

Rural and Remote Licensed Practical Nurses' Perceptions of Working Below Their Legislated Scope of Practice

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Abstract

Over the past two decades in Canada, licensed or registered practical nurses (LPNs) have experienced an extension of their educational preparation and scope of practice. Simultaneously, there has been an increase in the number of LPNs employed in rural and remote communities. These changes have influenced the practice environment and LPNs' perceptions of their work. The aim of this article is to examine what factors predict rural and remote LPNs' perceptions of working below their legislated scope of practice and to explore their perceptions of working below scope. The findings arise from a national survey of rural and remote regulated nurses, in which 77.3% and 17.6% of the LPNs reported their practice as within and as below their legislated scope of practice, respectively. Three factors, age, stage of career and job-resources related to autonomy and control, predicted that LPNs would perceive themselves to be working below their scope of practice. These results suggest that new ways to communicate nurses' scope of practice are needed, along with supports to help rural and remote LPNs more consistently practice to their legislated scope of practice. Without such changes, the LPN role cannot be optimized and disharmony within rural and remote settings may be exacerbated.

Background

Over the past two decades, both urban and rural/remote workplaces in Canada have experienced an increase in the number of practical nurse employees (Canadian Institute for Health Information [CIHI] 2017; Pitblado et al. 2013), most of whom enter practice with more education and expectations of a greater scope of practice than their predecessors (Butcher and MacKinnon 2015). As self-regulating professionals, licensed practical nurses' (LPNs) scope of practice is governed by provincial or territorial legislation and regulations and further defined by employer-based job descriptions, employer policies and individual competencies (CLPNM 2018; Tarnowski et al. 2017). In this article, we refer to all licensed practical nurses and registered practical nurses (Ontario) as LPNs.

Practice settings have been impacted by the extension of LPN basic education from a one-year to a two-year diploma, the concomitant expansion of the LPN scope of practice (British Columbia College of Nursing Professionals 2019) and an increase in the numbers of LPNs. These changes have meant that workplaces have a greater proportion of younger and earlier career LPNs than before (CIHI 2017). Work setting changes include new models of care (MacKinnon et al. 2018), variability in practice roles among settings (McClosky et al. 2015) and the exacerbation of role confusion and role overlap between registered nurses (RNs) and LPNs (Besner et al. 2005; Jacob et al. 2013; Kusi-Appiah et al. 2018; Oelke et al. 2008; White et al. 2008). The influences of such changes in LPN education, supply and practice roles merit attention for the healthcare workforce to be optimized (Nelson et al. 2014).

The need to separately study LPN and RN roles has been noted only recently (Harris and McGillis Hall 2012), and most researchers of staffing and staff mix have focused on urban settings (e.g., Duffield et al. 2011; Lavander et al. 2018). Studies of LPNs have addressed interactions with RNs (Huynh et al. 2011; Lavander et al. 2018), mobility (Harris et al. 2013; Salami et al. 2018), role differences (McClosky et al. 2015), retention (Havaei et al. 2016; Nowrouzi et al. 2015) and redesigning teams (MacKinnon et al. 2018; Rhéaume et al. 2015).

Déry et al. (2015) have created an important new model depicting how urban RNs enact their scope of practice. The model usefully notes the interconnection of individual and job characteristics such as experience and role stressors, respectively. This model has not yet been used with LPNs. Missing from the model are community factors, which are important in shaping the practice of rural and remote nurses (MacLeod et al. 2019a).

It has been acknowledged that nurses' sense of autonomy or control over practice and adequacy of resources are linked to staffing mix and patient outcomes (Duffield et al. 2011; Harris and McGillis Hall 2012) and role enactment (Déry et al. 2015). Role confusion and overlap has resulted in decreased role clarity for LPNs, leading to many feeling devalued or not supported in working to their full scope of practice (Lankshear et al. 2016). Furthermore, there are concerns about unfavourable interactions with RNs (Huynh et al. 2011) and that breakdown in communication between RNs and LPNs may have negative impacts on patient care (Lankshear et al. 2016).

The practice of Canadian LPNs in rural and remote settings is beginning to receive more focused research attention. (MacLeod et al. 2017a, 2017b; Nowrouzi et al. 2015). About 14% of Canada's LPNs care for the 17% of Canada's population who live in rural communities (CIHI 2017; MacLeod et al. 2017a). Although an expanded practical nursing role has been explored for Australian enrolled nurses (Nankervis et al. 2008), LPNs' expanded roles in Canadian rural and remote settings are included within their existing scope of practice, for example, undertaking triage in rural emergency departments (CLPNNS 2017). The effects of LPNs working below their legislated scope of practice have been noted (Baumann et al. 2009; Kusi-Appiah et al. 2018; MacKinnon et al. 2018); however, the extent of these effects on LPNs working in rural and remote settings is unknown. LPN roles and scope of practice remain under-researched in Canadian contexts (Harris and McGillis Hall 2012) and internationally (Kusi-Appiah et al. 2018; McKenna et al. 2018).

The aim of this article is to examine what factors predict rural and remote LPNs' perceptions of working below their legislated scope of practice and to explore their reflections of working below scope.

Methods

Design

A cross-sectional survey, the *Nursing Practice in Rural and Remote Canada II* (RRNII) study (MacLeod et al. 2017b), was undertaken to replicate and extend the *Nature of Nursing Practice in Rural and Remote Canada* (RRNI) cross-sectional survey of RNs (Stewart et al. 2005). The 26-page survey questionnaire developed for RRNII reflected four key conceptual areas of individual, nursing practice, workplace and community factors in rural and remote settings. Using the Dillman method of tailored design and repeated follow-up (Dillman et al. 2014), the RRNII survey, in English or French, was mailed in 2014–2015 to regulated nurses (RNs, LPNs, registered psychiatric nurses and nurse practitioners) in all Canadian provinces and territories. Rural was defined according to the Statistics Canada definition of populations outside the commuting distance of urban centres of 10,000 or more (du Plessis et al. 2001). Remote respondents were not separately identified. We have used the term “rural and remote” based on earlier research (Kulig et al. 2008; Stewart et al. 2005). The research ethics boards of the researchers' six universities and three territorial research access organizations approved the study and each participant provided consent as part of their returned questionnaire. All responses were anonymous. No data allowed individuals to be identified.

Study Sample

The RRNII sampling frame, which was derived from the CIHI Nurses Database (Pitblado et al., 2013), is described in MacLeod et al. (2019b). A stratified random sample of regulated nurses working or residing in rural areas of all provinces and all nurses in the territories were eligible for inclusion. The target sample included 10,072 regulated nurses. Of 9,622 eligible participants, 3,822 returned completed surveys for an overall response rate of 40%. Of the 3,353 eligible LPNs, 1,370 responded, for a response rate of 38%. The 1,370 LPN respondents were representative of rural LPNs in Canada as a whole, at a 99% confidence level with a 1.7% margin of error (MacLeod et al. 2017a). The present analysis was conducted on a subsample of 1,206 LPNs who reported their primary position to be a staff nurse ($n = 1,160$), manager ($n = 32$) or clinical nurse specialist ($n = 14$) and who indicated that they perceived their role to be either below ($n = 223$) or within ($n = 983$) their registered/licensed scope of practice. The LPNs who perceived their role to be beyond ($n = 65$) their registered/licensed scope of practice were excluded from the analysis because of the low numbers and the priority of the study's advisors to address concerns of LPNs not working to full scope.

Variables Included in the Analysis

The scope of practice survey question was recoded into two categories (working below/working within) as the main outcome variable, Scope of Practice-Below (SOP-Below), for this multivariable analysis. This variable measured whether the LPNs perceived their current scope of practice to be below or within their registered/licensed scope of practice. Fifty-one independent variables from the survey (categorized as individual, practice, workplace and community factors per the study's conceptual framework) were considered according to their potential clinical relevance, current literature (i.e., gender, age and education) and conceptual/methodological relevance. The full list is available from the lead author. The selection of regression variables followed the same multistage, iterative process as in MacLeod et al. (2019b) to examine the RN scope of practice.

Eleven independent variables included in the logistic regression analysis were categorized as individual, practice and workplace factors. None of the community variables was a significant predictor in the final model. Four *individual* variables were gender (male/female), age (five-year age categories from <30 years to >55 years), career stage (early career [0–10 years since graduation], mid-early career [11–20 years], mid-late career [21–30 years], late career [31+ years]) and perceived stress as measured using the four-item Perceived Stress Scale (Cohen et al. 1983). Two *practice* variables were perceived work confidence and perceived work competence, both measured on a Likert scale (extremely low, somewhat low, somewhat high, extremely high). The five *workplace* variables were three subscales from the Job Resources in Nursing (JRIN) Scale (Penz et al. 2019) measuring practice resources related to supervision, recognition and feedback (four items); staffing and time (four items); and autonomy and control (four items) and two subscales from the Job Demands in Nursing (JDIN) Scale (Penz et al. 2019) measuring demands related to isolation (three items) and comfort with working conditions (four items). The JRIN and JDIN subscales were each measured on a five-point Likert scale (strongly disagree to strongly agree).

Analysis

IBM SPSS Statistics for Windows (Version 24) was used to analyze the data. Bivariate analyses using a chi-square test for categorical data and t-tests or ANOVA for continuous data were conducted using the initial 51 variables to evaluate the association between each independent variable and the main outcome of SOP-Below. Variables significant at $p < 0.20$ were selected as candidates for the logistic regression analyses. The value chosen of 0.20 for variable inclusion is based on the recommendation of a significance level of between 0.20 and 0.25 for purposeful selection of independent variables for logistic regression (Hosmer et al. 2013: 91). This both reduced the risk for “overfit” (e.g., at 0.05 or 0.1 when

the total number of the variables considered are high relative to the number of subjects) and allowed for inclusion of variables with potential clinical importance (Hosmer et al. 2013). Where a Pearson correlation between potential predictor variables was ≥ 0.5 , only one variable was retained, unless there was a theoretical reason to keep both. With this approach, 11 variables were included in the logistic regression, which was run using the “enter” method from SPSS with probability set at $p < 0.05$. This method allowed all variables that met the inclusion criteria (statistical and theoretical) to remain in the model, unlike the stepwise approach that would remove variables based on statistical tests alone. The SPSS enter method is consistent with the purposeful selection method (Hosmer et al. 2013). From this analysis, both unadjusted and adjusted odds ratios were examined.

In addition to the above statistical analyses, open-ended data (i.e., a survey question asking what it means to be a nurse in rural and/or remote Canada) were reviewed for common themes. The open-ended data were analyzed descriptively and categorized according to the predictors of LPNs working below their perceived scope of practice. Illustrative quotes from these data are provided to give a more in-depth understanding of LPNs' perceptions of working below their scope of practice.

Results

Over three-quarters (77.3%) of rural and remote LPNs perceived their practice to be within their legislated scope of practice, with more reporting working below (17.6%) than beyond (5.1%) their scope. The frequencies, means, unadjusted odds ratios and 95% confidence intervals of the nine variables significantly associated with SOP-Below ($p < 0.20$) are shown in Table 1, available online at www.longwoods.com/content/25852. Also shown are the adjusted odds ratios of the three variables that were significant predictors in the final regression model, together accounting for 20% of the variance in LPNs working below their scope of practice.

Two individual variables and one workplace variable related to job resources were predictive of SOP-Below. Regarding individual variables, LPNs who were under 30 years of age were over two times as likely to identify working below scope compared to those 55+. LPNs in early career (0–10 years since graduation) or mid-late career (21–30 years) stages were over two times as likely to identify working below scope compared to those in late career. The likelihood of LPNs perceiving that they were working below their scope was inversely related to one workplace variable. For every one-unit increase in mean score (range 1–5) on the JRIN autonomy and control subscale, the odds of LPNs perceiving to work below their scope decreased by 21% (OR = 0.79, CI = 0.73, 0.84).

What it means to work below scope of practice

Many LPNs, who indicated they worked below their scope of practice, noted their frustrations when they wrote about what it means to be a nurse in rural and remote Canada. As one said, “I love being a nurse. I just wish I could practice my full scope but that will never happen here” (Yukon, LPN). Comments could not be specifically related to the LPNs’ age or career stage; however, some LPNs reported that they were able to work to scope differently in different areas of the country. For example,

I feel at times that LPNs in Newfoundland are not being used to their full scope of practice. I came from Manitoba where I did my training and worked to my full scope. In 2005, LPNs [in Newfoundland] were not using assessment skills or using skills that I had used previously while in Manitoba. It has taken until now for LPNs to be able to use most of the skills being taught in the LPN course. (Newfoundland and Labrador, LPN)

Several LPNs expressed disparities between what they were educated/licensed to do and what they were allowed to do independently. As a New Brunswick LPN said, “We do not use all our training. Must ask before putting on a simple dressing.”

“Allowed” was a frequently used word that referred to a lack of autonomy and control. As one LPN wrote,

I don’t feel like I make a difference. I am barely allowed to speak to patients without the RN’s involvement. [It] diminishes patient/nurse trust and relationship. I am definitely not allowed to make a plan of care without RN say. I have no autonomy. (Nunavut, LPN)

Many LPNs who perceived themselves to be working below scope expressed frustrations in working with RNs.

Discussion

A majority of rural and remote LPNs (77.3%) considered their practice to be within their legislated scope of practice. This contrasts with a Canadian study of a decade earlier, in which Besner et al. (2005) identified that only 20% of LPNs worked to their scope of practice in the study’s health regions (Edmonton, Calgary, Saskatoon) and Oelke et al. (2008) noted that few LPNs perceived they were working to full scope. These findings suggest that rural and remote workplaces are now more receptive to LPNs’ expanded education and changes in scope of practice. However, a substantial minority (17.5%) of rural and remote LPNs in

our study perceived themselves to be working below their scope of practice. LPNs were more likely to have that perception if they were younger (under 30 years), and in either the early (0–10 years since graduation) or mid-late (21–30 years since graduation) career stages. The likelihood of LPNs perceiving themselves as working below their scope of practice was inversely related to their perceived practice resources related to autonomy and control. That is, LPNs who perceived having higher resources related to autonomy and control were less likely to report working below their scope of practice. It is understandable that those LPNs who were less likely to report working below their scope of practice perceived themselves as having higher levels of autonomy. Consistent with the survey items measuring autonomy in this study, these LPNs may have had more freedom of decision-making, more job flexibility allowing them to modify their activities, the ability to influence the shape of the work environment and how care was provided and to use their professional judgment to act in their patients' best interests.

Changes in LPN education programs may have contributed to frustrations about scope of practice, particularly among younger LPNs. Their more robust education has prepared them with enhanced knowledge and skills, compared to older nurses who have taken on the new scope through upgrading skill-focused courses such as those on immunization and intravenous line insertion and care (e.g., Vancouver Community College 2019). The finding that mid-late-career LPNs (21–30 years after graduation) have similar perceptions to early-career LPNs about working below their scope may be related to LPNs gaining experience, developing skills and knowledge and increasing their confidence over time. In the mid-to-late career stage, LPNs may be ready to take on more responsibilities but find themselves in non-supportive workplaces or in rural communities that have few, if any, alternative workplaces for LPNs.

Confusion around LPN scope of practice may be perpetuated by the lack of clarity around LPN knowledge, technical skills and clinical decision-making in educational programs (Butcher and MacKinnon 2015; Lankshear et al. 2016). The ways in which knowledge and the role of the LPN are depicted, with a focus on tasks as opposed to the knowledge needed and the responsibilities assumed by LPNs (Butcher and MacKinnon 2015; White et al. 2008), may make it hard to communicate and understand LPNs' scope within ongoing, everyday practice.

Important contributors to LPNs' perceptions of working below scope are practices and actions within the workplace (McCloskey et al. 2015). Inconsistent job descriptions and duties for LPNs may create confusion around delegation, accountability and autonomy; the organizational culture may not value LPNs' knowledge, professional judgment and contributions. LPNs may not be accorded the flexibility to determine their work activities or be able to influence their work environment. With the high turnover and low staff numbers in rural and

remote settings (Nowrouzi 2015), it may be difficult to maintain a consistent and supportive work environment for LPNs. Managers and RN team members may take a default position of restricting LPN practice if they are not aware of the LPN scope or if they are not fully confident in the individual LPN's abilities. This may be the case, especially if the workplace is facing nursing shortages or increased patient complexity (Harris et al. 2013).

The teams within which LPNs work in rural and remote communities are small. When practice roles change resulting in overlapping roles or tasks, friction can result (MacKinnon et al. 2018; McKenna et al. 2018; Rhéaume et al. 2015). The importance of autonomy and control as perceived by LPNs in our study who say they work below their legislated scope of practice is only partially reflected in other studies (Duffield et al. 2011). Autonomy and control have not been specifically identified as a variable in studies of LPNs. Harris et al. (2013) identified that not being able to work to full scope of practice contributed to LPNs' interprovincial mobility. As White et al. (2008) explain, LPNs who reported working below scope of practice felt "limited and frustrated" and perceived not being allowed to practice to full scope as "a lack of respect for LPNs by their colleagues" (White et al. 2008: 51).

The diversity of LPN practice in rural settings (MacLeod et al. 2017a; 2017b; McKenna et al. 2016) coupled with the small teams, frequent staff turnover, fluctuations in workload and the different ways LPN scope of practice is implemented across Canada can make for a fluid scope of practice. That is, LPNs find that they can exercise some knowledge, complete some tasks and assume some responsibilities at some times and within some teams, but they are not permitted at other times and with other teams. An increased blurring of roles is expected between LPNs and RNs as workforce shortages increase (Harris et al. 2013), cost-focused decisions are made and staff substitution continues to happen. Such blurring of roles and fluidity of scope demands increased communication about LPNs' scope of practice and supports for an optimal scope of practice within changing contexts. Without improved consistency of communication and organizational supports for LPNs' practice, opportunities for appropriate RN delegation may be missed, unnecessary overlaps or gaps in care may occur and, importantly, respect and opportunities for intraprofessional collaboration may not happen.

Strengths and Limitations

Conducting a national survey of this scale is a considerable undertaking. Although the data were collected in 2014–2015, these are the most comprehensive and recent data on rural and remote nurses in Canada available at this time. The survey questions concerned LPNs' perceptions of their scope of practice rather than their legislated scope of practice. Social acceptability may have been a factor in their responses.

Conclusion

Rural and remote LPNs' perception of working below their legislated scope of practice can be predicted by age, stage of career and perceptions of job resources related to autonomy and control. These factors reflect the expansion of LPN education and scope of practice, as well as more LPNs in the rural workforce. Within the realities of rural and remote settings, with their many demands, few resources and high turnover, LPNs can expect their enacted scope of practice to be fluid over time and across settings. New approaches to understanding scopes of practice in terms of knowledge and responsibilities instead of tasks are needed. Without clear expressions of scope and ways to address overlapping roles, it will be difficult to optimize the LPN role within the ever-changing context of rural and remote practice.

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