Nursing Practice in Rural and Remote Canada II

Nurse Practitioner National Survey Fact Sheet

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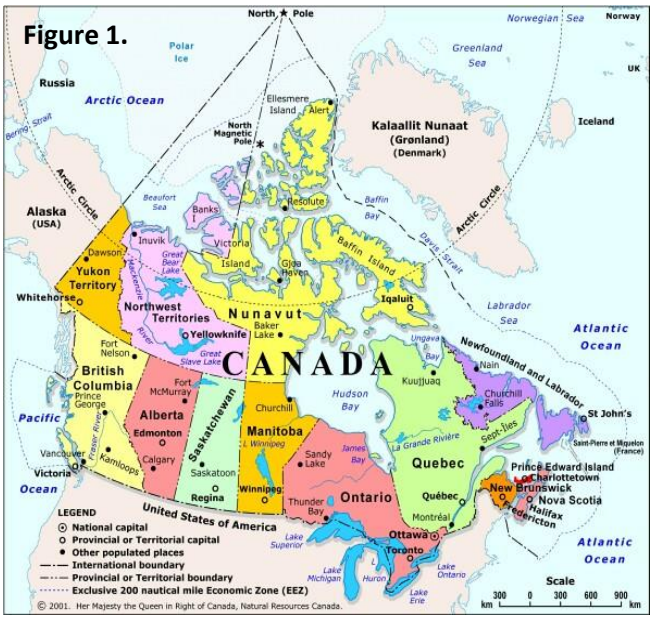
Background

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



http://www.unbc.ca/rural-nursing

This is an updated version of the NP Fact Sheet, released 2018-02-02.

practice in all provinces and territories, and RPNs, who practice in the four western provinces as well as the territories. This fact sheet summarizes results from the national survey regarding the nature of NP nursing practice in rural/remote Canada, including a description of the NPs, their work settings, perceptions of scope of practice, career plans, and how these NPs experience accessibility and quality of PHC in their workplace.

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 163 NPs responded**. The eligible sample of NPs was 226 individuals and the response rate was 72% (n=163, margin of error 7.2%). We can say with 90% confidence that the rural Canada NP respondents are representative of rural Canada NPs as a whole[1].

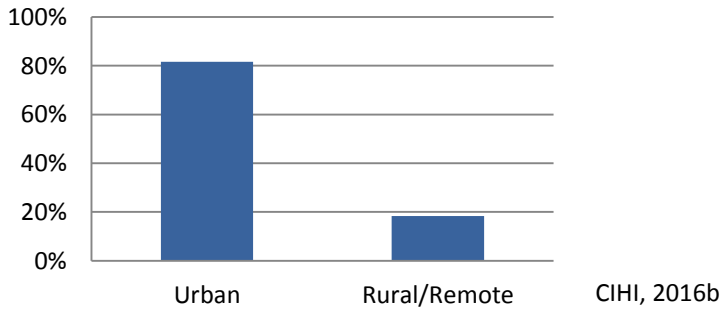
In this fact sheet, the phrase 'rural Canada NPs' is used to refer to the sample of NPs who responded to the *RRNII* survey. The focus of this fact sheet is the rural NP workforce data from the *RRNII* survey. To provide a context however, in this fact sheet, we compare three sets of data: rural NP data from the *RRNII* survey, rural Canada nurse (RNs, LPNs, and RPNs) data from the *RRNII* survey, and all NP 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 NP nursing workforce. **Appendix B** provides comparisons among the RN, NP, LPN, and RPN data from the *RRNII* survey.

Who are the NPs in rural Canada?

In 2010, 18% of Canada's population lived in rural communities, which is where roughly 20% of Canada's NPs 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

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



CIHI, 2016b

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

outside of Yellowknife, Iqaluit, and Whitehorse) (CIHI, 2016a). In the same year, 18% of the provinces' NPs and 42% of the territories' NPs worked in rural settings (CIHI, 2016c). See **Figure 2** for a breakdown of the rural and urban NP nursing workforce in 2015.

Region of primary nursing employment

There has been a steady increase in the overall number of NPs in Canada over the last decade (CIHI, 2016b). Of the 163 NPs who responded to the *RRNII* survey, the greatest number resided in the Atlantic region (19%), Ontario (19%), and the Territories (Yukon, Northwest Territories, Nunavut) (19%), followed by Manitoba/Saskatchewan (15%), Québec (15%), and Alberta/British Columbia (13%).

Gender and age

The large majority of rural Canada NPs were female (96%) with ages ranging from 22-67 years. The average age of rural Canada NPs (47.0) in the *RRNII* survey is the same as in 2010, when the average age of rural NPs was nearly 47 years (Pitblado et al., 2013). A quarter of NPs (25%) were 55 years of age or older and only 13% were under 35 years of age. Across rural Canada, the average age of NPs was lowest in Québec (40.1), followed by the Atlantic region (46.6) and was highest in Ontario (49.4). For a detailed age breakdown, see **Table 1**.

Table 1. Age Distribution of NPs in Rural Canada

	< 25 %	25-34 %	35-44 %	45-54 %	55-64 %	≥ 65 %
NPs (n = 163)	1.3	11.5	25.6	36.5	23.1	1.9

Marital status and dependents

The large majority of rural Canada NPs were married or living with a partner (76%); 13% were divorced/separated, and 10% were single. A sizeable minority of NPs had one or more dependent children living with them (48%) and 3.8% were providing care for a dependent adult in their home.

Indigenous ancestry

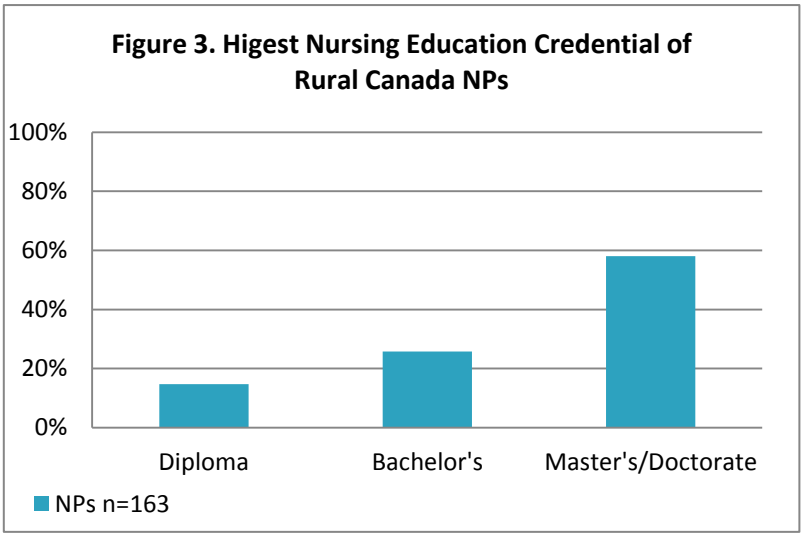
A small proportion of rural Canada NPs in the *RRNII* survey self-declared as having First Nations, Inuit, or Métis ancestry (4.0%), in comparison to 5.9% of RNs, 8.0% of RPNs, and 8.4% of LPNs. It is important to note that some nurses may have chosen not to self-declare.

General and mental health

The majority of rural Canada NPs reported that they were in good/very good health (68%); the remaining NPs were either in excellent health (27%) or were in fair/poor health (5.0%). These NPs reported similarly about their mental health, such that 67% were in good/very good mental health; the remaining NPs were either in excellent mental health (20%) or were in fair/poor mental health (14%).

Education

Since 2015, all NP education in Canada is at the graduate level. Rural Canada NPs most commonly held a master's degree in nursing (58%), followed by a bachelor's degree in nursing (26%) and a diploma in nursing (15%) as their highest obtained nursing education credential. See **Figure 3** for a breakdown of NP nursing credentials.



Although the large majority of rural Canada NPs held an education credential in nursing, a subset of NPs (n=27) held a non-nursing credential in addition to a nursing credential. The most common non-nursing credential was a bachelor's degree, which 10% of NPs had completed.

Number of years licensed to practice

The majority of rural Canada NPs had been working as NPs for a mean of 7.1 years, although they had been registered/licensed to practice nursing in Canada for over 20 years (58%), with a mean of 22.4 years in nursing from registration.

Size of childhood community

The majority (56%) of rural Canada NPs reported growing up in a community with a population of less than 10,000 and one fourth (24%) grew up in a community with a population of less than 1,000. Notably, 13% of all NPs grew up outside of any city or town.

What are the work settings of NPs in rural Canada?

Nursing employment status

The large majority of rural Canada NPs identified themselves as employed in nursing (94%), while the remaining 6.3% were either on leave (3.8%) or were retired and occasionally working in nursing (2.5%) on either a casual or short-term contract basis. It is unclear whether the NPs 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 NPs held a full-time permanent position (76%) and 15% held a part-time permanent position (respondents could hold more than one position). A further 6.2% worked casual, 6.2% contract/term, and 1.2% in a job share.

The majority of rural Canada NPs (65%) had worked in one to three different rural/remote communities, for three months or longer, over the course of their nursing career. Over 23% of NPs had worked in four to six different rural/remote communities. Interestingly, 10% of RNs, 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 NPs in rural nursing practice either within or across provincial/territorial jurisdictions.

Work setting and distance from major centres

The large majority (75%) of rural Canada NPs reported working in a primary work community of less than 10,000. A small minority of NPs (17%) reported working 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** shows the population of the primary work community of rural NPs overall.

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

Community Population	NPs % (n = 163)
≤ 999	17.4
1,000 - 2,499	19.4
2,500 - 4,999	17.4
5,000 - 9,999	20.6
10,000 - 29,999	22.6
≥ 30,000	3.2

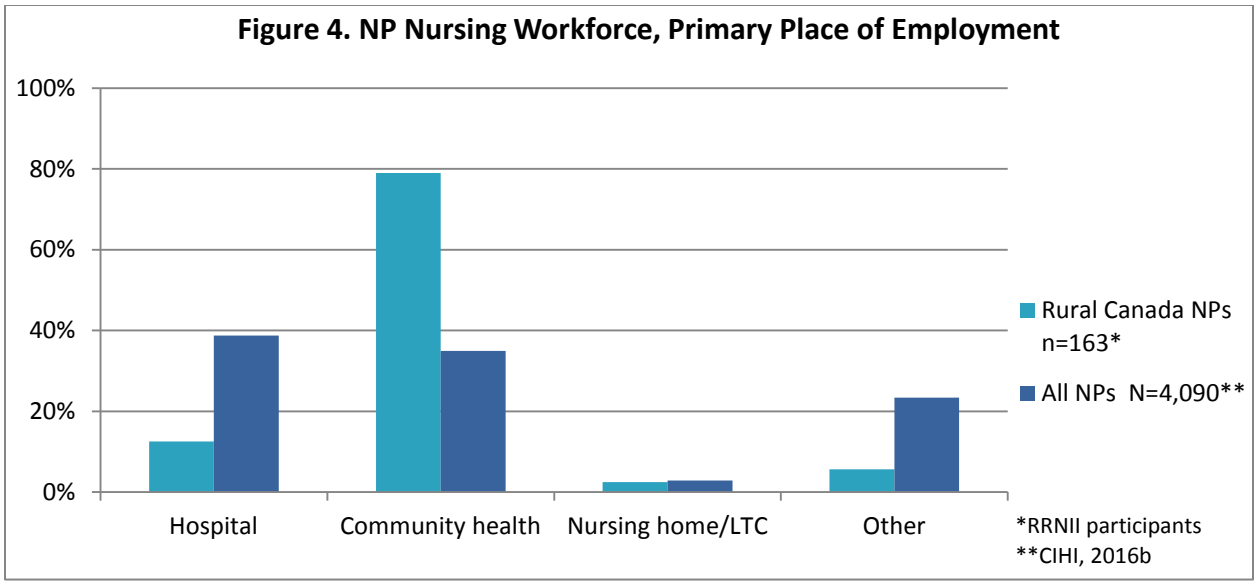
Above half of rural Canada NPs reported living in their primary work community (57%). Of the nurses who were not residing in their primary work community, 65% traveled to work on daily basis, with a typical commute time between one and seven hours per week (76%).

The majority of rural Canada NPs (60%) indicated that they worked more than 200 km from a centre with a population of over 50,000 and half of NPs (51%) reported their primary work community being less than 100 km from a centre with a population of 10,000-49,999. The majority of NPs (57%) reported that their primary work community was less than 100 km from a basic referral centre. Moreover, 34% of NPs identified that their primary work community was more than 500 km from an advanced referral centre.

The large majority of rural Canada NPs were satisfied with their home community (91%); the remaining 8.7% were either neutral (7.5%) or were dissatisfied (1.2%). Similarly, the large majority of NPs were satisfied with their primary work community (86%); the remaining 14% were either neutral (13%) or were dissatisfied (1.2%).

Area of nursing practice and primary place of employment

The large majority of rural Canada NPs identified their area of current practice to be primary care (77%). **Figure 4** shows the primary place of employment for rural Canada NPs compared to all NPs in Canada overall. As Figure 4 shows, 79% of rural Canada NPs worked in a community health setting and only 13% worked in a hospital setting. Notably, NPs in Canada overall were more likely to be working in a hospital setting compared to rural NPs.



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.*

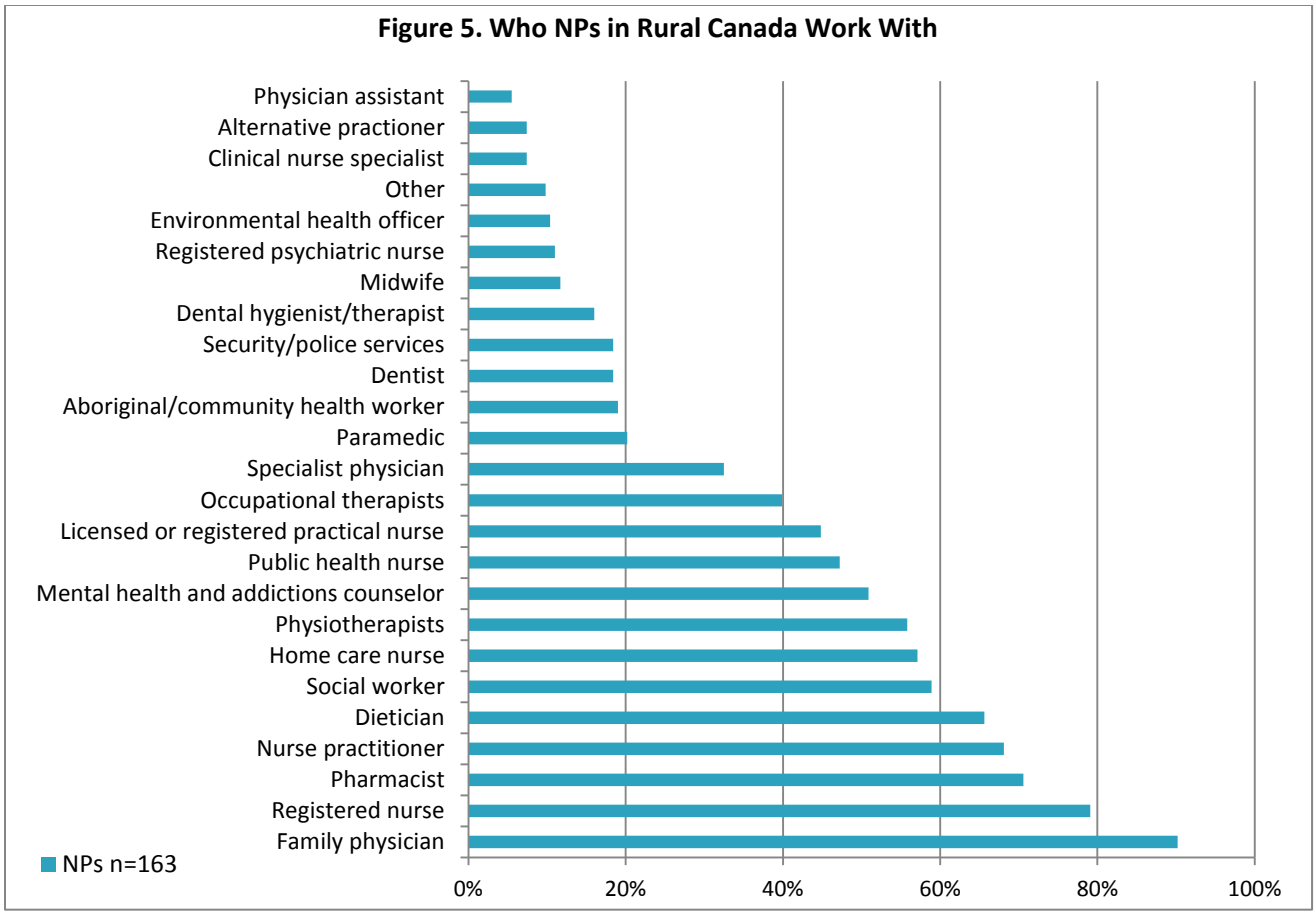
In terms of current primary position, the large majority of rural Canada NPs worked as nurse practitioners (84%); 11% worked as staff nurses and 3.1% as managers. The large majority of NPs were satisfied with their current nursing practice (87%); the remaining 13% were either neutral (8.2%) or were dissatisfied (5.1%).

Finally, regarding duration of primary position, 18% of rural Canada NPs had been in their primary position for 10 years or more, 21% for 6-9 years, 22% for 3-5 years, and 39% for 2 years or less. Just under a quarter of NPs (24%) had been employed by their primary employer for 15 years or more.

Interprofessional practice

Rural Canada NPs worked in teams at their primary workplace. All NPs reported working with at least one other professional provider. The majority of rural Canada NPs (64%) reported they were the only NP at their workplace, although 29% indicated they work with between one to three other NPs. Moreover, NPs typically worked with one to four RNs (72%). However, only 47% of NPs worked with LPNs and 12% worked with RPNs (in the four western provinces and the territories where RPNs work).

The large majority of rural Canada NPs had a support network of colleagues who would provide consultation and/or professional support (91%). NPs identified a wide variety of providers that were part of their usual interprofessional team, including family physicians (90%), RNs (79%), pharmacists (71%), dieticians (76%), and physiotherapists (56%). See **Figure 5** for a complete breakdown of providers who rural NPs identified working with as part of their usual interprofessional team.



Work hours and requirement to be on-call

The majority of rural Canada NPs worked full-time hours (57%) and 28% worked more than full-time hours. Day shifts (93%) were most common, with shift lengths typically 8 hours (71%). Rural Canada NPs reported that they usually have input into how their work schedule is developed (79%), that their shift pattern is predictable (92%), and that their number of rest days are adequate (89%).

The minority of NPs were required to be on-call for their work (21%). Of the NPs who were required to be on-call, 76% reported being called back to work at least a few times a month; 45% are called back to work a few times a week and 6.9% are called back every day. Furthermore, the majority of these NPs (55%) reported that they are called back to work on their days off and 53% are required to be available when unwell. The majority of all NPs were satisfied with the amount of time they were on-call (74%); the remaining 26% were either neutral (11%) or were dissatisfied (15%).

Information access and education sources

Rural Canada NPs had access to various information sources in their primary workplace. For instance, NPs had direct access to high speed internet (91%), electronic communication between healthcare providers (90%), teleconferencing (77%), and videoconferencing (60%). In contrast, a sizeable minority of NPs had direct access to web conferencing (39%).

In the *RRNII* survey NPs were asked to indicate how often they use in-person and online/electronic education sources to update their nursing knowledge. Most NPs used online/electronic sources to update their nursing knowledge at least once per week (63%), rather than in-person education sources (28%).

Violence in the workplace

Rural Canada NPs both experienced and witnessed violence in their workplace while carrying out their nursing responsibilities. In the four weeks before the survey, NPs experienced emotional abuse (26%) and verbal/sexual harassment (12%), and a smaller proportion experienced threat of assault (5.7%), physical assault (3.2%), stalking (0.6%), and property damage (0.6%).

In the *RRNII* survey, NPs reported having witnessed violence in the workplace. Rural Canada NPs had witnessed emotional abuse (41%), physical assault (38%), and threat of assault (35%), and some had witnessed verbal/sexual harassment (21%), property damage (4.5%), sexual assault (2.4%), and stalking (1.3%).

What is the scope of NP practice in rural Canada?

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

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

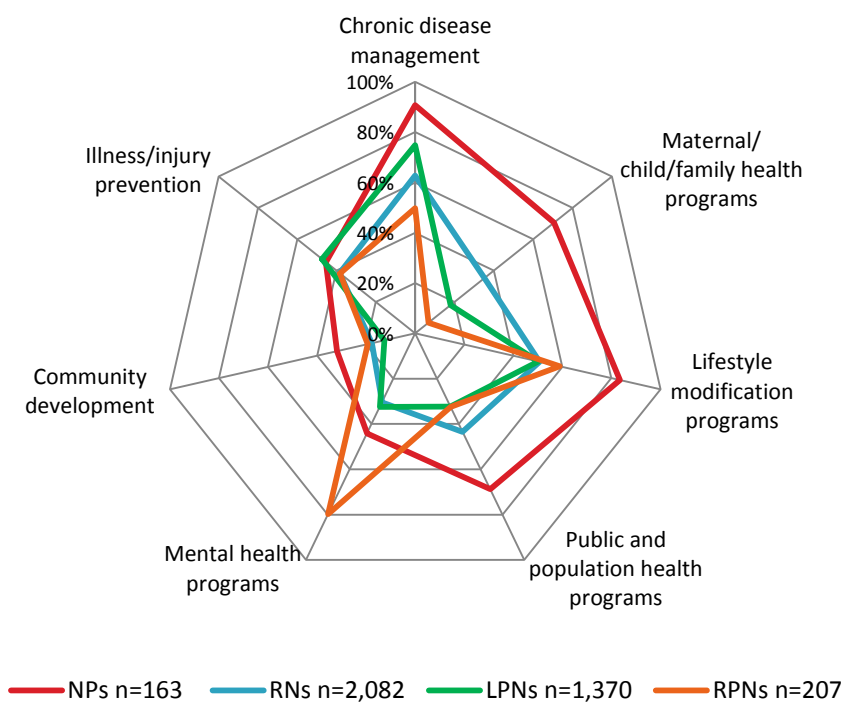


Figure 7. Assessment: Rural Canada Nurses

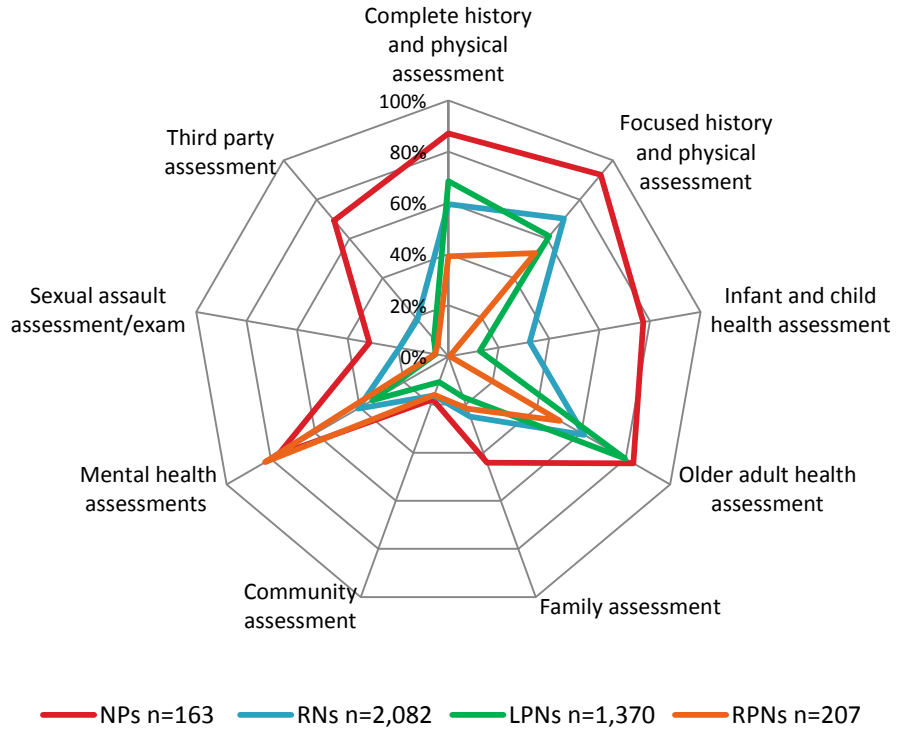
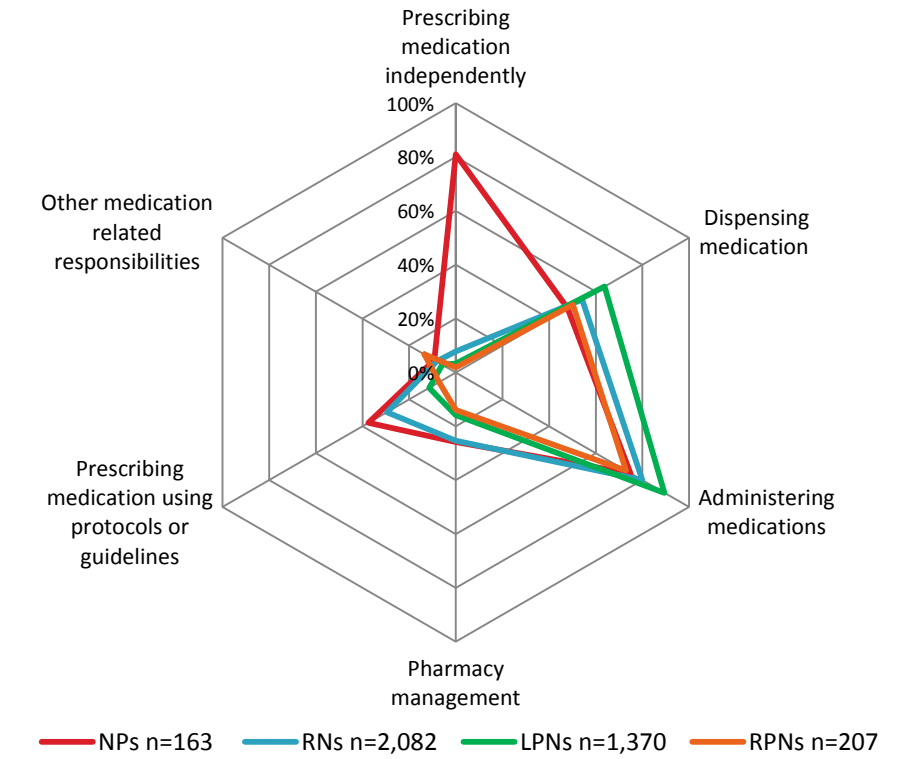


Figure 8. Therapeutic Management: Rural Canada Nurses



The large majority of rural Canada NPs reported working within their registered/licensed scope of practice (83%). The remaining NPs either thought of their nursing role as below their licensed scope of practice (6.2%) or as above their licensed scope of practice (11%).

In terms of *Promotion, Prevention and Population Health*, rural Canada NPs reported providing chronic disease management (91%) and lifestyle modification programs (83%), which is illustrated in **Figure 6**.

Regarding *Assessment* (**Figure 7**), rural Canada NPs reported providing health and wellness assessments such as focused history and physical assessment (93%), complete history and physical assessment (87%), and older adult health assessment (83%).

Concerning *Therapeutic Management*, the majority of rural Canada NPs (81%) reported being responsible for prescribing medication independently and 75% reported responsibility for administering medication (**Figure 8**).

Figure 9. Diagnostics: Rural Canada Nurses

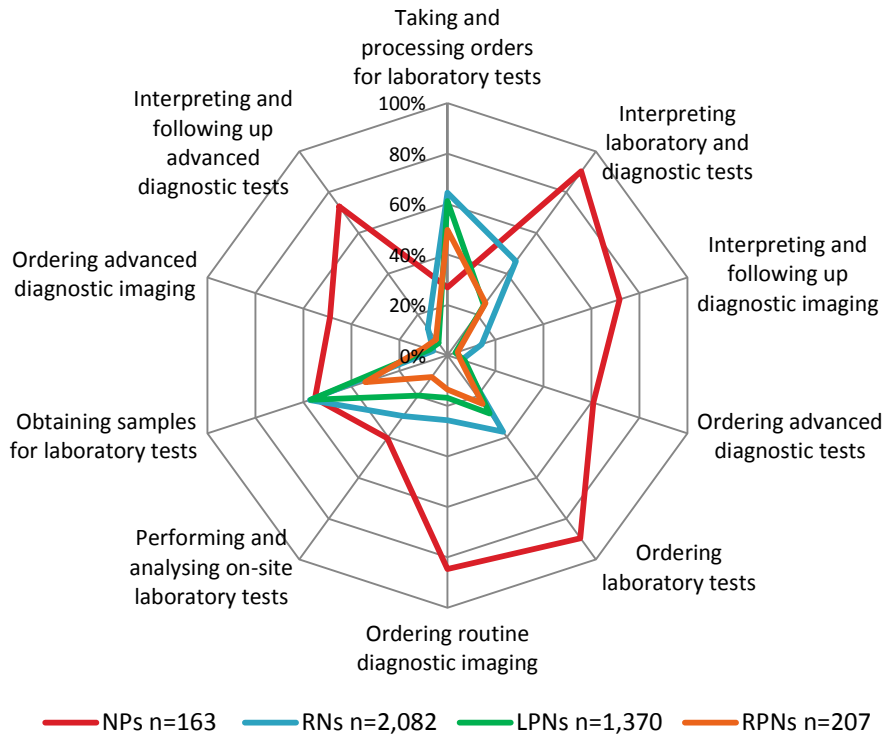
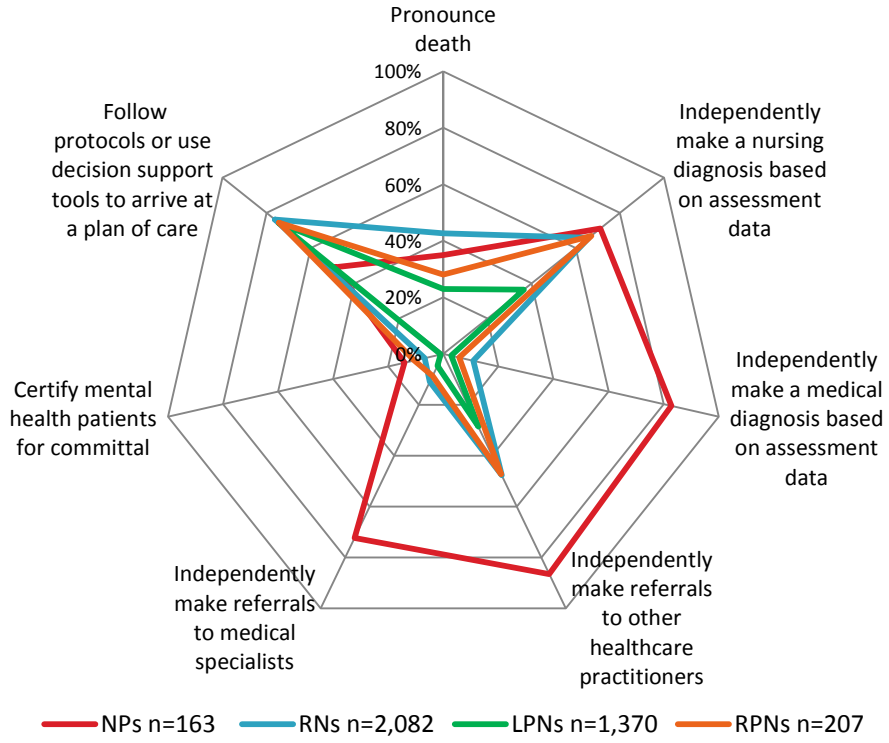


Figure 10. Diagnosis and Referral: Rural Canada Nurses

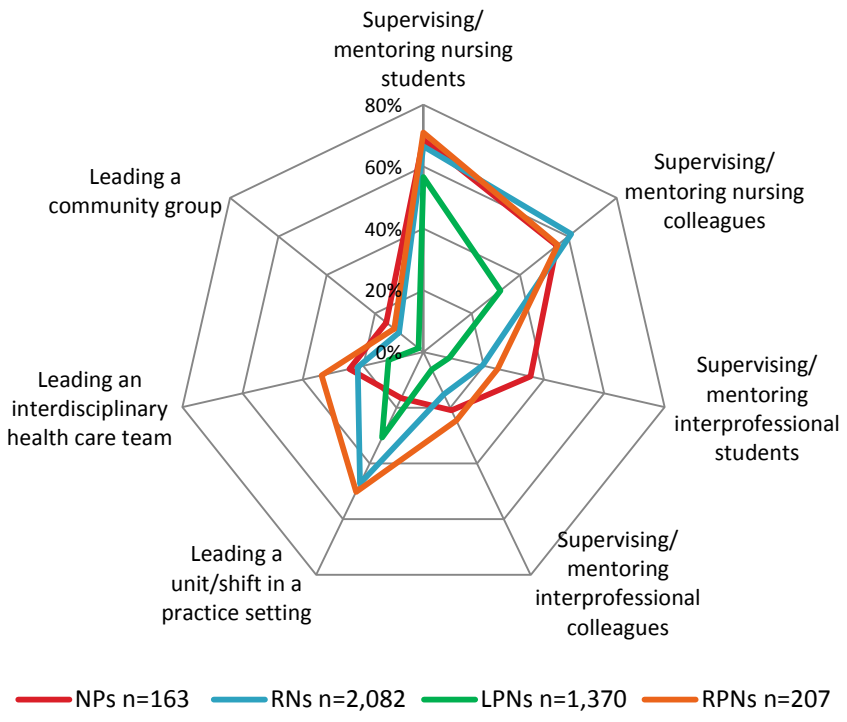


In regard to *Diagnostics*, which included *Laboratory Tests, Diagnostic Tests*, and *Diagnostic Imaging*, rural Canada NPs reported ordering laboratory tests (90%), advanced diagnostic tests (61%), and both routine (85%) and advanced (49%) diagnostic imaging. Furthermore, rural Canada NPs reported being responsible for interpreting laboratory and diagnostic tests (90%), interpreting and following up diagnostic imaging (72%) and advanced diagnostic tests (73%) (**Figure 9**).

In terms of *Diagnosis and Referral*, the large majority of NPs indicated that they independently make a medical diagnosis based on assessment data (83%). As well, the majority of rural Canada NPs indicated responsibility for making referrals to other healthcare practitioners (87%) and medical specialists (72%) (**Figure 10**).

In the category of *Emergency Care and Transportation*, half (50%) of rural Canada NPs reported they were not responsible for any related activities. Few NPs reported responsibility for organizing

Figure 11. Leadership: Rural Canada Nurses

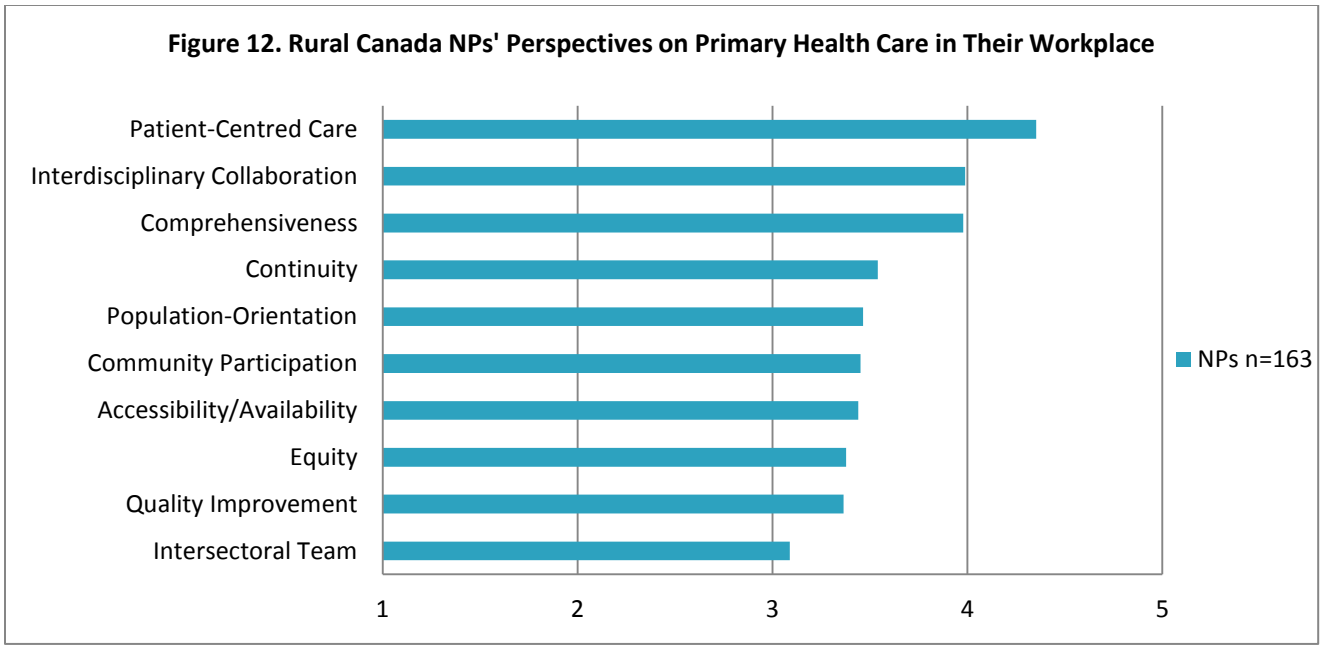


urgent or emergent medical transportation (40%), providing care during medical transportation (33%), responding to/ leading emergency calls (20%), and responding to/leading emergency search and rescue calls in rural, remote or wilderness settings (6.7%).

Finally, in regard to *Leadership* (**Figure 11**), the majority of rural Canada NPs reported involvement in supervising/mentoring nursing students (69%) and nursing colleagues (55%).

What do rural Canada NPs 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**.



It is evident that rural Canada NPs perceived their workplace to be engaged in primary health care. Of note are the reported differences between NPs and RNs on accessibility and quality improvement, and the strongly positive views of rural Canada NPs on patient-centred care in their workplace (**Appendix B**).

Rural Canada NPs 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. In addition, these nurses were strongly positive that their workplace supports healthcare providers in thinking of patients as partners.

In general, rural Canada NPs rated *Interdisciplinary Collaboration* positively. Included are NPs' perceptions that it is understood who should take the lead with a patient when there is overlap in responsibilities. Important to note is that NPs were strongly positive that a collaborative atmosphere exists between healthcare providers from different disciplines and that healthcare providers from other disciplines consult them regarding patient care.

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

Overall, *Continuity of Care* was rated positively by rural Canada NPs. These nurses were strongly positive 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 was 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 NPs, with a good fit between workplace services and community healthcare needs. Also included are NPs' 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 NPs. These NPs reported that community members are treated as partners when deciding about healthcare service delivery changes, 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. NPs also reported that their workplace seeks input from the community about which services are needed.

Although the category of *Accessibility* to healthcare services was perceived positively overall, an interesting pattern of results emerged on individual items. Rural Canada NPs were positive that health services are organized to be as accessible as possible and were strongly positive that patients needing urgent care can see a healthcare provider the same day if their workplace is open. These NPs were less positive that if their workplace is closed, patients can get medical advice by phone. NPs were neutral on whether or not patients can see a healthcare provider in person when their workplace is closed.

Equity was also perceived positively overall by rural Canada NPs, however, there were notable differences on individual items. NPs were strongly positive that their workplace understands the impact of social determinants of health, and were positive that their workplace is organized to address the needs of vulnerable or special needs populations and that patients have access to the same healthcare services regardless of geographic location. Rural Canada NPs reported to a lesser extent, but still positively, that patients can access healthcare services regardless of individual or social characteristics. However, NPs indicated that not all patients in their workplace can afford to receive the healthcare services they need. The workplace enactment of this dimension was perceived negatively.

In terms of *Quality Improvement*, rural Canada NPs were positive that their workplace keeps patient charts current and that there is a process in their workplace for responding to critical incidents. These 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.

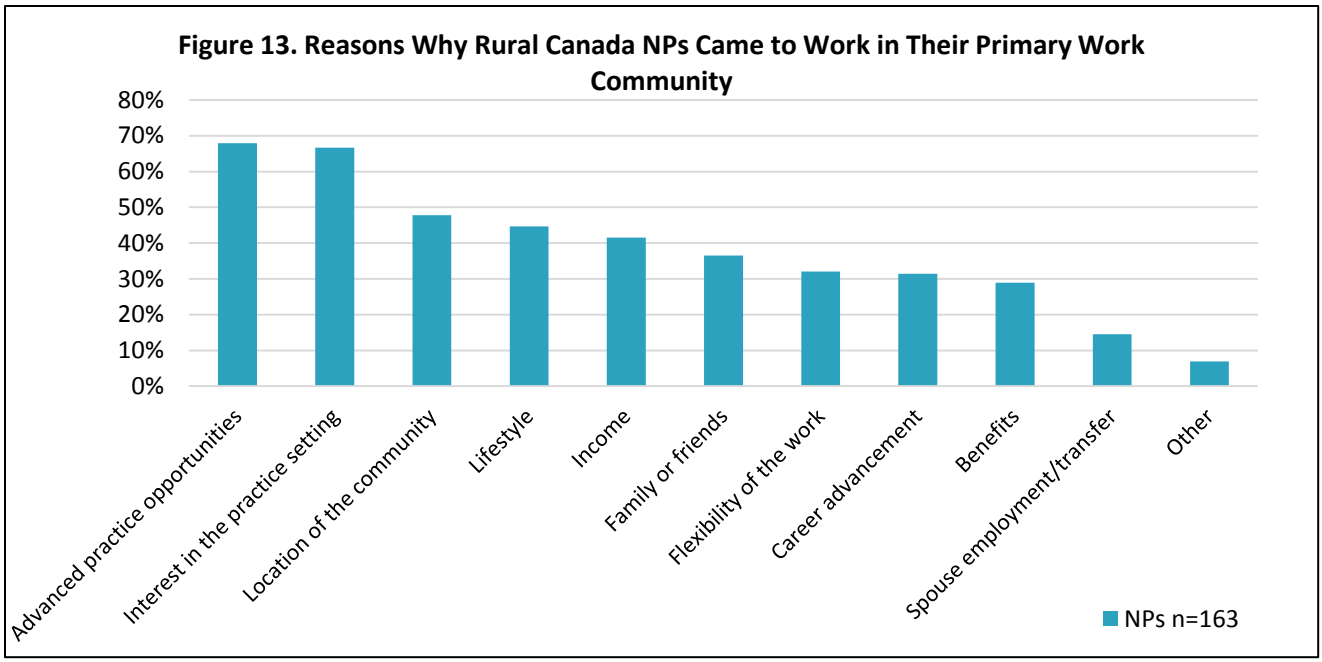
Finally, there were positive ratings of *Intersectoral Teams*, although some important findings must be noted. Rural Canada NPs were positive that their workplace works closely with community agencies, that there have been improvements in the way community services are delivered based on community agencies working together, and that they personally work closely with community agencies. However, NPs 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.

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 NPs in rural Canada?

Recruitment and retention

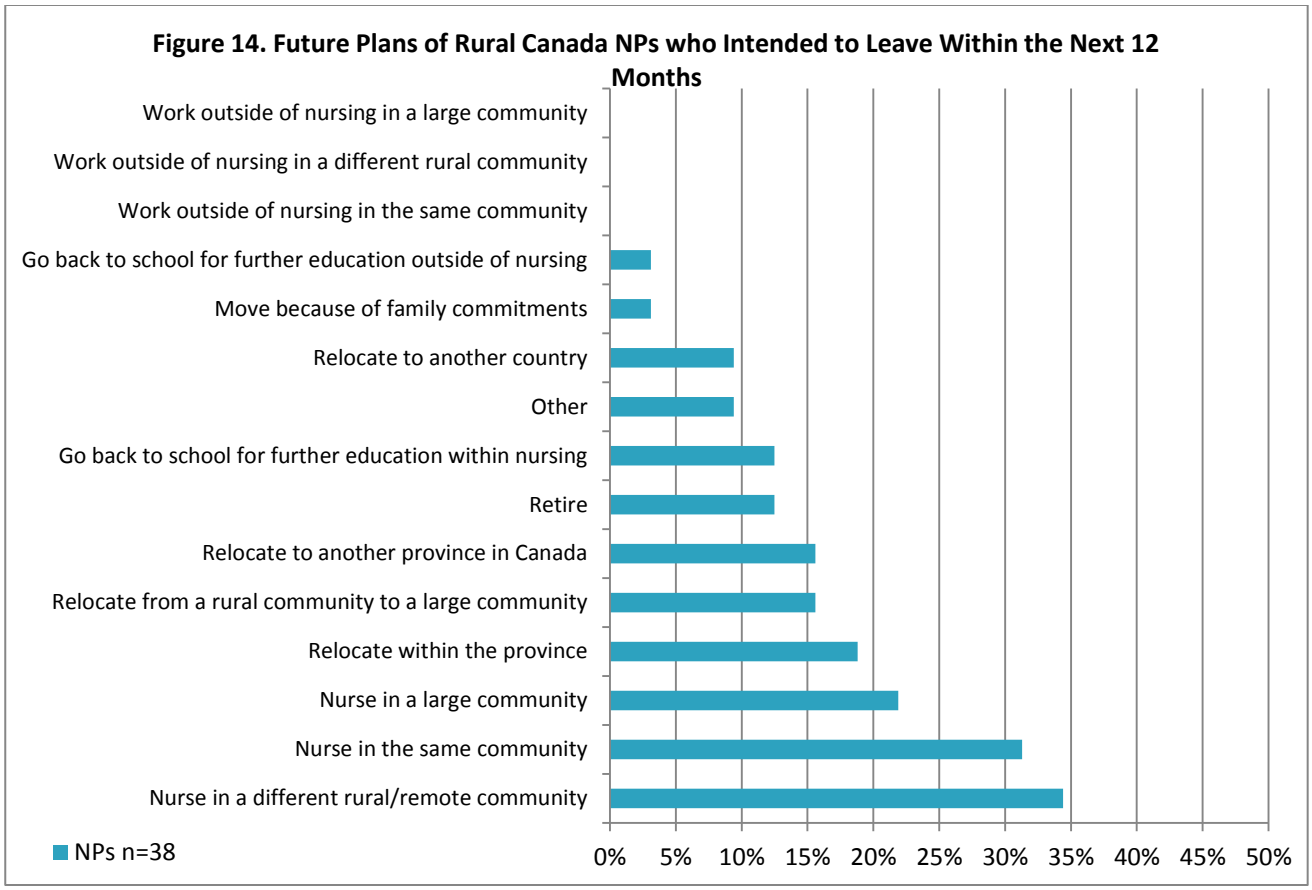
Recruiting and retaining nurses in rural nursing positions is an ongoing challenge (Kulig, Kilpatrick, Moffitt, & Zimmer, 2015). The most frequent reasons rural Canada NPs came to work in their primary work community were advanced practice opportunities (68%), interest in the practice setting (67%), location of the community (48%), and lifestyle (45%). See **Figure 13** for further information on NP recruitment factors.



The reasons why rural Canada NPs continued working in their primary work community were similar to the reasons why they came in the first place. The retention factors included advanced practice opportunities (65%), interest in the practice setting (69%), income (51%), location of the community (50%), flexibility of the work (48%), lifestyle (48%), and family or friends (46%).

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 fourth (24%) of NPs were planning to leave their present nursing position within the next 12 months, compared to 29% of rural Canada RNs, 24% of LPNs, and 25% of RPNs. Rural NPs who intended to leave (n=38) reported a variety of career plans, namely to nurse in a different rural/remote community (34%) or nurse in the same community (31%). See **Figure 14** for a detailed breakdown of future career plans of rural Canada NPs. Interestingly, a smaller proportion of rural Canada NPs indicated plans to retire in the next 12 months (13%) compared to RNs (32%), LPNs (25%), and RPNs (48%).



Rural Canada NPs 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 able to work short-term contracts (50%), have increased flexibility in scheduling (47%), receive an annual cash incentive (47%), have the opportunity to teach (34%), utilize more of their skills (32%), and work more collaboratively (32%).

Regarding career plans for the next 5 years, the majority of rural Canada NPs were planning to nurse in the same community (60%), while 20% were planning to retire; compared to 33% of RNs, 25% of LPNs, and 34% of RPNs who were planning to retire.

Limitations

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

The number of rural Canada NPs who responded to the *RRNII* survey was sufficient for statistical reporting. We can say with 90% confidence that the rural Canada NP respondents are representative of rural Canada NPs 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 NPs with all rural Canada NPs to determine how similar or different they were. The two samples were comparable for gender, although the *RRNII* survey over-represented NPs under 25 years of age and under-represented NPs between 25-34 years of age (CIHI, 2017). Because of this, findings should be interpreted with caution. As well, in this fact sheet, 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: https://www.unbc.ca/rural-nursing

Summary

In 2010, 18% of Canada's population lived in rural communities, which is where roughly 20% of Canada's NPs 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, 18% of the provinces' NPs and 42% of the territories' NPs worked in rural settings (CIHI, 2016c).

The large majority of rural Canada NPs who responded to the *RRNII* survey were female and a lower proportion of rural NPs were over 55 years of age compared to other rural Canada nurses. A Master's degree was the most common highest nursing education credential of rural NPs. The majority of NPs have been registered or licensed to practice nursing in Canada for over 20 years. However, the average NP had only been practicing as an NP for seven years, which reinforces that the NP nursing profession is relatively new. In addition, the finding that 39% of NPs had only been in their position for less than two years is a call to encourage mentorship and support for the role of NPs in rural communities, especially based on the scope of practice identified. Notably, approximately one quarter of NPs had been employed by their primary employer

for 15 years or more, while only 18% had been in their primary position for 10 years or more. This finding may reflect employer support for NP education and credentialing.

The large majority of NPs were employed in a permanent position either full-time or part-time, with day shifts being the most common. Of the few NPs who were required to be on-call, the large majority reported being called back to work at least a few times a month and just under half reported being called back to work at least a few times a week. Furthermore, the majority of these NPs reported being called back to work on their days off and being required to be available when unwell. This may reflect issues with working rural; such findings merit further exploration due to a possible relationship with mental health. A quarter of rural Canada NPs reported experiencing emotional abuse and over one-third witnessed physical assault. These findings may relate to the 14% of NPs who reported they were in fair or poor mental health. Moreover, variation in general and mental health responses may vary by setting and scopes of practice. It will be important to further study how variation in work setting may influence violence in the workplace. Such exploration may demonstrate the need for other skills in team-based care.

Most rural Canada NPs worked in a primary care setting, with only 13% working in a hospital setting. This differs from the work settings of all NPs in Canada as a whole. Rural Canada NPs identified working in interprofessional teams with a support network of colleagues. All NPs had at least one other provider in their usual interprofessional team, highlighting the strong team-based nature of NP care in rural Canada.

Rural Canada NPs cited various reasons for coming to their primary work community, including advanced practice opportunities, interest in the practice setting, location of the community, and lifestyle. The main retention factors were advanced practice opportunities, interest in the practice setting, income, location of the community, and flexibility of the work.

One of every four NPs was planning to leave their present nursing position within the next 12 months. Of those NPs, most often they planned to work within nursing either in the same community, in a different rural/remote community, or in a larger community. One fifth of all NPs were planning to retire in the next 5 years. NPs who intended to leave their present position would consider continuing to nurse if they could work short-term contracts, have increased flexibility in scheduling, and receive an annual cash incentive. A larger sample of NPs would permit further analyses to understand how these responses vary by setting, career stage, and age group of the providers. Analyses are underway to further explore the roles and responsibilities of advanced practice nurses and NPs perceptions of practice. Findings may enable better planning for NP retention.

Although the large majority of NPs reported working within their licensed scope of practice, one in every ten NPs perceived themselves as working beyond their scope of practice. Rural Canada NPs perceived themselves to have a wide scope of practice (relative to other nurse groups) across many dimensions, including assessment and leadership responsibilities. Much of this information demonstrates that NPs are doing what is expected of them. Understanding more about how NPs are able to work as part of the interprofessional team in rural and remote settings is worthy of further investigation. It is possible that differences in provincial/territorial legislation impacted responses on scope of practice. Future articles will investigate the relationship between variables such as nursing education and work setting with perceptions of scope of practice.

Rural Canada NPs reported that their workplaces were engaged in most dimensions of primary health care and were especially positive about their enactment of patient-centred care. Although NPs reported some concerns about patients' abilities to afford health care, it is unclear which services NPs were referring to. Additionally, it is unclear how individuals in community agencies view the role of health care providers in managing issues, and how the frequency of meetings and communication may be improved. Coordinating care for patients across settings presented some difficulties for NPs, which suggests that providers are facing barriers in the system that may be related to accessing records, among other variables.

The *RRNII* survey raises the need to further explore the nature of NP practice in rural and remote Canada, while also considering population trends and needs. *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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To cite this fact sheet:

MacLeod, M., Stewart, N., Kulig, J., Jonatansdottir, S., Olynick, J., & Kosteniuk, J. (August, 2017). *Nurse Practitioner National Survey Fact Sheet: Nursing Practice In Rural and Remote Canada.* Prince George, BC: Nursing Practice in Rural and Remote Canada II. RRN2-04-03

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

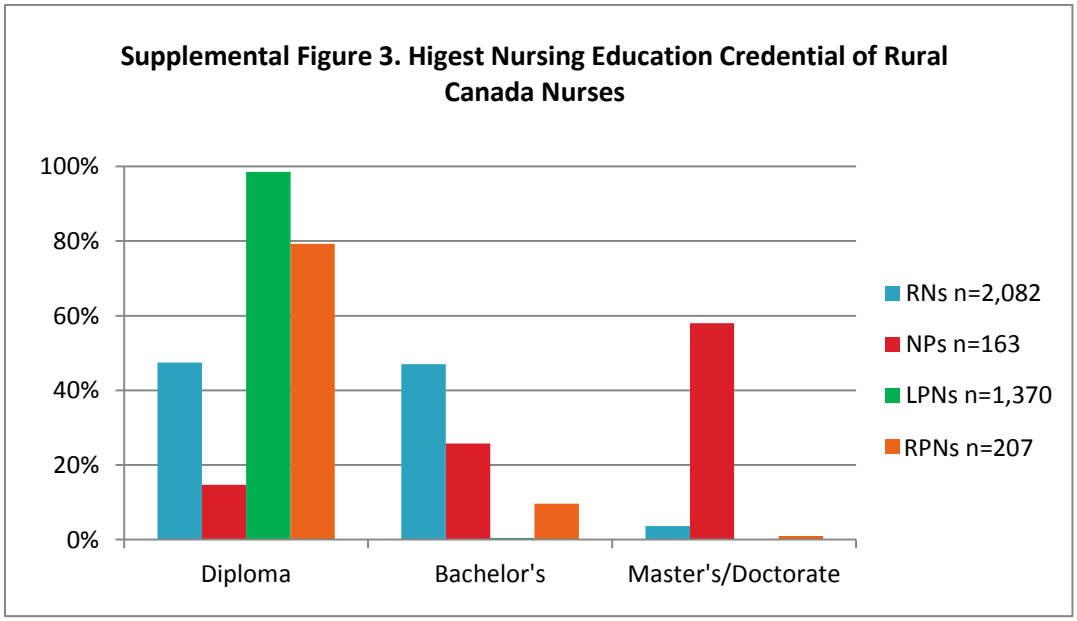
Appendix B. Comparisons: Rural Canada RNs, NPs, LPNs, and RPNs

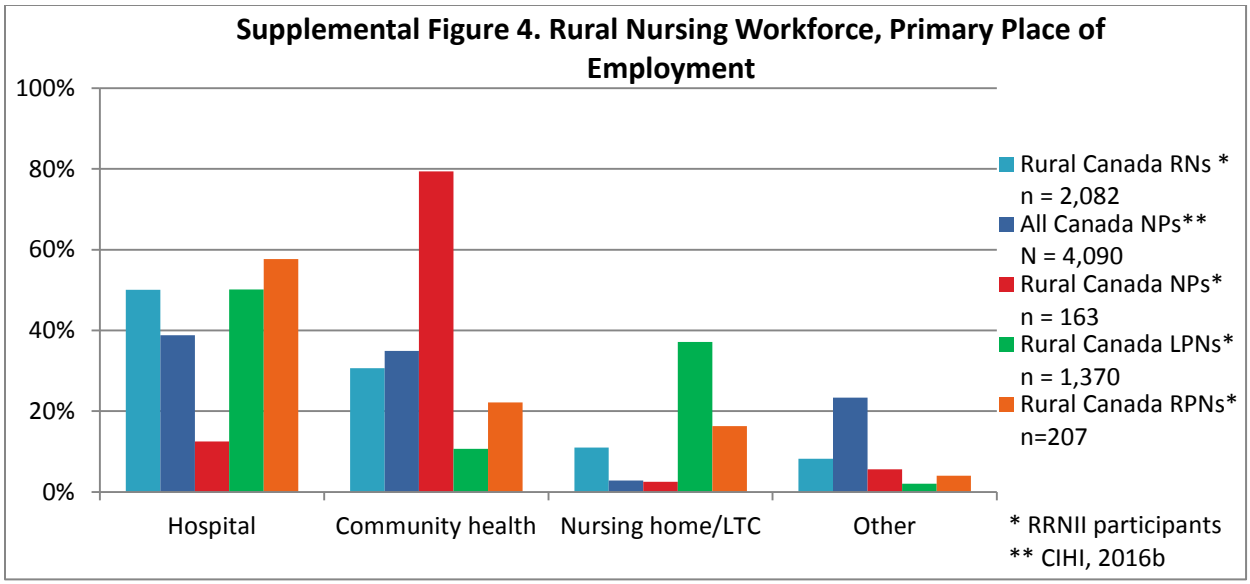
Supplemental Table 1. Age Distribution of Nurses in Rural Canada

		< 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





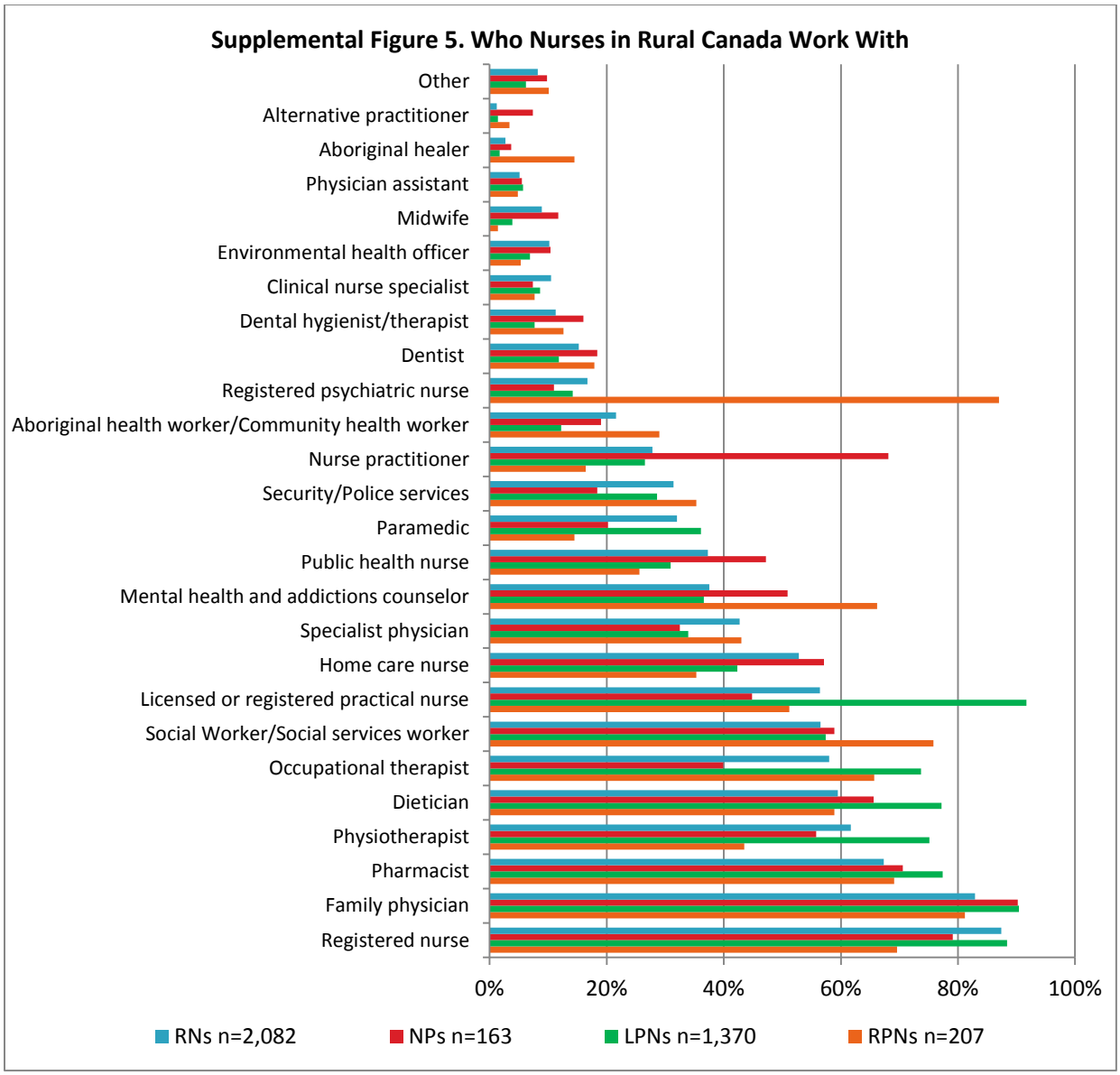
Notes:

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.*

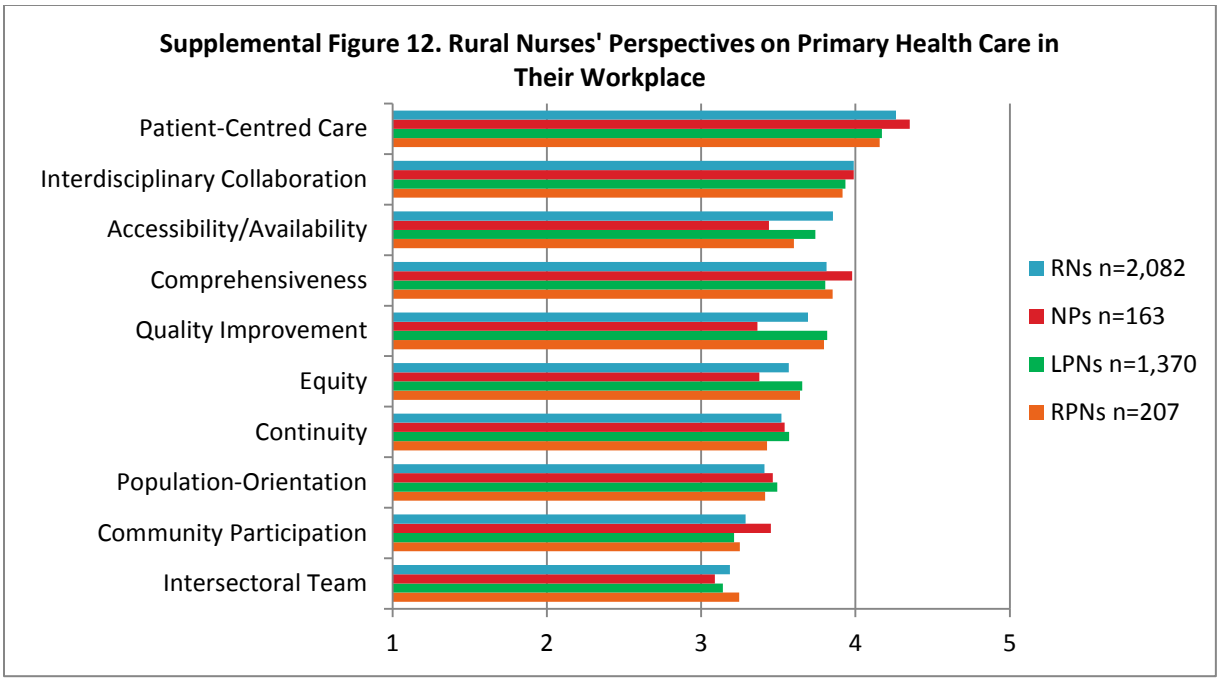
Nursing home/LTC *includes nursing home/long-term care facility.*

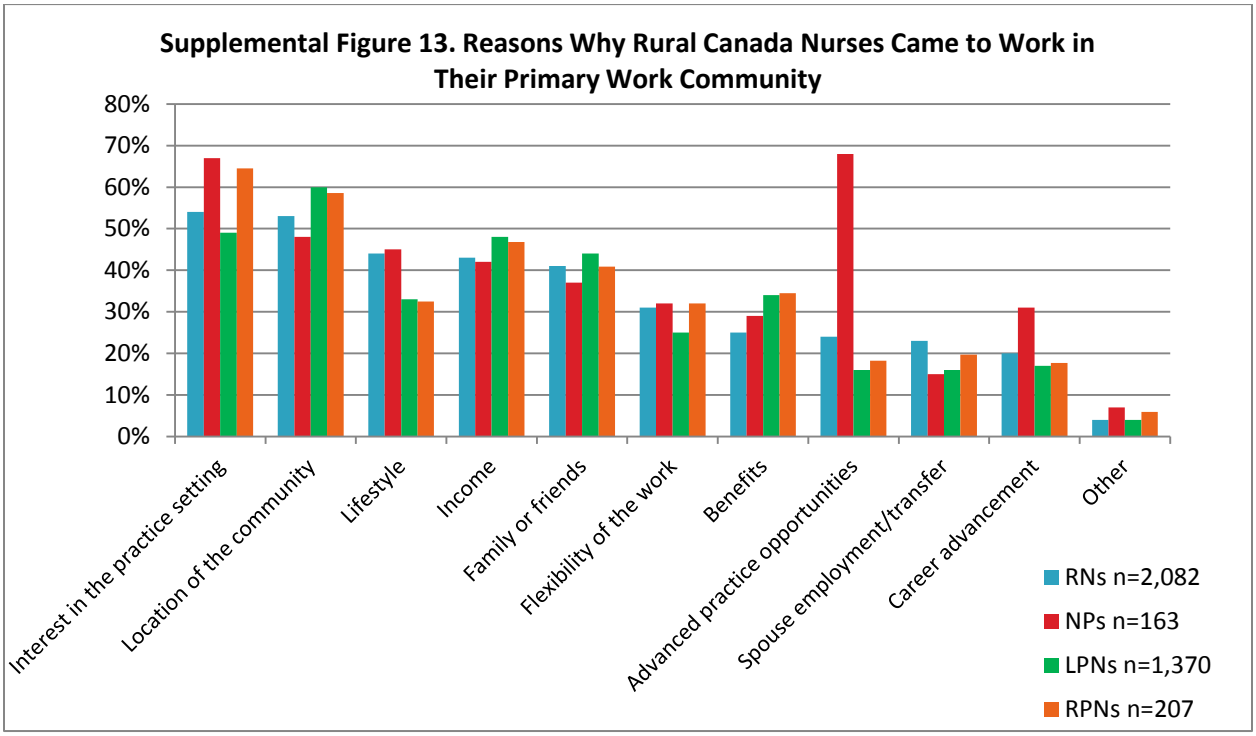
Other *place of work includes professional association/government, occupational health, private nursing agency/self-employed, educational institution, physician's office/family practice unit or team and other place of work.*


Supplemental Figure 5. Who Nurses in Rural Canada Work With
Other
Alternative practitioner
Aboriginal healer
Physician assistant
Midwife
Environmental health officer
Clinical nurse specialist
Dental hygienist/therapist
Dentist
Registered psychiatric nurse
Aboriginal health worker/Community health worker
Nurse practitioner
Security/Police services
Paramedic
Public health nurse
Mental health and addictions counselor
Specialist physician
Home care nurse
Licensed or registered practical nurse
Social Worker/Social services worker
Occupational therapist
Dietician
Physiotherapist
Pharmacist
Family physician
Registered nurse
0%
20%
40%
60%
80%
100%
RNs n=2,082
NPs n=163
LPNs n=1,370
RPNs n=207

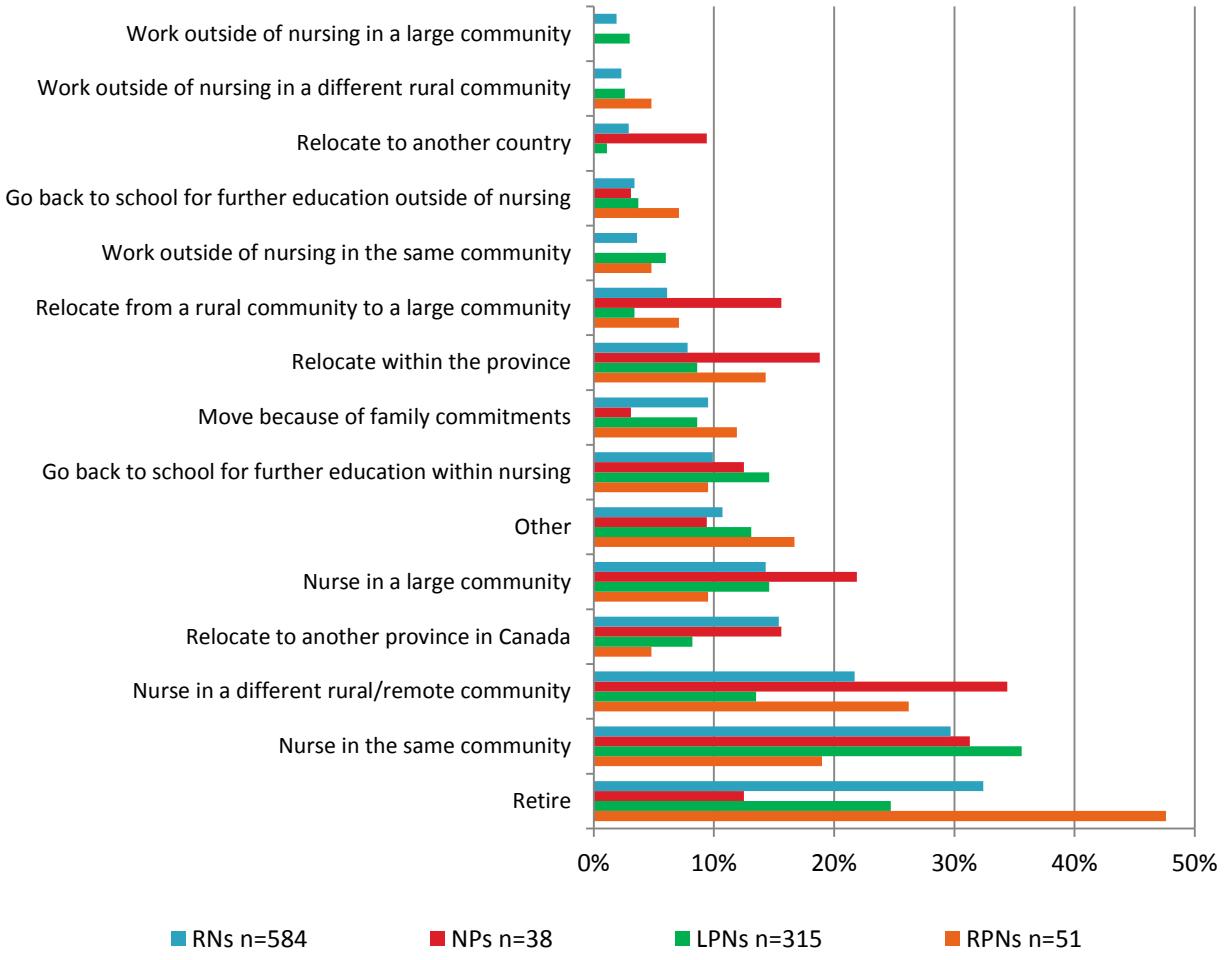
Supplemental Table 5. Who Nurses in Rural Canada Work With

	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
Patient-Centred Care
Interdisciplinary Collaboration
Accessibility/Availability
Comprehensiveness
Quality Improvement
Equity
Continuity
Population-Orientation
Community Participation
Intersectoral Team
1
2
3
4
5
RNs n=2,082
NPs n=163
LPNs n=1,370
RPNs n=207


Supplemental Figure 13. Reasons Why Rural Canada Nurses Came to Work in Their Primary Work Community
80%
70%
60%
50%
40%
30%
20%
10%
0%
Interest in the practice setting
Location of the community
Lifestyle
Income
Family or friends
Flexibility of the work
Benefits
Advanced practice opportunities
Spouse employment/transfer
Career advancement
Other
RNs n=2,082
NPs n=163
LPNs n=1,370
RPNs n=207

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