Nursing Practice in Rural and Remote Canada II

Registered Nurse National Survey Report

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Background

In Canada there is a need to more fully understand the rural and remote nursing workforce in order to inform health human resource planning to better support nurses and improve health services in these areas.

The multi-method national study, *Nursing Practice in Rural and Remote Canada II* (*RRNII*) addressed this need by investigating the nature of nursing practice in rural and remote Canada and factors that can enhance access to nursing services. The *RRNII* study 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 for those living in rural and remote communities in 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 final report summarizes results from the national survey regarding the nature of RN nursing practice in rural/remote Canada, including a description of the RNs, their work settings, perceptions of scope of practice, career plans, and how these RNs experience accessibility and quality of PHC in their workplace. Some advanced practice RNs such as clinical nurse specialists are included in this report, but there is a separate fact sheet devoted to NPs.

Selecting and contacting participants

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 (i.e., RNs, LPNs, RPNs) who resided in the rural and remote areas (less than 10,000 core population) of each Canadian province (derived by analysis of the population of rural nurses in the 2010 Canadian Institute for Health Information Nurses Database). We also sent questionnaires to all rural and remote NPs, and to all nurses who worked in Nunavut, Northwest Territories, and the Yukon.

Response rate

We received a total of 3,822 completed questionnaires (eligible sample = 9,622) by mail or on-line (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%), with some variation between the provinces and territories. **From across Canada, a total of 2,082 RNs responded**. The eligible sample of RNs was 5,169 individuals and the response rate was 40% (n=2,082, margin of error 2.0%). We can say with 99% confidence that the rural Canada RN respondents are representative of rural Canada RNs as a whole[1].

In this report, the phrase 'rural Canada RNs' is used to refer to the sample of RNs who responded to the *RRNII* survey. The focus of this report is the rural RN workforce data from the *RRNII* survey. To provide a context however, in this report, we compare four sets of data: rural RN data from the *RRNII* survey, rural Canada nurse (NPs, LPNs, and RPNs) data from the *RRNII* survey, rural RN data from the *RRNI* survey, and all RN data from the Canadian Institute for Health Information analysis of the 2015 regulated nursing workforce database (CIHI, 2016a; CIHI, 2016b; CIHI, 2016c). The CIHI data situates the *RRNII* study findings in the context of the overall RN nursing workforce. Relevant *RRNII* data is compared to *RRNI* findings. **Appendix B** provides comparisons among the RN, NP, LPN, and RPN data from the *RRNII* survey.

Who are the RNs in rural Canada?

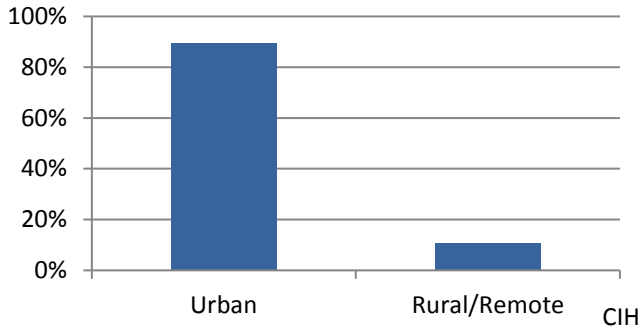
In 2010, 18% of Canada's population lived in rural communities, where roughly 11% of Canada's RNs worked (Pitblado, Koren, MacLeod, Place, Kulig, & Stewart, 2013).

In 2015, the rural population of Canada accounted for 17% of the total population living in the provinces and 52% of the total population living in the territories (those outside of Yellowknife, Iqaluit, and Whitehorse) (CIHI, 2016a). In the same year, 10% of the provinces' RNs/NPs and 40% of the territories' RNs/NPs worked in

[1] The population of rural RNs, the sample of RNs, as well as the number of RN surveys received back in the *RRNII* study from the sample, were used to calculate confidence levels and determine the representativeness of the respondents.

rural settings (CIHI, 2016c). See **Figure 2** for a breakdown of the rural and urban RN nursing workforce in 2015.

Figure 2. The Regulated RN Nursing Workforce in Canada by Geographic Distribution



CIHI, 2016b

Region of primary nursing employment

Of the 2,082 RNs who responded to the *RRNII* survey, the greatest number resided in the territories (Yukon, Northwest Territories, Nunavut) (24%) and the Atlantic region (24%), followed by Manitoba/Saskatchewan (18%), Alberta/ British Columbia (16%), Ontario (9.8%), and Québec (8.4%).

Gender and age

The large majority of rural Canada RNs in the *RRNII* survey were female (94%) with ages ranging from 22-84 years. Similarly, in the *RRNI* survey 95% of RNs were female (Stewart et al., 2005). The average age of rural Canada RNs (47.8) in the *RRNII* survey increased from 2010, when the average age of rural RNs was 46.6 years (Pitblado et al., 2013). Across all provinces and territories, the average age was lowest in Québec (43.7) and was highest in Nova Scotia (51.6). Most often, RNs were between 35 and 54 years of age (46%); 19% were under 35 years of age and 35% were 55 years of age or older. For a detailed age breakdown, see **Table 1**. Notably, in the *RRNI* survey a larger proportion of RNs were between 35 and 54 years of age (67%) and a smaller proportion were 55 years of age or older (15%) (Stewart et al., 2005). These findings highlight an aging RN workforce in rural and remote Canada.

Table 1. Age Distribution of RNs in Rural Canada

		< 25 %	25-34 %	35-44 %	45-54 %	55-64 %	≥ 65 %
RNs	(n = 2,082)	1.1	17.8	19.1	27.2	29.6	5.3

Marital status and dependents

The large majority of rural Canada RNs were married or living with a partner (81%); 9.3% were single, 7.9% divorced/separated, and 2.0% widowed. A sizable minority of RNs had one or more dependent children living with them (44%) and 5.2% were providing care for a dependent adult in their home.

Indigenous ancestry

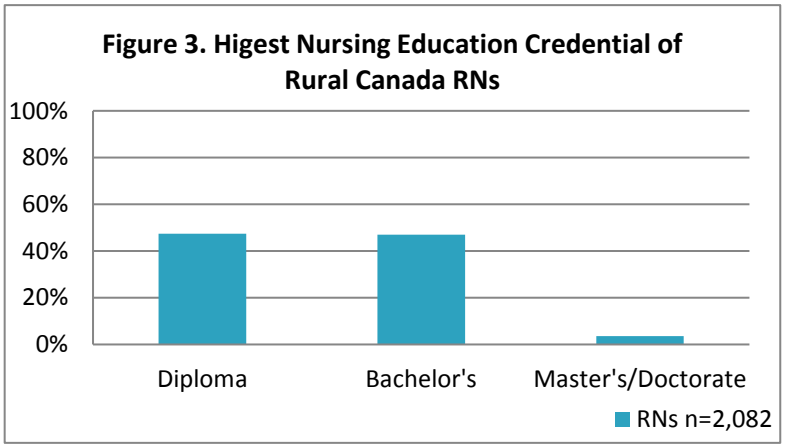
A small proportion of rural Canada RNs in the *RRNII* survey self-declared as having First Nations, Inuit, or Métis ancestry (5.9%), in comparison to 4.0% of NPs, 8.4% of LPNs, and 8.0% of RPNs. It is important to note that some nurses may have chosen not to self-declare. In the *RRNI* survey, 5.4% of RNs self-declared as having First Nations or Métis ancestry. Differences in question wording and in sampling between the *RRNI* and *RRNII* surveys could have accounted for the slight variation.

General and mental health

The large majority of rural Canada RNs reported that they were in good/very good health (75%); the remaining RNs were either in excellent health (20%) or were in fair/poor health (4.3%). These RNs reported similarly about their mental health, such that 73% were in good/very good mental health; the remaining RNs were either in excellent mental health (21%) or were in fair/poor mental health (5.7%).

Education

Rural Canada RNs most commonly held either a diploma in nursing (48%) or a bachelor's degree in nursing (48%) as their highest obtained nursing education credential. The small minority (3.6%) of RNs reported a Master's or Doctorate degree in nursing. Of note is the average age of RNs with a diploma (53.5 years) compared to a bachelor's degree in nursing (42.1 years) as their highest credential. It appears that later career RNs often held a diploma as their highest nursing credential, whereas early-to-mid career RNs more often held a bachelor's degree. These findings may be reflective of entry-to-practice requirement changes over the years. See **Figure 3** for a breakdown of RN nursing credentials. The education of rural Canada RNs has changed since the *RRNI* survey, when 27% of RNs held a bachelor's degree and 1.3% held a master's/doctorate degree in nursing.



Although the large majority of rural Canada RNs in the *RRNII* survey held an education credential in nursing, a subset of RNs (n=200) held a non-nursing credential in addition to a nursing credential. The most common non-nursing education credential held by RNs was a bachelor's degree (6.9%).

Number of years licensed to practice

The large majority of rural Canada RNs had been registered/licensed to practice in Canada for over ten years (77%), with a mean of 22.9 years from registration.

Size of childhood community

The majority (65%) of rural Canada RNs reported growing up in a community with a population of less than 10,000 and one third grew up in a community with a population of less than 1,000 (32%). Notably, 16% of all RNs grew up outside of any city or town. We see a decline in the percentage of RNs growing up in rural and remote communities since the *RRNI* survey, when 70% of RNs grew up in a community with a population of less than 10,000 and 34% grew up in a community with a population of less than 1,000.

What are the work settings of RNs in rural Canada?

Nursing employment status

The large majority of rural Canada RNs identified themselves as employed in nursing (91%), while the remaining 9.3% were either on leave (3.2%) or were retired and occasionally working in nursing (6.1%) on either a casual or short-term contract basis. It is unclear whether the RNs who were retired and occasionally working in nursing were only retired from full-time employment, or if their setting and provision of direct care had changed. The majority of RNs held a full-time permanent position (52%) and 29% held a part-time permanent position (respondents could hold more than one position). A further 17% worked casual, 6.5% contract/term, and 1.5% in a job share. The proportion of rural RNs working full-time is consistent with that found in the *RRNI* survey, wherein 51% of RNs reported full-time work (Stewart et al., 2005).

The large majority of rural Canada RNs in the *RRNII* survey (84%) had worked in one to three different rural/remote communities, for three months or longer, over the course of their nursing career. Over 10% of RNs had worked in four to six different rural/remote communities. Interestingly, 23% of NPs, 8.1% of RPNs, and 4.2% of LPNs had worked in four to six different rural/remote communities. These proportions reflect the mobility of RNs in rural nursing practice either within or across provincial/territorial jurisdictions.

Work setting and distance from major centres

The majority (68%) of rural Canada RNs reported working in a primary work community with a population of less than 10,000. A small minority of RNs (15%) reported working in a community with a population of less than 1,000 and 12% of all RNs reported their primary work community to only be accessible by plane. **Table 2** shows the population of the primary work community of rural RNs overall. In the *RRNI* survey, 77% of RNs worked in a primary work community with a population of less than 10,000, 20% in a community with a population of less than 1,000, and 10% reported their primary work community to only be accessible by plane.

Table 2. Population of Primary Work Community, RNs in Rural Canada

Community Population	RNs % (n = 2,082)
≤ 999	14.9
1,000 - 2,499	14.3
2,500 - 4,999	13.2
5,000 - 9,999	25.8
10,000 - 29,999	26.4
≥ 30,000	5.4

The majority of rural Canada RNs in the *RRNII* survey reported living in their primary work community (60%). Of the nurses who were not residing in their primary work community, half of them traveled to work on a daily basis (50%), with a typical commute time between one and five hours per week (87%).

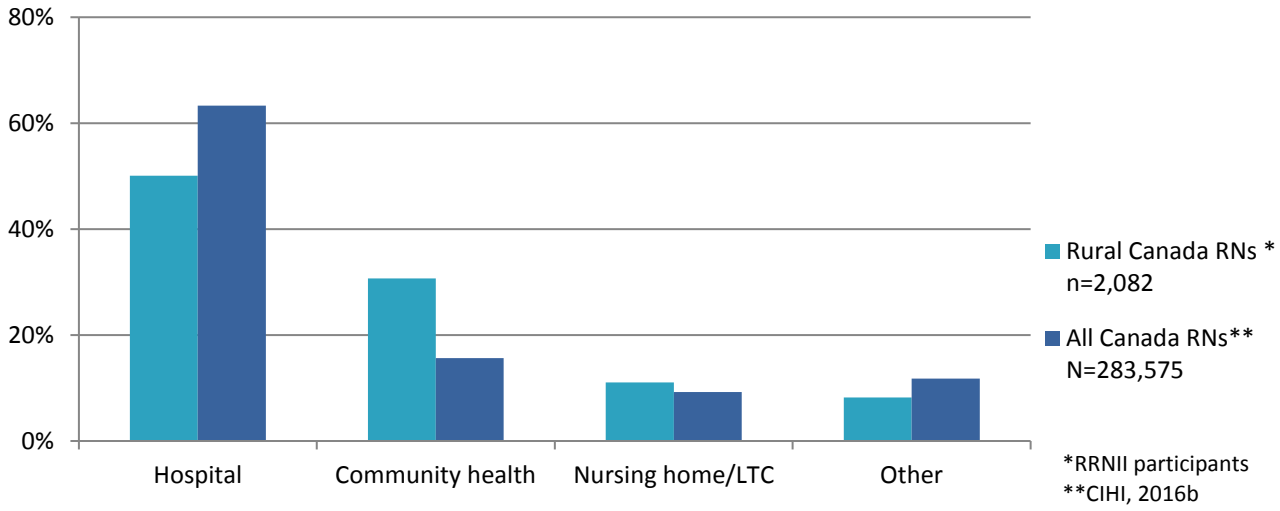
The majority of rural Canada RNs in the *RRNII* survey (61%) indicated that they worked more than 200 km from a centre with a population of over 50,000 (compared to only 48% in the *RRNI* survey) and under half of RNs (44%) reported their primary work community being less than 100 km from a centre with a population of 10,000-49,999. The majority of RNs (56%) reported that their primary work community was less than 100 km from a basic referral centre. Moreover, 35% of RNs identified that their primary work community was more than 500 km from an advanced referral centre.

The large majority of rural Canada RNs in the *RRNII* survey were satisfied with their home community (88%); the remaining 12% were either neutral (7.5%) or were dissatisfied (1.2%). Similarly, the large majority of RNs were satisfied with their primary work community (86%); the remaining 14% were either neutral (9.2%) or were dissatisfied (4.6%).

Area of nursing practice and primary place of employment

Half of rural Canada RNs in the *RRNII* survey identified their area of current practice to be acute care (50%), while 21% identified community health and 18% identified long-term care (respondents could identify more than one practice area). **Figure 4** shows the primary place of employment for rural Canada RNs compared to all RNs in Canada overall. As Figure 4 shows, 50% of rural Canada RNs worked in a hospital setting and 31% in a community health setting. These proportions differ from the *RRNI* survey, when 53% of RNs reported their area of current practice to be acute care, 28% community health, and 30% long-term care. Moreover, in the *RRNI* survey 38% of RNs worked in a hospital setting and 10% in a community health setting.

Figure 4. RN Nursing Workforce, 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 and public health department/unit.*
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, physician's office/family practice unit or team and other place of work.*

In terms of current primary position, the large majority of rural Canada RNs in the *RRNII* survey worked as staff nurses (76%), and 12% worked as managers. The large majority of RNs were satisfied with their current nursing practice (85%); the remaining 15% were either neutral (8.7%) or were dissatisfied (6.3%).

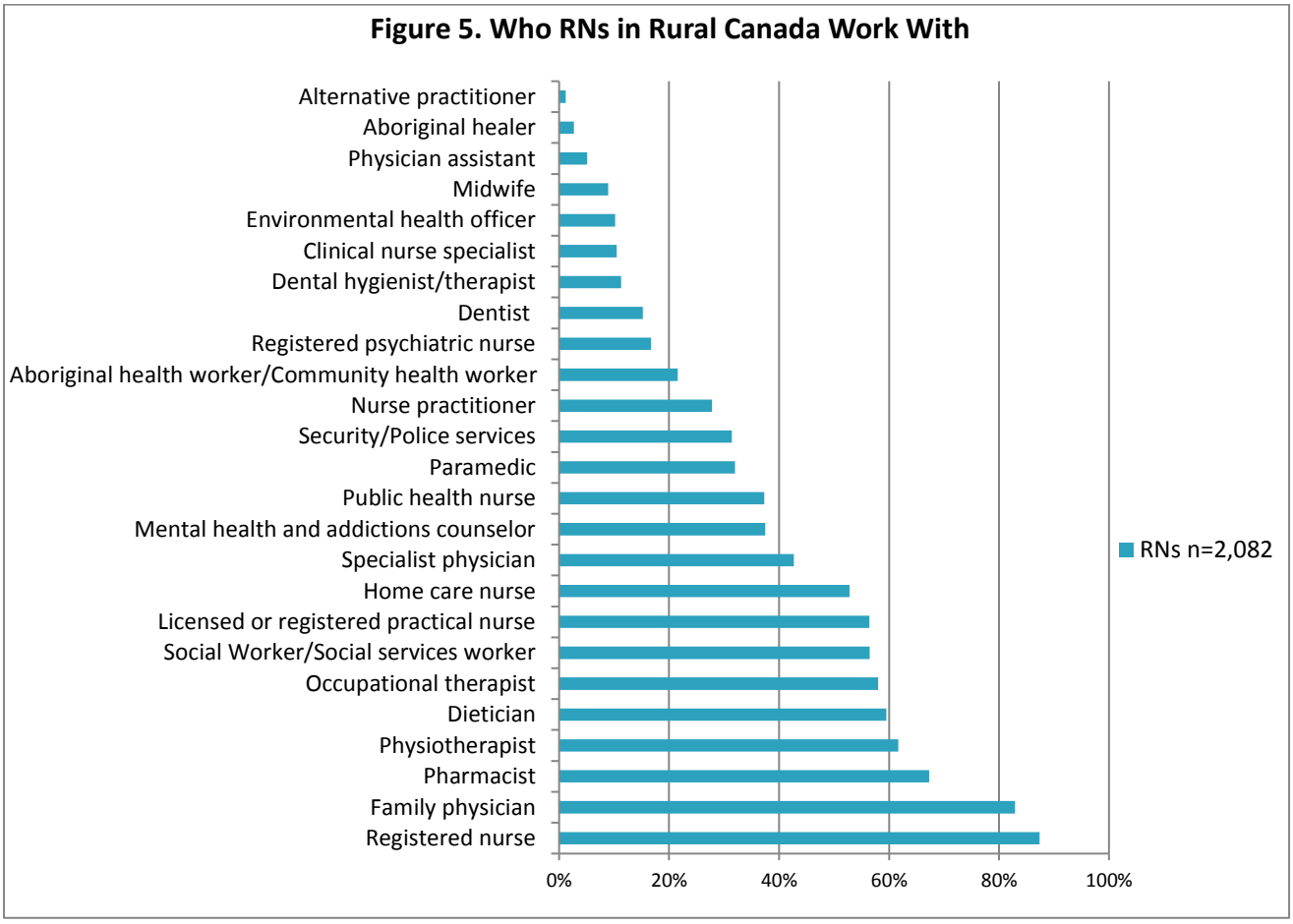
Finally, regarding duration of primary position, 19% of rural Canada RNs had been in their primary position for 20 years or more, 19% for between 10-19 years, 18% for 6-9 years, and 44% for 5 years or less. Just under one third of rural Canada RNs (29%) had been employed by their primary employer for 20 years or more. The aging RN workforce is shown in the comparison of these percentages with the *RRNI* survey, when 10% of RNs had been in their primary position for 20 years or more, 22% for 10-19 years, 12% for 6-9 years, and 56% for 5 years or less.

Interprofessional practice

Rural Canada RNs worked in teams at their primary workplace. All RNs reported working with at least one other professional provider. Moreover, RNs typically worked with more than 5 other RNs (70%) and 2 or more LPNs (54%). However, only 22% of RNs worked with NPs and 22% worked with RPNs (in the four western provinces and the territories where RPNs work).

The large majority of rural Canada RNs had a support network of colleagues who would provide consultation and/or professional support (84%). This is a decrease from 88% of RNs in the *RRNI* survey. RNs in the *RRNII* survey identified a wide variety of providers that were part of their usual interprofessional team, including other RNs (87%), family physicians (83%), pharmacists (67%), physiotherapists (62%), dieticians (60%), and occupational therapists (58%). See **Figure 5** for a complete breakdown of the providers who rural RNs identified working with as part of their usual interprofessional team.

Figure 5. Who RNs in Rural Canada Work With



Work hours and requirement to be on-call

Just under half of rural Canada RNs worked full-time hours (44%), with 21% working more than full-time hours and 35% working less than full-time hours. Day shifts (64%) and rotating shifts (27%) were most common, with shift lengths typically either 8 hours (57%) or 12 hours (32%). In the *RRNI* survey a similar proportion of RNs worked full-time hours (46%), but fewer worked more than full-time hours (14%) and more (40%) worked less than full-time hours.

The minority of RNs in the *RRNII* survey were required to be on-call for their work (34%). This is a decrease from *RRNI*, when 40% of RNs were required to be on-call. In the *RRNII* survey, of the RNs who were required to be on-call, half (50%) reported being called back to work at least a few times a month; 27% are called back to work a few times a week and 4.5% every day. Furthermore, the majority of these RNs (70%) reported that they are called back to work on their days off and 43% are required to be available when unwell. The majority of all RNs (62%) were satisfied with the amount of time they were on-call; the remaining 38% were either neutral (22%) or were dissatisfied (16%).

Information access and education sources

Rural Canada RNs had access to various information sources in their primary workplace. For instance, RNs had direct access to high speed internet (88%) compared to 58% of RNs a decade earlier in the *RRNI* survey. Other information sources accessed by RNs in the *RRNII* survey were electronic communication between healthcare providers (84%), teleconferencing (77%), and videoconferencing (61%). The minority of RNs had access to web conferencing (37%).

In the *RRNII* survey RNs were asked to indicate how often they use in-person and online/electronic education sources to update their nursing knowledge. Most RNs used online/electronic sources to update their nursing knowledge at least once per month (75%), rather than in person education sources (50%).

Violence in the workplace

Rural Canada RNs both experienced and witnessed violence in their workplace while carrying out their nursing responsibilities. In the four weeks before the survey, RNs in the *RRNII* survey experienced emotional abuse (33%), threat of assault (16%), physical assault (18%), and verbal/sexual harassment (16%), and a smaller proportion experienced property damage (3.4%), stalking (1.3%) and sexual assault (1.0%). Fewer questions were asked about violence in the *RRNI* survey, where RNs reported having experienced emotional abuse (30%), threat of assault (18%), physical assault (16%), verbal/sexual harassment (16%), and sexual assault (1.4%).

In the *RRNII* survey, RNs reported having witnessed violence in the workplace. Rural Canada RNs had witnessed emotional abuse (34%), physical assault (22%) and threat of assault (22%), and some had witnessed verbal/sexual harassment (16%), property damage (5.1%), sexual assault (1.7%) and stalking (1.2%).

What is the scope of RN practice in rural Canada?

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

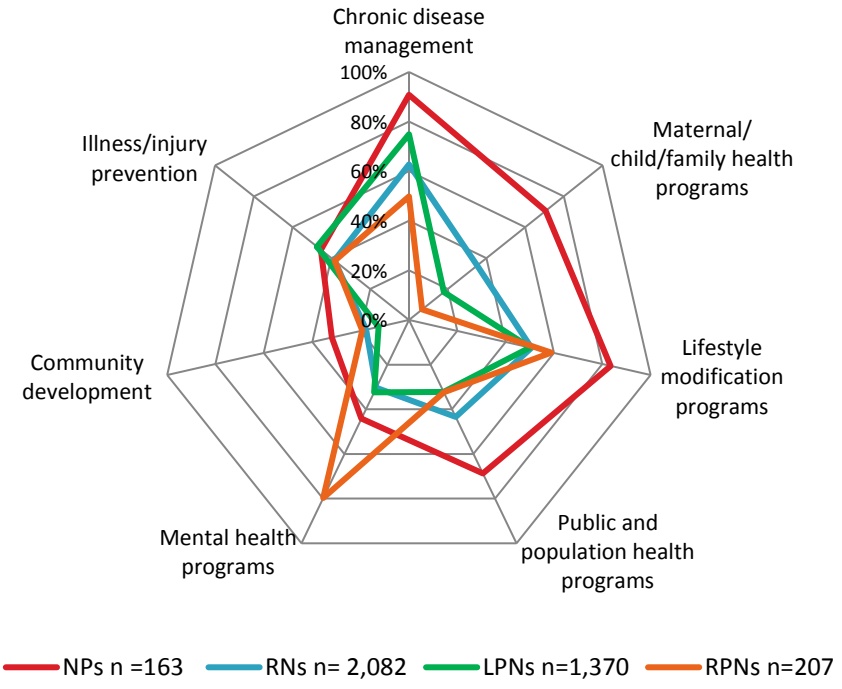
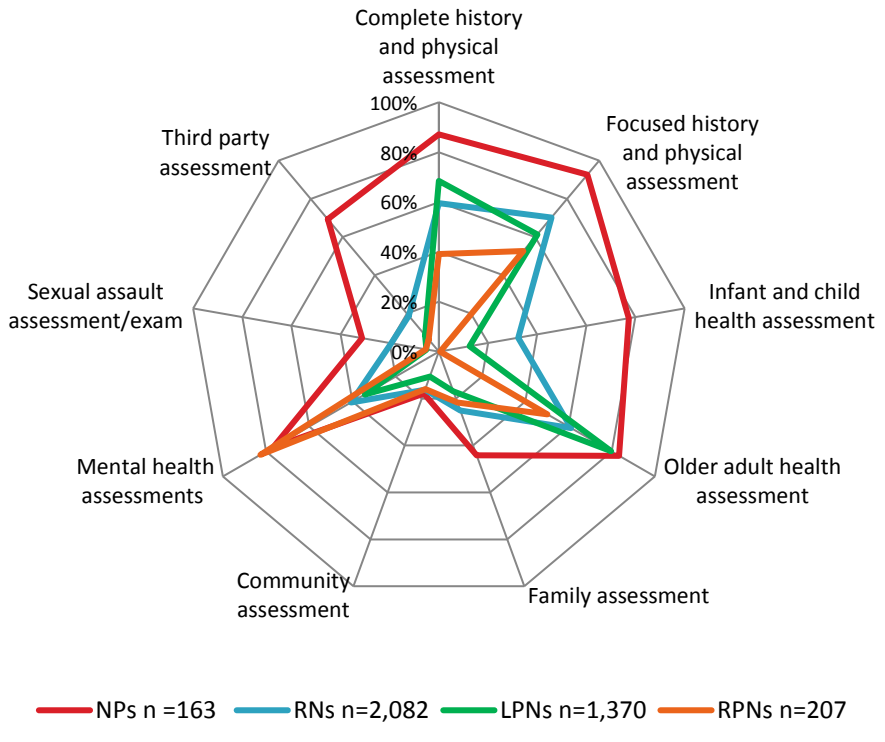


Figure 7. Assessment: Rural Canada Nurses



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 perceived as their responsibilities rather than what may or may not have been within their legislated scope of practice. Detailed tables are included in **Appendix A**.

The large majority of rural Canada RNs reported working within their registered/licensed scope of practice (84%). The remaining RNs either thought of their nursing role as below their licensed scope of practice (5.8%) or as above their licensed scope of practice (9.8%).

Figure 8. Therapeutic Management: Rural Canada Nurses

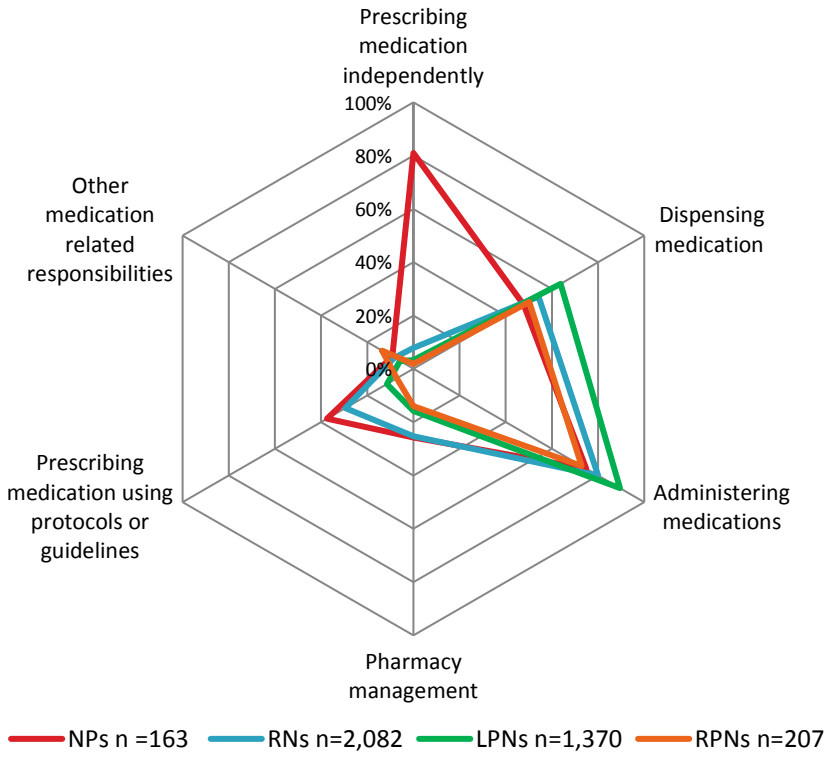
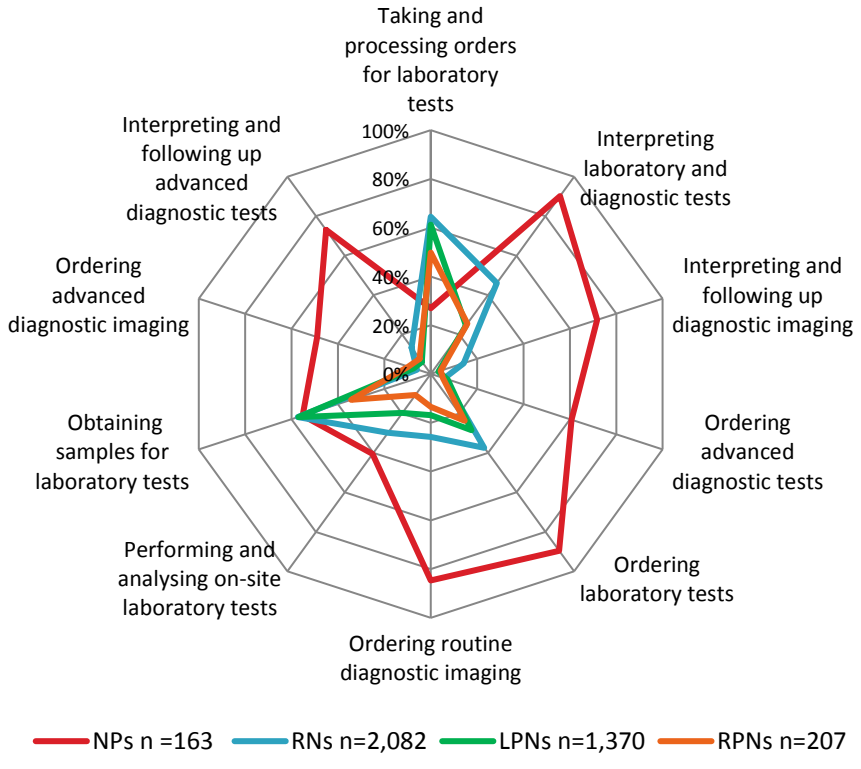


Figure 9. Diagnostics: Rural Canada Nurses



In terms of *Promotion, Prevention and Population Health*, rural Canada RNs reported providing chronic disease management (63%) and lifestyle modification programs (51%), which is illustrated in **Figure 6**.

Regarding *Assessment*, rural Canada RNs reported providing health and wellness assessments such as focused history and physical assessment (70%), complete history and physical assessment (60%), and older adult health assessment (61%) (**Figure 7**).

Concerning *Therapeutic Management*, rural Canada RNs reported responsibility for administering (80%) and dispensing medication (54%). Almost one third (30%) of rural RNs reported prescribing medication following protocols or guidelines and the small minority (8.3%) identified that they prescribe medication independently (**Figure 8**).

In regard to *Diagnostics*, which included *Laboratory Tests, Diagnostic Tests*, and *Diagnostic Imaging*, rural Canada RNs reported taking and processing orders for laboratory tests (65%), advanced diagnostic tests

Figure 10. Diagnosis and Referral: Rural Canada Nurses

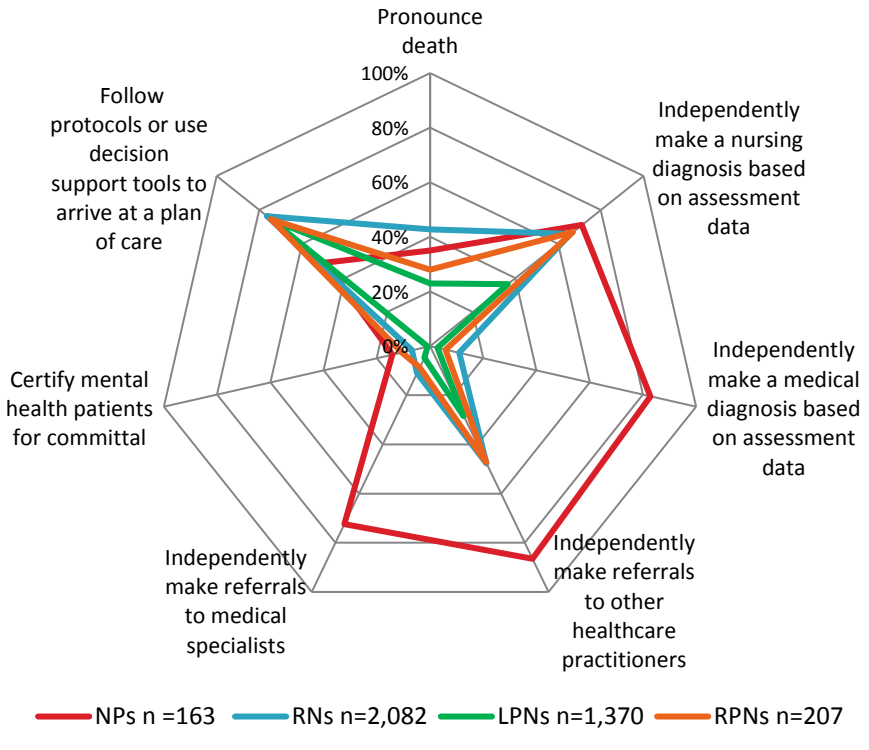
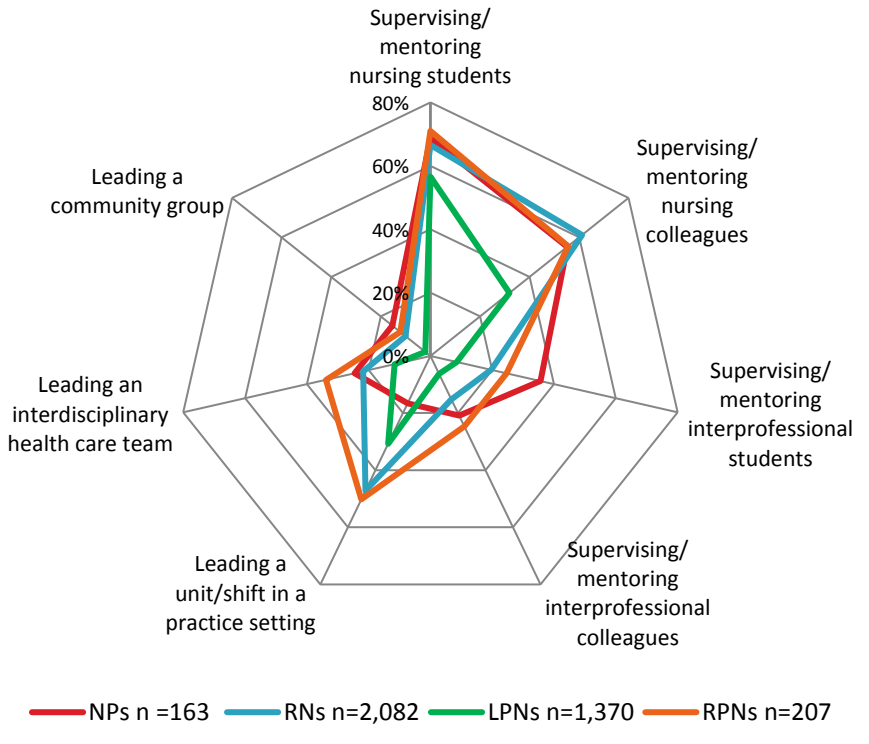


Figure 11. Leadership: Rural Canada Nurses



(46%), and diagnostic imaging (54%). Furthermore, rural Canada RNs reported that obtaining samples (57%) and interpreting laboratory and diagnostic tests (46%) were a part of their responsibility (**Figure 9**).

In terms of *Diagnosis and Referral*, the majority of rural Canada RNs indicated that they independently make a nursing diagnosis based on assessment data (66%) and follow protocols or use decision support tools to arrive at a plan of care (76%). Just under half of the RNs independently make referrals to other healthcare practitioners (48%). Furthermore, 43% of RNs indicated responsibility for pronouncing death (**Figure 10**).

In the category of *Emergency Care and Transportation*, just over half of rural Canada RNs reported responsibility for organizing urgent or emergent medical transportation (52%).

The minority of rural Canada RNs indicated that providing care during medical transportation (35%), responding to or leading emergency calls (18%), and responding to or leading emergency search and rescue

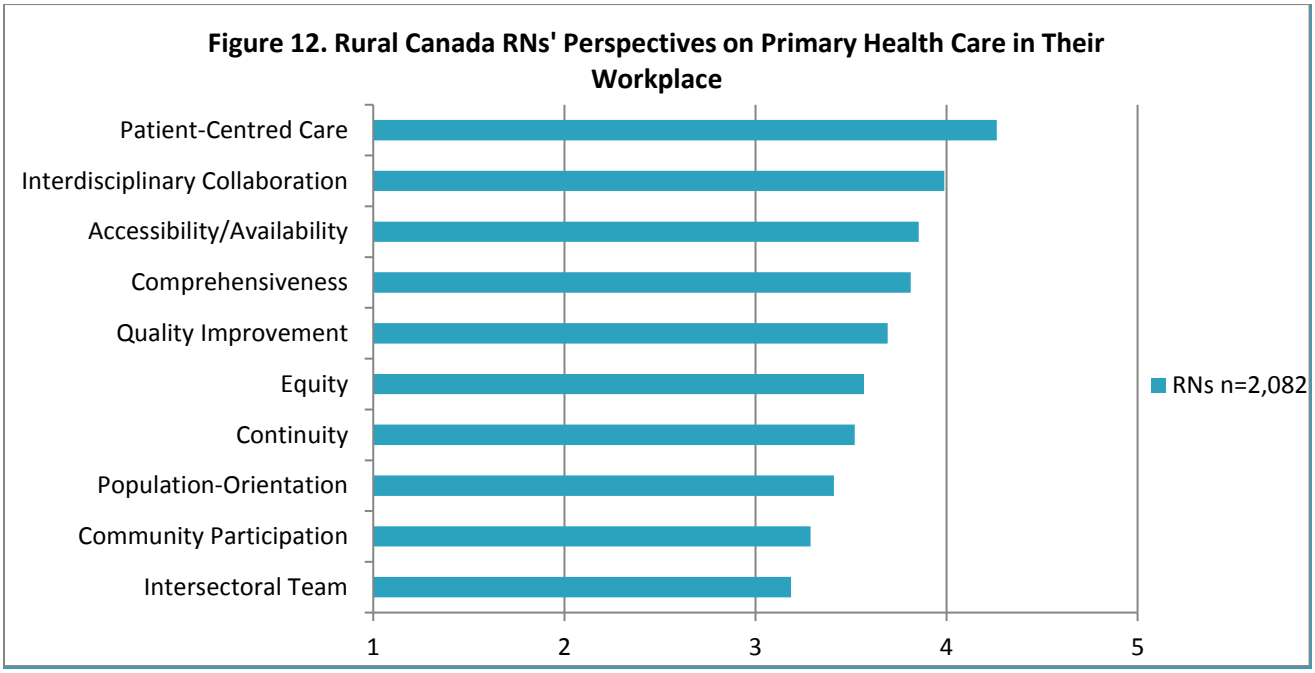
calls in rural, remote or wilderness settings (5.4%) was part of their responsibility.

Finally, in regard to *Leadership*, the majority of rural Canada RNs reported that they supervise/mentor nursing students (67%) and nursing colleagues (61%) (**Figure 11**).

What do rural Canada RNs 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; Kosteniuk et al., 2017). 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 12**.

Figure 12. Rural Canada RNs' Perspectives on Primary Health Care in Their Workplace



It is evident that rural Canada RNs perceived their workplace to be engaged in primary health care, often to an extent similar to rural Canada LPNs and RPNs, but dissimilar to rural Canada NPs, especially in regard to quality improvement and accessibility (**Appendix B**).

Rural Canada RNs rated *Patient-Centred Care* strongly positive, reporting that their patients are treated with respect and dignity, their workplace is a safe place for patients to receive healthcare services, and that providers are concerned with maintaining patient confidentiality. These nurses were also strongly positive that their workplace supports healthcare providers in thinking of patients as partners.

In general, rural Canada RNs rated *Interdisciplinary Collaboration* positively. They perceived that it is understood who should take the lead with a patient when there is overlap in responsibilities. RNs were strongly positive that a collaborative atmosphere exists between healthcare providers from different disciplines and were also strongly positive that healthcare providers from other disciplines consult them regarding patient care.

Overall, *Accessibility* to healthcare services was regarded positively, although rural Canada RNs were strongly positive that patients needing urgent care can see a healthcare provider the same day if their workplace is open. RNs were positive that health services are organized to be as accessible as possible and that if their workplace is closed, patients can still see a healthcare provider in person or can get medical advice by phone.

Similarly, *Comprehensiveness* of care was rated positively. Rural Canada RNs reported that their workplace offers harm reduction or illness prevention initiatives and that chronic conditions are addressed. Notably, RNs were strongly positive that patients are referred to necessary services when they require a service their workplace does not provide.

In terms of *Quality Improvement*, rural Canada RNs felt positively that their workplace keeps patient charts current, that their workplace uses patient health indicators to measure quality improvement, and that their workplace regularly measures quality. Importantly, RNs were strongly positive that their workplace has a process for responding to critical incidents.

Equity was also perceived positively by rural Canada RNs. Included are RNs' perceptions that their workplace understands the impact of social determinants of health, that their workplace is organized to address the health needs of vulnerable or special needs populations, and that regardless of geographic location or individual/social characteristics, patients have access to the same healthcare services. RNs reported to a lesser extent, but still positively, that patients can afford to receive the healthcare services they need.

Continuity of Care was also rated positively by rural Canada RNs, although some concerns were raised. These RNs were strongly positive that they have a good understanding of their patients' health history and that they have easy access to information about past care provided to patients 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 difficult. These two dimensions were perceived negatively.

Population Orientation was perceived positively by rural Canada RNs, with a good fit between workplace services and community healthcare needs. Also included are RNs' perceptions that their workplace has taken part in a needs assessment of the community, that their workplace keeps current registries of patients with chronic conditions, that their workplace is quick to respond to the health needs of the community, and that their workplace monitors patient outcome indicators.

A similar pattern of results is seen regarding *Community Participation*, which was rated positively by rural Canada RNs. These RNs reported that their workplace seeks input from the community about which services are needed, that healthcare providers are supported in thinking of the community as a partner, and that their workplace has implemented changes that emerged from community consultations. RNs reported to a lesser

extent, but still positively, that community members are treated as partners when deciding about healthcare service delivery changes.

Finally, there were positive ratings of *Intersectoral Teams*, although some important findings must be noted. Rural Canada RNs were positive that their workplace works closely with community agencies, that there have been improvements in the way community services are delivered based on community agencies working together, and that they personally work closely with community agencies. However, RNs generally disagreed with the statement that community agencies (e.g., education, government, law enforcement, civic facilities, non-profit groups) meet regularly to discuss common issues that affect health. This dimension was perceived negatively and aligns with the reported difficulties concerning continuity of care across settings.

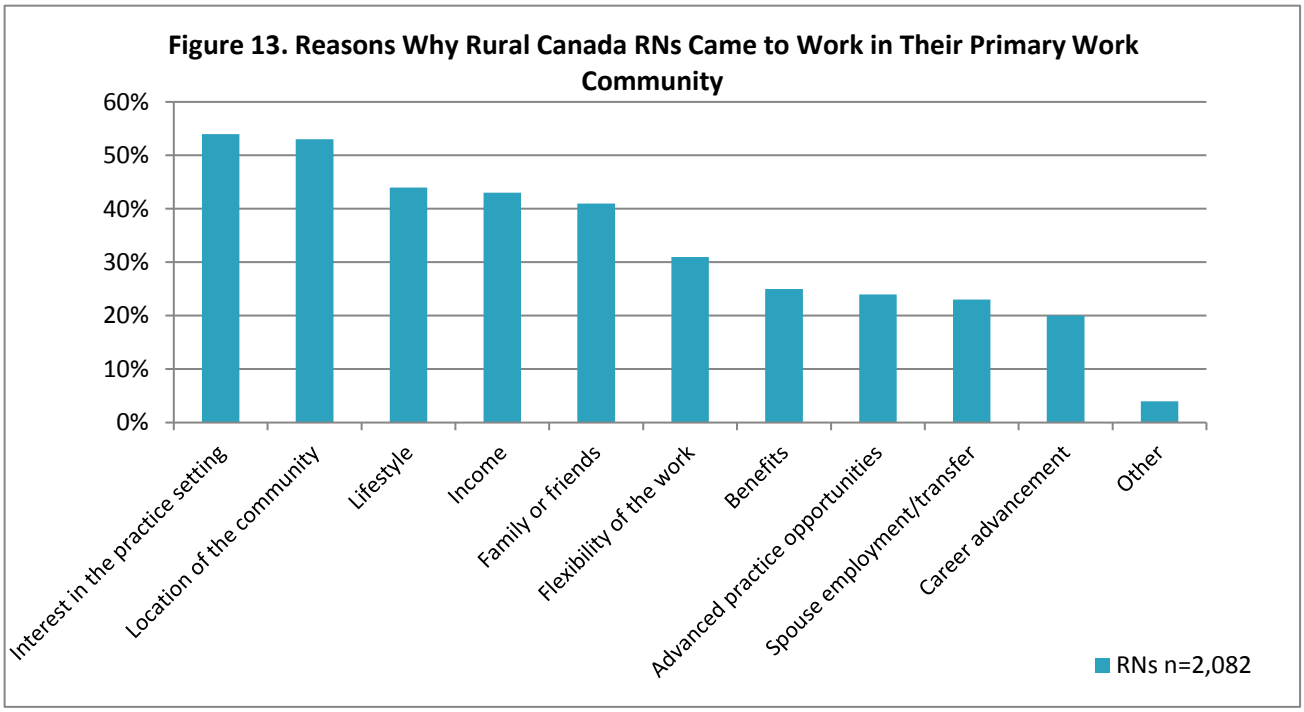
Further details on the Primary Health Care Engagement Scale can be found in the Kosteniuk et al. (2017) article titled *Exploratory Factor Analysis and Reliability of the Primary Health Care Engagement (PHCE) Scale in Rural and Remote Nurses: Findings from a National Survey*.

What are the career plans of RNs in rural Canada?

Recruitment and retention

Recruiting and retaining nurses in rural nursing positions is an ongoing challenge (Kulig, Kilpatrick, Moffitt, & Zimmer, 2015). The most frequent reasons rural Canada RNs came to work in their primary work community were interest in the practice setting (54%), followed by location of the community (53%), lifestyle (44%), income (43%), and family or friends (41%). See **Figure 13** for further information on RN recruitment factors.

Figure 13. Reasons Why Rural Canada RNs Came to Work in Their Primary Work Community



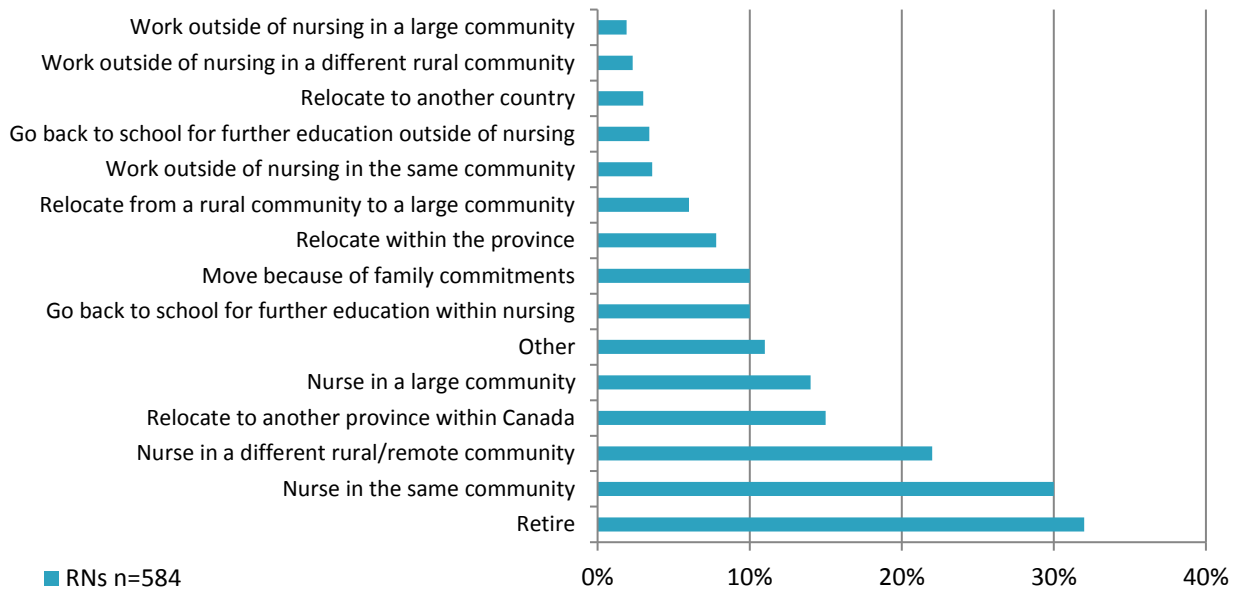
The reasons why rural Canada RNs continued working in their primary work community were similar to the reasons why they came in the first place. The retention factors included interest in the practice setting (59%), income (55%), location (52%), family or friends (52%), lifestyle (48%), and flexibility of the work (40%).

Career plans over the next 12 months

In the *RRNII* survey, nurses were asked about their career plans over the next 12 months and again for the next 5 years. Nearly one third of RNs were planning to leave their present nursing position within the next 12 months (29%), compared to 24% of both NPs and LPNs, and 25% of RPNs. Rural RNs who intended to leave (n=584) reported a variety of career plans, namely to retire (32%) or nurse in the same community (30%). The average age of RNs planning to retire was 62.1 years. See **Figure 14** for a detailed breakdown of future career plans of rural Canada RNs. Across the country, the greatest proportion of RNs intending to retire resided in the Atlantic region (26%), followed by Manitoba/Saskatchewan (22%). Interestingly, a smaller proportion of rural Canada NPs (13%) and LPNs (25%), and a larger proportion of RPNs (48%), indicated they plan to retire in the next 12 months compared to the 32% of RNs who reported such plans.

In the *RRNI* survey, only 18% of RNs reported plans to leave their present nursing position within the next 12 months.

Figure 14. Future Plans of Rural Canada RNs who Intended to Leave Within the Next 12 Months



In the *RRNII* survey, rural Canada RNs who stated they intended to leave said they would consider continuing to nurse 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 (40%), work short-term contracts (37%), and update skills/knowledge (33%).

Regarding career plans for the next 5 years, the majority of rural Canada RNs were planning to nurse in the same community (58%), while 33% were planning to retire. A larger proportion of rural Canada RNs were planning to retire in the next five years compared to 20% of NPs and 25% of LPNs; this proportion is similar to RPNs (34%). In the *RRNI* survey, 63% of RNs were planning to nurse in the same community and 21% were planning to retire in the next 5 years.

Limitations

The *RRNII* findings provide a rare insight into the working lives of RNs serving some of the most under-resourced rural and remote communities in Canada.

The number of rural Canada RNs who responded to the *RRNII* survey was sufficient for statistical reporting. As such, we can say with 99% confidence that the rural Canada RN respondents are representative of rural Canada RNs as a whole. However, we are unable to compare findings by province due to lower response rates in some provinces. We compared the age and gender characteristics of the *RRNII* study's sample of RNs with all rural Canada RNs to determine how similar or different they were. The two samples were comparable for male RNs and for RNs over 65 years of age, although the *RRNII* survey over or under-represented female RNs and other age categories (CIHI, 2017). Because of this, findings should be interpreted with caution. As well, in this report, statistical associations are not reported.

It should be noted that some respondents may have interpreted certain items in ways unintended by the researchers (e.g., scope of practice items), possibly reducing the reliability of these items. As well, provincial and territorial variations in terminology and legislation may have also had an effect on the interpretation of some items. However, the research and advisory teams representing all provinces and territories reviewed the final version of the survey carefully in this regard.

It should also be noted that further analyses are being conducted on the *RRNII* data, which focus on primary health care and work settings, scopes of practice, career plans, and the qualitative comments made by nurses who responded to the survey. When completed, the publications and presentations that arise from these analyses will be noted in the *RRNII* website: http://www.unbc.ca/rural-nursing

Summary

In 2010, 18% of Canada's population lived in rural communities, which is where roughly 11% of Canada's RNs worked (Pitblado et al., 2013). In 2015, 17% of the total population living in the provinces and 52% in the territories lived in rural areas (CIHI, 2016a). In the same year, 10% of the provinces' RNs/NPs and 40% of the territories' RNs/NPs worked in rural settings (CIHI, 2016c).

The large majority of rural Canada RNs who responded to the *RRNII* survey were female and a higher proportion of rural RNs were over 55 years of age compared to rural Canada NPs, LPNs, and RPNs. A diploma and a Bachelor's degree were equally as common as the highest nursing education credential of rural RNs, although it was typically older nurses who held a diploma and younger nurses who held a Bachelor's degree. Important to note is the under-representation of Indigenous RNs in rural and remote areas, especially in Northern areas where the proportion of Indigenous peoples is higher.

The large majority of rural Canada RNs were employed in a permanent position either full-time or part-time, with day shifts being the most common. Just over one third of the RNs were required to be on-call and a large majority of these RNs were called back at least a few times a month. Furthermore, the majority of these RNs reported that they are called back to work on their days off and just under half of them are required to be available when unwell.

The majority of rural Canada RNs reported living in their primary work community. In regard to area of current practice, half of the RNs worked in acute care and one in five identified community health and long-term care. When asked about primary place of employment, half of the RNs reported working in a hospital setting. RNs identified working in interprofessional teams with a support network of colleagues.

Rural Canada RNs cited various reasons for coming to their primary work community, including interest in the practice setting, location of the community, lifestyle, and income. It was the same factors that contributed to RNs continuing to work in their community. It is both interesting and encouraging that RNs with rural or remote roots tend to seek out rural nursing opportunities and/or lifestyles.

The large majority of rural Canada RNs had been registered/licensed to practice in Canada for over ten years, with an average of 23 years since registration. These findings are important to connect with potential retirements. Most often, RNs had been in their primary position for 20 years or more or for between 10-19 years. Nearly one third of rural Canada RNs were planning to leave their present nursing position within the next 12 months; a greater proportion compared to other nurse types. Of those, most RNs planned to retire or nurse in the same community. One third of RNs were planning to retire in the next 5 years, which is a similar proportion to rural Canada RPNs and LPNs.

Notably, rural Canada RNs reported they were satisfied with both where they work and where they live, which may suggest resiliency against the unique challenges of living and working rural. However, it is of concern that many RNs both witnessed and experienced emotional abuse, as well as physical violence/threat of violence. Future research should consider contributing factors such as work conditions, nature of the work,

increasing patient populations, workload, absenteeism, and mental health in relation to emotional abuse and violence in rural and remote communities. These findings call for supports such as conflict resolution and debriefing in the workplace, as well as other actions to address the root cause/s of such violence.

Although the large majority of rural Canada RNs reported working within their licensed scope of practice, 10% of the RNs perceived themselves as working above their scope of practice. Rural RNs were engaged in primary health care and reported positively on all dimensions, especially patient-centred care. Moreover, the ratings of interdisciplinary collaboration reflect positively on RNs, although it is of interest that RNs reported some difficulty with continuity of care across settings. Further analysis is warranted to explore how ratings of primary health care vary by practice setting. It is possible that responses from RNs in hospital settings skewed the data and that variation exists across settings.

The *RRNII* survey raises the need to further explore the nature of RN practice in rural and remote Canada, while also considering population trends and needs. Of concern is the lower proportion of RNs living and working rurally across the nation compared to those under their care, which is complicated by the aging workforce and large number of RNs who intend to retire. Paired with the finding that most RNs are over 45 and 35% are over 55 years of age, the reported career plans of RNs suggest a looming RN shortage in rural Canada. The impact of RN retirement in rural areas may be felt differently than in urban areas. *RRNII* data merits consideration within the context of evolving nursing roles within the context of other health providers, shifting scopes of practice, new ways of interdisciplinary collaboration, and new technologies. Doing so will support the overall goal of providing best health services for rural and remote Canada.

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Further information about the full study is available from:

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Appendix A. Scope of Practice: Rural Canada Nurses

	Rural Canada			
Promotion, Prevention and Population Health	**RNs % (n=2,082)**	**NPs % (n=163)**	**LPNs % (n=1,370)**	**RPNs % (n=207)**
Chronic disease management	62.7	90.8	74.9	49.8
Maternal/child/family health programs	35.2	70.6	18.0	6.8
Lifestyle modification programs	50.7	83.4	50.1	58.9
Public and population health programs	43.4	68.7	32.3	32.4
Mental health programs	30.4	44.2	32.4	79.7
Community development/individual health capacity building programs	17.7	31.9	12.6	19.3
Illness/injury prevention	38.4	45.4	47.4	38.2
None of the above	21.8	2.5	17.3	7.2

Assessment	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Complete history and physical assessment	59.6	87.1	68.5	39.1
Focused history and physical assessment	70.3	92.6	61.4	52.7
Infant and child health assessment	32.3	77.3	12.5	0.5
Older adult health assessment	61.2	83.4	79.7	50.2
Family assessment	25.0	44.2	16.9	21.7
Community assessment	16.2	17.8	10.6	15.9
Mental health assessment	40.7	76.7	34.3	82.6
Sexual assault assessment/exam	19.4	31.3	5.0	5.3
Third party assessment	18.7	69.3	8.6	6.3
Other assessment	2.5	3.1	.9	1.9
None of the above	10.7	2.5	10.8	5.3

Therapeutic Management	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Administering oral/SC/IM/topical/inhaled medications	80.0	74.8	89.5	72.9
Dispensing medication	54.2	47.9	63.8	50.2
Pharmacy management	25.3	25.8	15.8	14.0
Prescribing medication independently	7.8	81.0	3.3	1.9
Prescribing medication using protocols or guidelines	29.5	37.4	11.5	7.2
Other medication related responsibilities	8.3	9.2	5.8	13.5
None of the above	14.8	3.1	8.6	19.8

Laboratory Tests	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Taking and processing orders for laboratory tests	64.5	27.0	61.2	49.8
Ordering laboratory tests	37.4	89.6	28.5	23.7
Obtaining samples for laboratory tests	57.3	55.2	57.0	34.3
Performing and analyzing on-site laboratory tests	29.8	40.5	19.7	10.6
Interpreting laboratory and diagnostic tests	46.2	90.2	24.5	25.6
None of the above	19.6	3.1	18.4	35.7

	Rural Canada			
Diagnostic Tests	**RNs % (n=2,082)**	**NPs % (n=163)**	**LPNs % (n=1,370)**	**RPNs % (n=207)**
Taking and processing orders for advanced diagnostic tests	46.4	19.0	41.1	33.8
Ordering advanced diagnostic tests	8.1	60.7	7.6	5.3
Performing advanced diagnostic tests	1.6	40.5	1.3	1.0
Interpreting and following up advanced diagnostic tests	13.3	73.0	6.1	7.7
None of the above	49.2	18.4	55.8	63.3

Diagnostic Imaging	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Taking and processing orders for diagnostic imaging	53.7	20.2	48.3	43.5
Ordering routine diagnostic imaging	25.7	84.7	16.9	13.5
Ordering advanced diagnostic imaging	5.9	48.5	7.4	9.7
Performing diagnostic imaging	8.8	10.4	.9	0.0
Interpreting and following up diagnostic imaging	14.3	71.8	3.3	4.3
None of the above	39.0	11.7	46.4	52.2

Diagnosis and Referral	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Follow protocols/use decision support tools to arrive at a plan of care	76.3	49.1	74.3	74.4
Independently make a nursing diagnosis based on assessment data	65.9	71.2	36.4	67.1
Independently make a medical diagnosis based on assessment data	11.0	82.8	2.8	5.8
Independently make referrals to other healthcare practitioners	47.7	86.5	28.5	47.3
Independently make referrals to medical specialists	11.0	72.4	4.7	8.7
Certify mental health patients for committal	6.8	14.1	.9	10.6
Pronounce death	42.7	35.0	22.9	28.0
None of the above	12.6	4.9	20.2	7.7

Emergency Care and Transportation	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Organize urgent or emergent medical transport	52.0	39.9	35.5	35.3
Provide care during urgent/emergent medical transportation	35.4	33.1	19.6	12.6
Respond/lead emergency calls as a first responder	17.8	19.6	10.9	15.0
Respond/lead emergency search and rescue calls in rural, remote or wilderness settings	5.4	6.7	1.8	3.4
None of the above	41.3	50.3	52.8	60.9

Leadership	**RNs %**	**NPs %**	**LPNs %**	**RPNs %**
Supervising/mentoring nursing students	66.6	68.7	56.6	71.0
Supervising/mentoring nursing colleagues	61.2	55.2	31.9	55.6
Supervising/mentoring interprofessional students	19.6	35.6	8.5	24.6
Supervising/mentoring interprofessional colleagues	15.2	20.9	6.3	24.6
Leading a unit/shift in a practice setting	47.2	16.6	30.7	50.2
Leading an interdisciplinary health care team	21.8	24.5	11.6	33.8
Leading a community group	10.1	15.3	2.0	12.1
None of the above	12.7	14.7	27.4	9.2

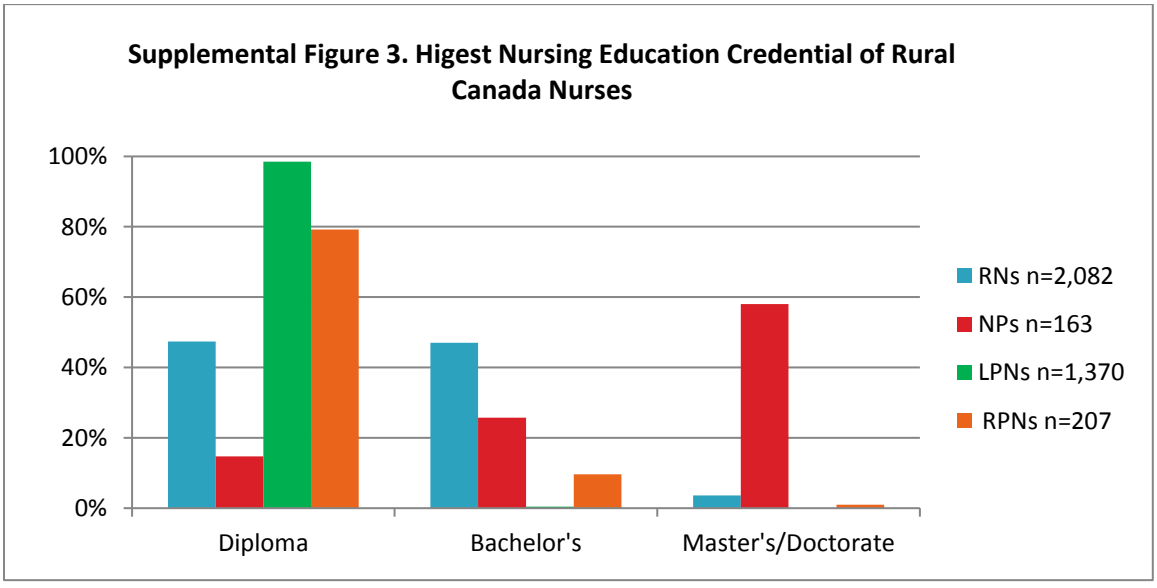
Appendix B. Comparisons: Rural Canada RNs, NPs, LPNs, and RPNs

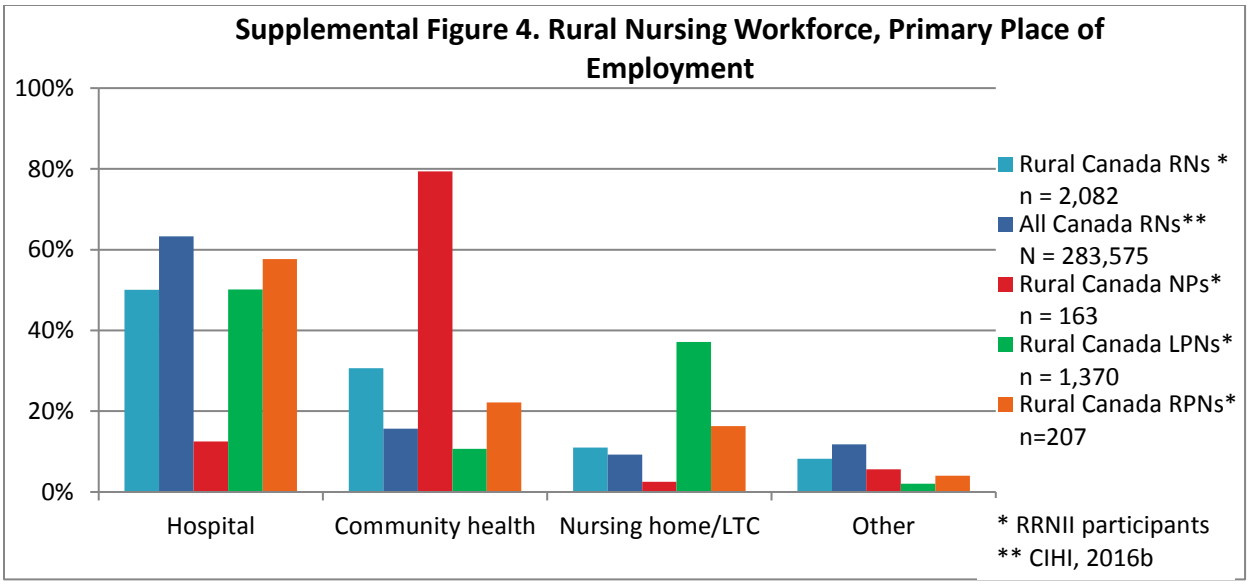
Supplemental Table 1. Age Distribution of Nurses in Rural Canada

		< 25 %	25-34 %	35-44 %	45-54 %	55-64 %	≥ 65 %
RNs	(n = 2,082)	1.1	17.8	19.1	27.2	29.6	5.3
NPs	(n = 163)	1.3	11.5	25.6	36.5	23.1	1.9
LPNs	(n = 1,370)	3.7	17.8	20.4	30.3	25.4	2.4
RPNs	(n = 207)	2.5	11.2	19.3	34.0	26.4	6.6

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

Community Population	RNs % (n = 2,082)	NPs % (n = 163)	LPNs % (n = 1,370)	RPNs % (n = 207)
≤ 999	14.9	17.4	12.1	10.0
1,000 - 2,499	14.3	19.4	12.8	10.5
2,500 - 4,999	13.2	17.4	14.8	8.0
5,000 - 9,999	25.8	20.6	31.2	26.0
10,000 - 29,999	26.4	22.6	22.9	33.0
≥ 30,000	5.4	3.2	6.2	12.5





Notes:

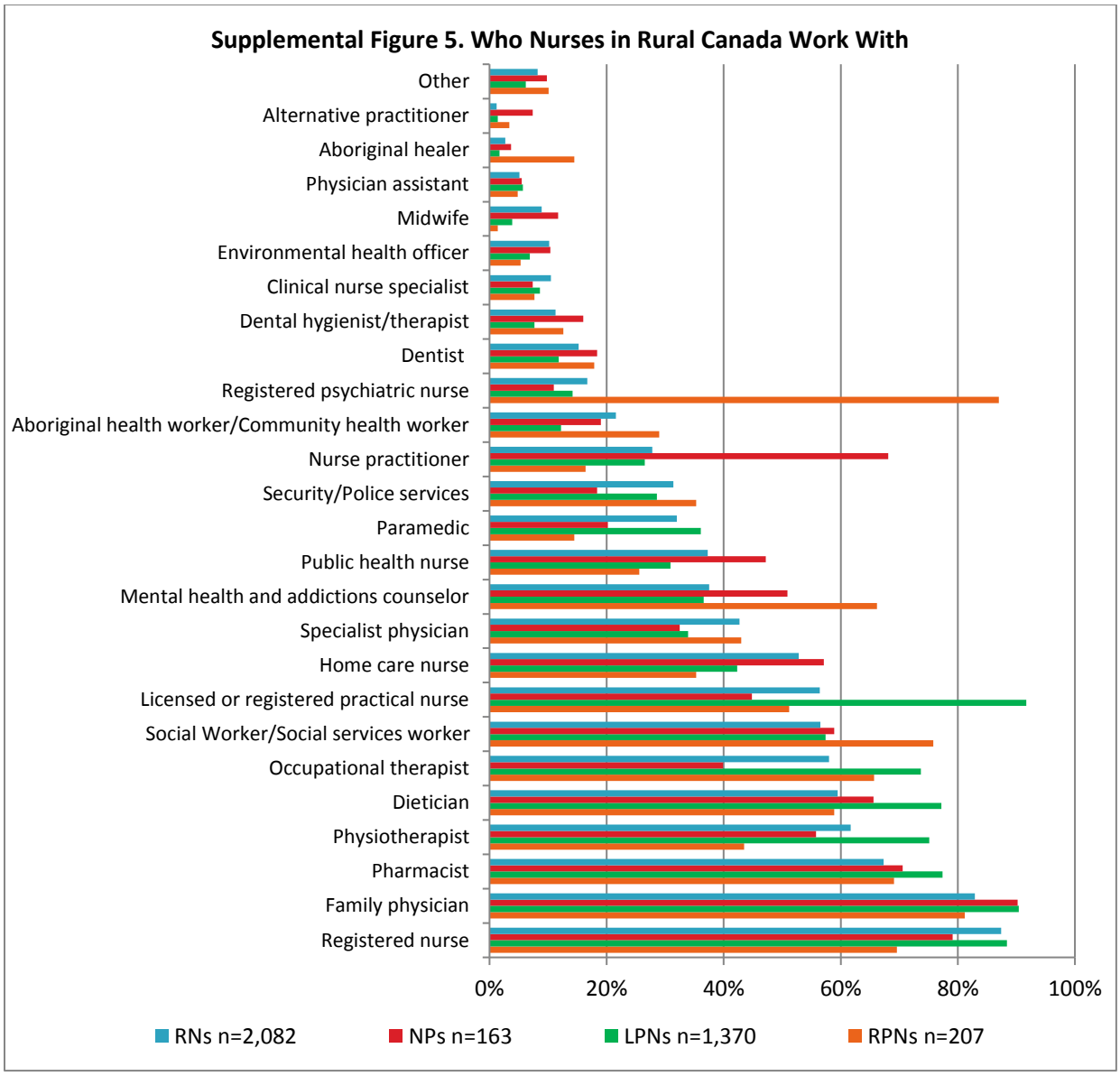
Hospital *includes hospital, mental health centres, rehabilitation/convalescent centres and integrated facilities.*

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

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, physician's office/family practice unit or team and other place of work.*

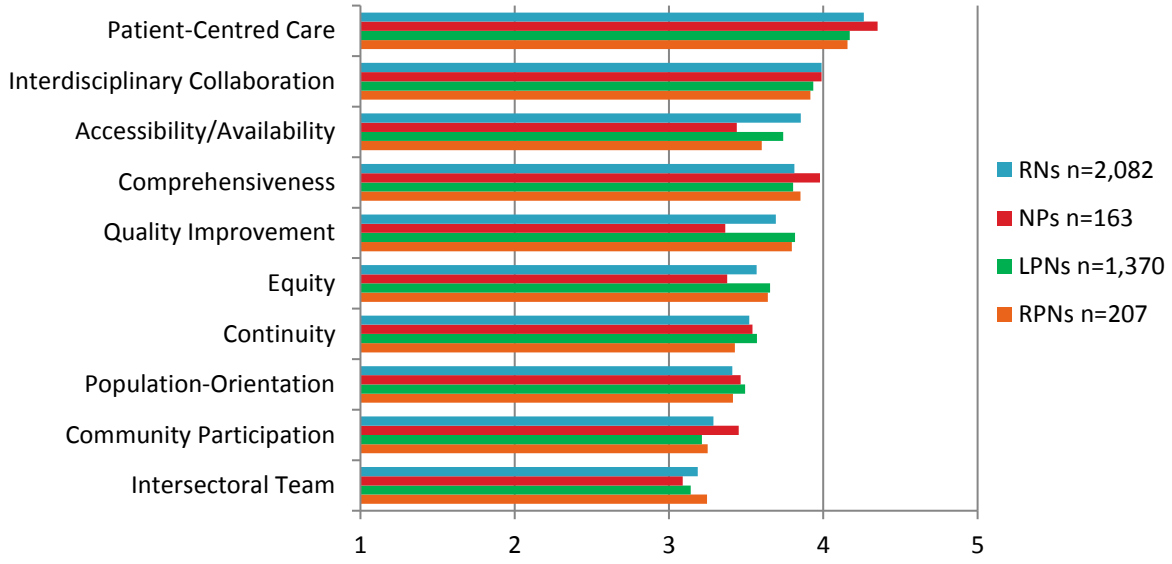
Supplemental Figure 5. Who Nurses in Rural Canada Work With



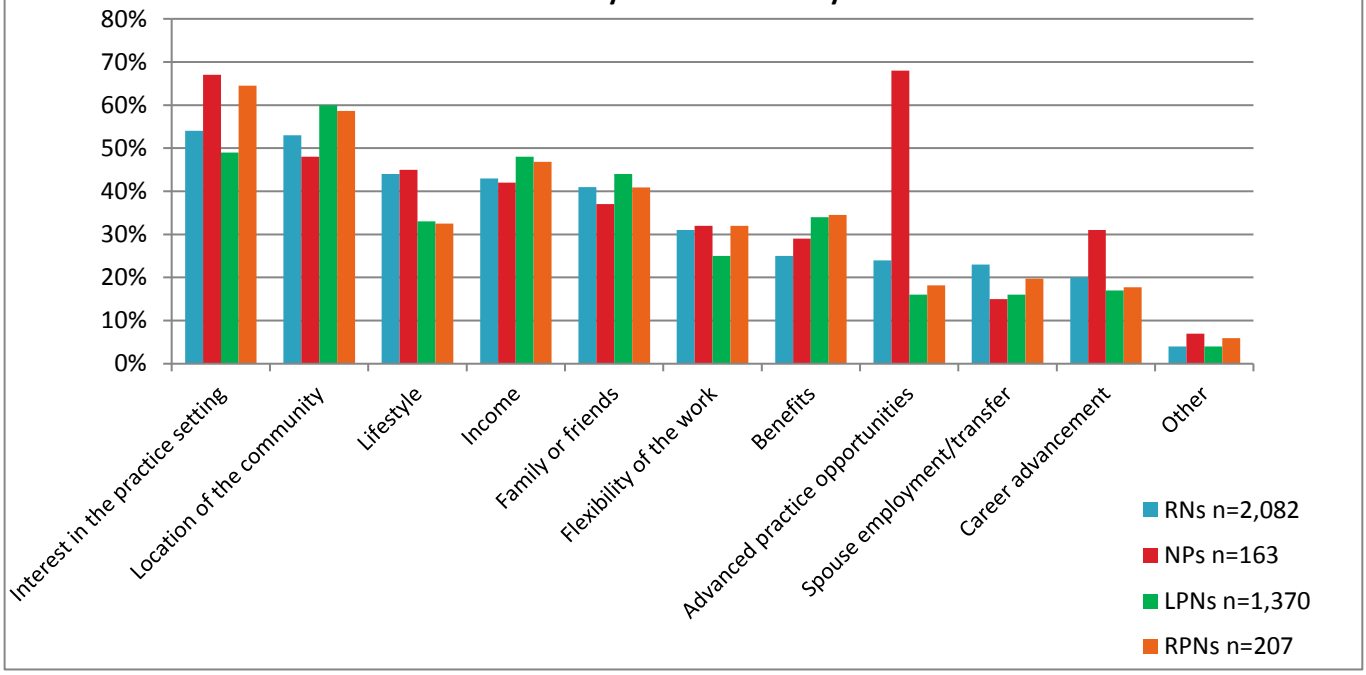
Supplemental Table 5. Who Nurses in Rural Canada Work With

	RNs % (n = 2,082)	NPs % (n = 163)	LPNs % (n = 1,370)	RPNs % (n = 207)
Registered nurse	87.4	79.1	88.4	69.6
Family physician	82.9	90.2	90.4	81.2
Pharmacist	67.3	70.6	77.4	69.1
Physiotherapist	61.7	55.8	75.1	43.5
Dietician	59.5	65.6	77.2	58.9
Occupational therapist	58.0	39.9	73.7	65.7
Social Worker/Social services worker	56.5	58.9	57.4	75.8
Licensed or registered practical nurse	56.4	44.8	91.7	51.2
Home care nurse	52.8	57.1	42.3	35.3
Specialist physician	42.7	32.5	33.9	43.0
Mental health and addictions counselor	37.5	50.9	36.6	66.2
Public health nurse	37.3	47.2	30.9	25.6
Paramedic	32.0	20.2	36.1	14.5
Security/Police services	31.4	18.4	28.6	35.3
Nurse practitioner	27.8	68.1	26.5	16.4
Aboriginal health worker/Community health worker	21.6	19.0	12.2	29.0
Registered psychiatric nurse	16.7	11.0	14.2	87.0
Dentist	15.2	18.4	11.8	17.9
Dental hygienist/therapist	11.3	16.0	7.7	12.6
Clinical nurse specialist	10.5	7.4	8.6	7.7
Environmental health officer	10.2	10.4	6.9	5.3
Midwife	8.9	11.7	3.9	1.4
Physician assistant	5.1	5.5	5.7	4.8
Aboriginal healer	2.7	3.7	1.7	14.5
Alternative practitioner	1.2	7.4	1.4	3.4
Other	8.2	9.8	6.2	10.1

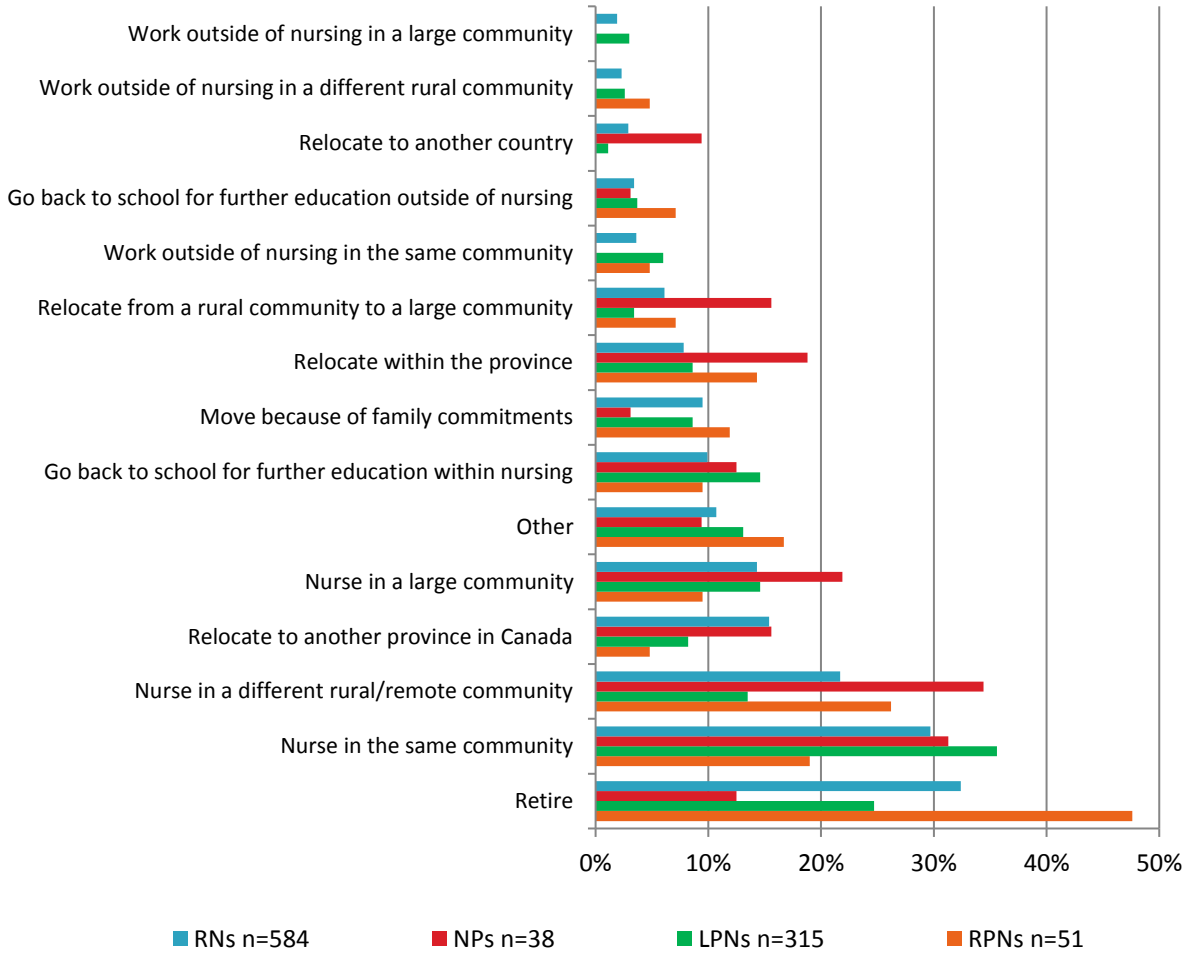
Supplemental Figure 12. Rural Nurses' Perspectives on Primary Health Care in Their Workplace



Supplemental Figure 13. Reasons Why Rural Canada Nurses Came to Work in Their Primary Work Community



Supplemental Figure 14. Future Plans of Rural Canada Nurses who Intended to Leave Within the Next 12 Months



Supplemental Table 14. Future Plans of Rural Canada Nurses who Intended to Leave Within the Next 12 Months

	RNs % (n = 584)	NPs % (n = 38)	LPNs % (n = 315)	RPNs % (n = 51)
Retire	32.4	12.5	24.7	47.6
Nurse in the same community	29.7	31.3	35.6	19.0
Nurse in a different rural/remote community	21.7	34.4	13.5	26.2
Relocate to another province in Canada	15.4	15.6	8.2	4.8
Nurse in a large community	14.3	21.9	14.6	9.5
Other	10.7	9.4	13.1	16.7
Go back to school for further education within nursing	9.9	12.5	14.6	9.5
Move because of family commitments	9.5	3.1	8.6	11.9
Relocate within the province	7.8	18.8	8.6	14.3
Relocate from a rural community to a large community	6.1	15.6	3.4	7.1
Work outside of nursing in the same community	3.6	0.0	6.0	4.8
Go back to school for further education outside of nursing	3.4	3.1	3.7	7.1
Relocate to another country	2.9	9.4	1.1	0.0
Work outside of nursing in a different rural community	2.3	0.0	2.6	4.8
Work outside of nursing in a large community	1.9	0.0	3.0	0.0

[i] For further comparisons by nurse types and across regions, please view the following article:

MacLeod, L.P. M., Stewart, J, N., Kulig, J.C., Anguish, P., Andrews, ME., Banner, D., Garraway, L., Hanlon, N., Karunanayake, C., Kilpatrick, K., Koren, I., Kosteniuk, J., Martin-Misener, R., Mix, N., Moffitt, P., Olynick, J., Penz, K., Sluggett, L., Van Pelt, L., Wilson, E., & Zimmer, L. (2017). Nurses who work in rural and remote communities in Canada: A national survey. *Human Resources for Health, 15*(34). Retrieved from http://rdcu.be/sOoD