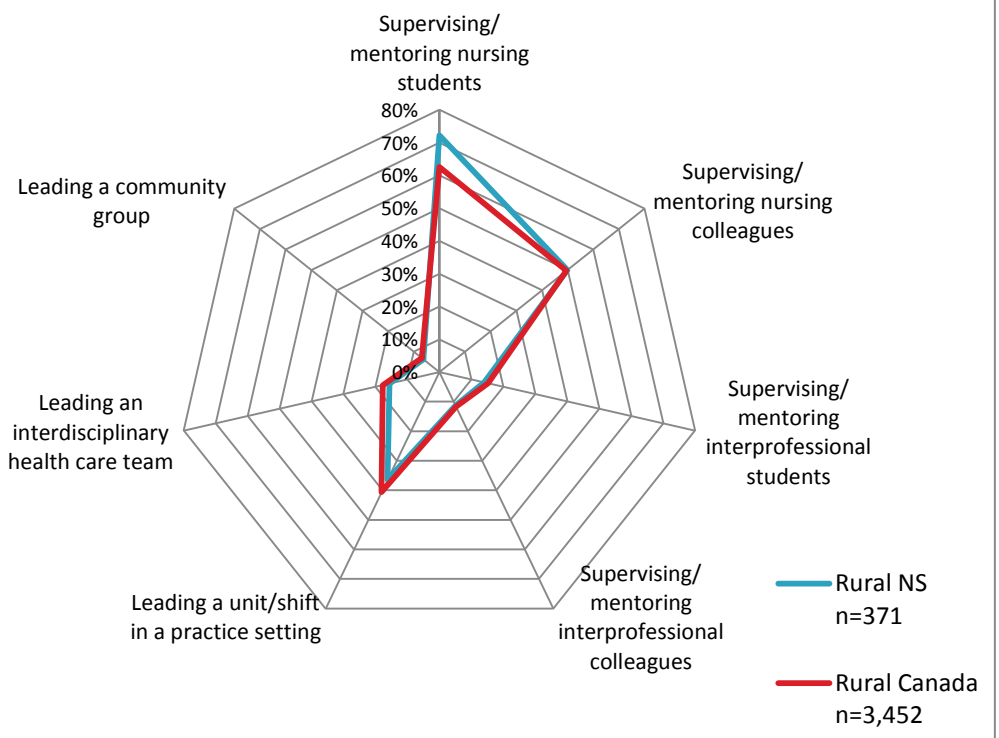
Regarding *Assessment,* rural NS RNs and LPNs reported providing health and wellness assessments such as older adult health assessment (59%; 83%), focused history and physical assessment (66%; 63%), and complete history and physical assessment (51%; 70%).

In the category of *Diagnostics,* which included *Laboratory Tests, Diagnostic Tests,* and *Diagnostic Imaging,* the majority of rural RNs and LPNs in Canada (65%; 61%) and NS (56%; 63%) reported taking and processing orders for laboratory tests. A lower proportion of rural NS RNs reported ordering routine diagnostic imaging (14%) compared to rural RNs in Canada overall (26%).

Figure 5 shows the category *Therapeutic Management* for rural RNs. Rural NS RNs generally reported lower levels of activity in this practice area than did rural RNs across Canada. It is unclear whether resources in the practice setting or other factors may influence these differences.

In the category of *Diagnosis and Referral,* the large majority of rural NS RNs and LPNs reported following protocols or using decision support tools in their nursing practice (76%; 80%). Also, 64% of rural NS RNs reported that they independently made a nursing diagnosis based on assessment data (**Figure 6**.).

Figure 7. Leadership: Rural RNs and LPNs in NS and Canada



In the category of *Emergency Care and Transportation,* just over a third of rural NS RNs (34%) indicated responsibility for organizing urgent or emergent medical transportation and only 6.2% of rural NS RNs reported that they respond to or lead emergency calls as first responders, compared to 18% of rural RNs in Canada overall.

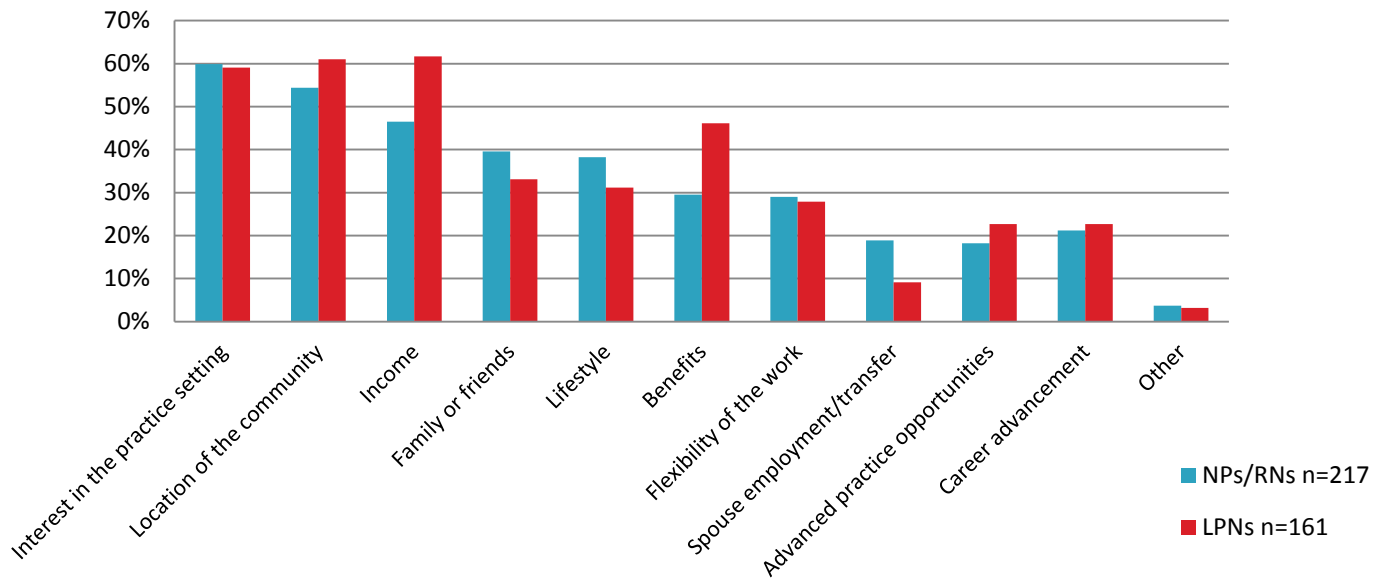
When it comes to *Leadership*, rural NS RNs and LPNs were as engaged as rural RNs and LPNs across Canada in leadership activities, but they reported supervising or mentoring nursing students more often (75%; 69%) than their colleagues (67%; 57%) (**Figure 7**).

What are the career plans of rural nurses in Nova Scotia?

Recruiting and retaining nurses in rural nursing positions is an ongoing challenge (Kulig, Kilpatrick, Moffitt, & Zimmer, 2015). For all rural NS nurses, the most influential reasons they came to work in their primary work community were interest in the practice setting (61%), location of the community (58%), and income (54%) (see **Figure 8**).

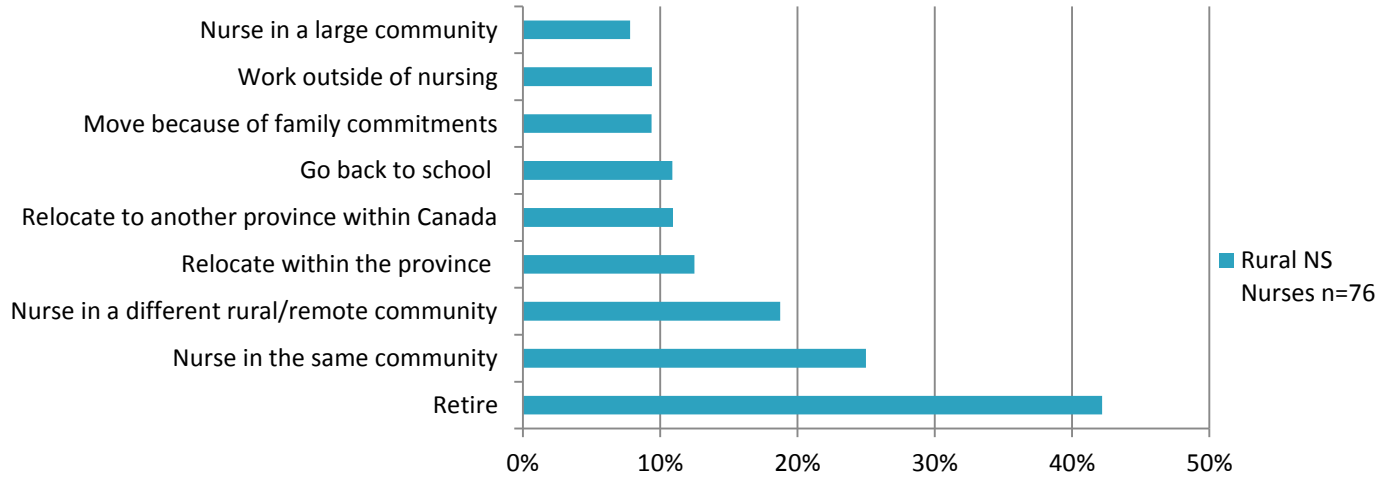
Rural NS nurses were asked the reasons why they continue working in their primary work community. The strongest retention factors were income (66%), interest in the practice setting (60%), location of the community (56%), and family or friends (48%). Benefits (46%) and lifestyle (41%) were also viewed as strong retention factors. The large majority of rural NS nurses agreed that they were satisfied with their primary work community (87%); the remaining 13% were either neutral or were dissatisfied.

Figure 8. Reasons Why Rural NS Nurses Came to Work in their Community



In the *RRNII* survey 21% of rural NS nurses indicated that they were planning to leave their present position within the next 12 months, which is a lower proportion than what was found for rural nurses in Canada overall (26%). This included 23% of RNs and 17% of LPNs. Rural NS nurses who intended to leave (n=76) reported a variety of career plans, which are illustrated in **Figure 9**. Most often, they intended to retire (42%) or nurse in the same community (25%), but many also planned to relocate to another community or go back to school.

Figure 9. Future Plans of Rural NS Nurses who Intended to Leave Within Next 12 Months

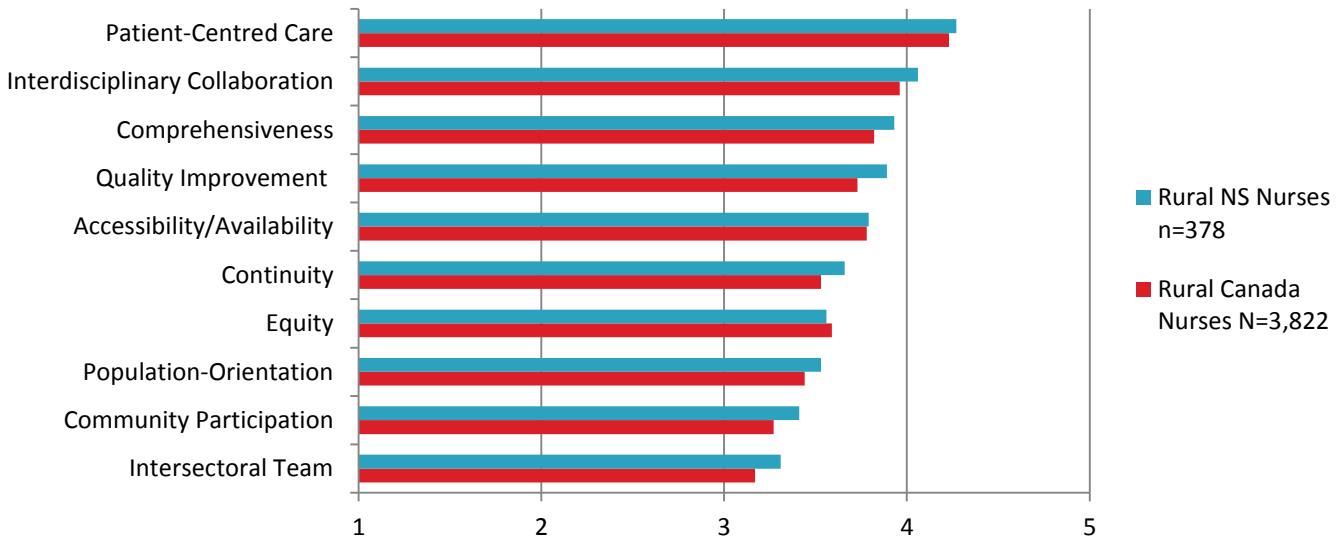


A minority of the rural NS nurses who stated they intended to leave said they would consider continuing to work in a rural/remote community if certain conditions were met, such as if they were to receive an annual cash incentive (41%), have increased flexibility in scheduling (37%), work short-term contracts (37%), have opportunities to teach (29%), and have opportunities to update their skills and knowledge (26%).

What do rural Nova Scotia nurses say about primary health care in their workplace?

In the *RRNI* survey 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 10**.

Figure 10. Rural Nurses' Perspectives on Primary Health Care in their Workplace



It is evident that rural NS nurses were engaged in primary health care, often to a slightly greater extent than rural nurses in Canada overall, which is illustrated by slightly higher means in eight categories as compared to rural nurses in Canada overall.

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

Rural NS nurses also rated *Interdisciplinary Collaboration* strongly positively. Included are nurses' perceptions 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. Rural NS nurses indicated to a lesser extent, but still positively, that it is understood who should take the lead with a patient when there is an overlap in responsibilities.

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

Rural NS nurses also felt positively about *Quality Improvement*, having identified their workplace uses patient health indicators to measure quality improvement, that their workplace regularly measures quality, and that their workplace keeps patient charts current. Importantly rural NS nurses were strongly positive that there is a process in their workplace for responding to critical incidents.

Overall, *Accessibility* to healthcare services was regarded positively, although rural NS nurses were strongly positive that patients needing urgent care can see a healthcare provider the same day when their workplace is open.

Similarly, *Continuity of Care* was also viewed positively by rural NS nurses. These nurses were strongly positive that they had a good understanding of their patients' health history and that they have easy access to their patients' past care by healthcare providers in their workplace. However, coordination of care across settings is 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 by other healthcare providers outside of their workplace were perceived less positively.

Rural NS nurses rated *Equity* positively, although an interesting pattern of results is seen. Rural NS nurses were strongly positive that their workplace understands the social determinants of health, and were positive that their workplace is organized to address the needs of vulnerable or special needs populations and provides access to the same healthcare services regardless of geographic location. However, rural NS nurses indicated that some of their patients do not receive the health care they need (such as filling prescriptions or dental work) because they cannot afford it. This dimension was perceived negatively.

Rural NS nurses felt positively that their workplace was *Population-oriented*, with a good fit between services and community healthcare needs, and monitoring patient outcome indicators, among other dimensions.

A similar pattern of results is seen for *Community Participation*, which was rated positively by rural NS nurses. These nurses agreed that community members are treated as partners when making decisions about healthcare service delivery changes and that their workplace seeks input from the community about which healthcare services are needed.

Finally, there were positive ratings of *Intersectoral Teams.* Rural NS nurses felt positively that they work closely with community agencies and that there have been improvements in the way community services are delivered based on community agencies working together.

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

Limitations

The number of rural NS nurses was sufficient, but lower than the number expected. For this reason, we can say the following: with 99% confidence, the sample of rural RNs, NPs, and LPNs in NS is representative of rural NS nurses as a whole; say with 85% confidence, the sample of rural RNs is representative of rural NS RNs; and say with less than 85% confidence, the separate samples of rural NPs and LPNs are representative. As such, findings should be interpreted with caution. It must be noted that rural NPs were under-represented in this survey and as a result, we were unable to report on them separately. 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 females and nurses aged 25-34, 35-44, and overrepresented nurses aged 55-64 (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, 28% of the regulated nursing workforce in Nova Scotia was located in rural areas where 34% of the population lived (CIHI, 2016b). This is a slight decrease from 2010, when 29% of the nurses in Nova Scotia cared for 35% of the population (Pitblado, Koren, MacLeod, Place, Kulig, & Stewart, 2013). This may be a small change over the last five years, but it follows a pattern that has been evident over the last decade and a half, particularly for rural RNs (CIHI, 2002).

Compared to rural nurses in Canada generally, more NS nurses work in hospitals than in other settings. One in five rural NS nurses work in a part-time position and the large majority of all rural NS nurses work as staff nurses. Half of rural NS RNs held either a diploma or a bachelor's degree in nursing as their highest credential, similar to rural RNs in Canada overall, and virtually all rural NS LPNs held a diploma, again similar to rural LPNs across Canada.

Nova Scotia rural nurses, especially rural RNs, are older than rural nurses in Canada overall. The potential of a large number of rural NS nurses retiring in the near future is high. Not surprisingly, there are a number of rural NS nurses, particularly RNs, who are retired and continue to occasionally work in nursing.

The three highest ranked recruitment factors among rural NS nurses were also the highest ranked retention factors, namely interest in practice setting, location of community, and income. Over one-third of rural NS nurses noted factors that may contribute to their continuing to work in a rural community: primarily cash incentives, increased flexibility in scheduling, and the ability to take on short term contracts.

The large majority of rural RNs and LPNs in NS indicated that they work within their licensed scope of practice. They expressed positive views about primary health care, their contributions to it, and the accessibility it provides for patients. They were concerned, however, about patients' financial abilities to afford necessary health care and the extent to which rural workplaces assess and respond to the needs of their communities. They also expressed that their workplaces did not engage to a great extent in intersectoral teamwork.

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To cite this fact sheet:

Jonatansdottir, S., Martin-Misener, R., Kosteniuk, J., Olynick, J., Stewart, N., Mix, N., Garraway, L., & MacLeod, M. (April, 2017). *Nova Scotia Survey Fact Sheet: Nursing Practice in Rural and Remote Canada.* Prince George, BC: Nursing Practice in Rural and Remote Canada II. RRN2-04-08

Further information about the full study is available from:

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

	Rural RNs		Rural LPNs	
Promotion, Prevention, and Population Health	**NS % (n=210)**	**Canada % (n=2,082)**	**NS % (n=161)**	**Canada% (n=1,370)**
Chronic disease management	58.6	62.7	77.6	74.9
Maternal/child/family health programs	37.1	35.2	11.8	18.0
Lifestyle modification programs	57.6	50.7	57.1	50.1
Public and population health programs	47.1	43.4	39.1	32.3
Mental health programs	37.1	30.4	41.6	32.4
Community development and individual health capacity building programs	24.3	17.7	17.4	12.6
Illness/injury prevention	47.6	38.4	52.8	47.4
None of the above	22.4	21.8	16.8	17.3

Assessment	**NS %**	**Canada %**	**NS %**	**Canada%**
Complete history and physical assessment	50.5	59.6	69.6	68.5
Focused history and physical assessment	66.2	70.3	62.7	61.4
Infant and child health assessment	23.3	32.3	6.2	12.5
Older adult health assessment	58.6	61.2	82.6	79.7
Family assessment	30.5	25.0	22.4	16.9
Community assessment	18.6	16.2	14.3	10.6
Mental health assessment	35.2	40.7	37.3	34.3
Sexual assault assessment/exam	9.0	19.4	3.7	5.0
Third party assessment	9.0	18.7	9.9	8.6
Other assessment	3.3	2.5	1.9	0.9
None of the above	12.9	10.7	7.5	10.8

Therapeutic Management	**NS %**	**Canada %**	**NS %**	**Canada%**
Administering oral/SC/IM/topical/inhaled medications	71.4	80.0	91.3	89.5
Dispensing medication	40.5	54.2	70.2	63.8
Pharmacy management	11.0	25.3	11.8	15.8
Prescribing medication independently	2.9	7.8	4.3	3.3
Prescribing medication using protocols or guidelines	13.3	29.5	6.2	11.5
Other medication related responsibilities	9.0	8.3	8.7	5.8
None of the above	22.4	14.8	7.5	8.6

Laboratory Tests	**NS %**	**Canada %**	**NS %**	**Canada%**
Taking and processing orders for laboratory tests	55.7	64.5	62.7	61.2
Ordering laboratory tests	22.4	37.4	36.6	28.5
Obtaining samples for laboratory tests	41.0	57.3	52.2	57.0
Performing and analyzing on-site laboratory tests	19.5	29.8	13.7	19.7
Interpreting laboratory and diagnostic tests	35.2	46.2	26.7	24.5
None of the above	29.5	19.6	13.0	18.4

	Rural RNs		Rural LPNs	
Diagnostic Tests	**NS % (n=210)**	**Canada % (n=2,082)**	**NS % (n=161)**	**Canada% (n=1,370)**
Taking and processing orders for advanced diagnostic tests	45.2	46.4	53.4	41.1
Ordering advanced diagnostic tests	2.4	8.1	8.7	7.6
Performing advanced diagnostic tests	0.5	1.6	1.9	1.3
Interpreting and following up advanced diagnostic tests	6.7	13.3	5.0	6.1
None of the above	52.4	49.2	43.5	55.8

Diagnostic Imaging	**NS %**	**Canada %**	**NS %**	**Canada%**
Taking and processing orders for diagnostic imaging	51.4	53.7	60.2	48.3
Ordering routine diagnostic imaging	14.3	25.7	16.1	16.9
Ordering advanced diagnostic imaging	4.8	5.9	9.9	7.4
Performing diagnostic imaging	1.0	8.8	0.6	0.9
Interpreting and following up diagnostic imaging	7.1	14.3	5.0	3.3
None of the above	45.2	39.0	35.4	46.4

Diagnosis and Referral	**NS %**	**Canada %**	**NS %**	**Canada%**
Follow protocols or use decision support tools to arrive at a plan of care	75.7	76.3	80.1	74.3
Independently make a nursing diagnosis based on assessment data	64.3	65.9	36.6	36.4
Independently make a medical diagnosis based on assessment data	2.9	11.0	3.7	2.8
Independently make referrals to other healthcare practitioners	54.8	47.7	40.4	28.5
Independently make referrals to medical specialists	4.3	11.0	5.0	4.7
Certify mental health patients for committal	1.9	6.8	2.5	0.9
Pronounce death	30.0	42.7	14.3	22.9
None of the above	12.9	12.6	16.1	20.2

Emergency Care and Transportation	**NS %**	**Canada %**	**NS %**	**Canada%**
Organize urgent or emergent medical transport	34.3	52.0	21.1	35.5
Provide care during urgent/emergent medical transportation	25.2	35.4	13.7	19.6
Respond/lead emergency calls as a first responder	6.2	17.8	8.7	10.9
Respond/lead emergency search and rescue calls in rural, remote or wilderness settings	1.4	5.4	1.9	1.8
None of the above	59.0	41.3	68.9	52.8

Leadership	**NS %**	**Canada %**	**NS %**	**Canada%**
Supervising/mentoring nursing students	74.8	66.6	68.9	56.6
Supervising/mentoring nursing colleagues	59.0	61.2	37.9	31.9
Supervising/mentoring interprofessional students	20.5	19.6	5.6	8.5
Supervising/mentoring interprofessional colleagues	15.2	15.2	6.2	6.3
Leading a unit/shift in a practice setting	45.2	47.2	24.8	30.7
Leading an interdisciplinary health care team	22.4	21.8	6.8	11.6
Leading a community group	8.6	10.1	3.1	2.0
None of the above	11.0	12.7	21.7	27.4