

EVALUATING THE QUALITY OF WORK LIFE OF REGISTERED NURSES  
IN URBAN, RURAL AND REMOTE NORTHEASTERN ONTARIO

by

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## ABSTRACT

The sustainability of our Canadian healthcare system to meet the demands of healthcare and healing for clients in urban, rural and remote hospital settings are dependent upon nurses' health and the quality of nurses' work life. The purpose of this research was to understand how Northeastern Ontario registered nurses' (RNs') in urban, rural and remote hospitals evaluated their quality of work life (QOWL), to examine similarities and differences of RNs' evaluation related to their geographic locations, and to identify what QOWL and nursing practice environment factors were associated with nurses' stress.

A mixed methods sequential explanatory design was conducted that used an adapted version of the Nursing Work Life Model as the theoretical framework for Phase I. Quantitative data were collected from RNs working in urban, small urban, rural and remote Northeastern Ontario hospitals (n=4). The questionnaire consisted of demographic questions, the Brook's Quality of Nursing Work Life, the Practice Environment Scale, the Nursing Stress scales (NSS), and a section for RNs to write comments. Multiple and logistic stepwise backward regressions were conducted to determine factors associated with nurses' QOWL and stress scores. Phase II face-to-face interviews of RNs and nurse leaders (n=17) were conducted to explicate findings from Phase I results. Thematic analysis of participant comments (n=53), and semi-structured interviews were guided by Thorne's (2008) Interpretative Description methods.

A total of 319 packages were distributed and yielded a 54.23% response rate (n=173). The majority of RNs were female (93.1%) and ranged in age between 20 and 29 years (*mean* = 35.9, *s.d.* 11.0). Results from the QOWL multiple regression analysis indicated three key factors that explained 35% of the variance ( $R^2$  0.353) that included: general health, exhaustion, and factors in the staffing subscale of the Practice Environment Scale. Four key factors were

associated with nurses' stress scores that explained 42% of the variance ( $R^2$  0.423) and included: workload, work-home life balance, adequate support services, and factors of the nursing ability subscale of the Practice Environment Scale. Nurses who reported decreased presence of factors associated in the Nursing Quality subscale were 12.39 (95% CI: 2.58- 59.64) times as likely to have lower QOWL scores ( $\leq 163$ ). Nurses who did not have adequate support services that allowed nurses to spend time with patients were 3.56 (95% CI: 1.78, 7.10) times as likely to report higher stress scores ( $\geq 78$ ). The overarching theme summarizing the findings was revealed to be *Supporting Holistic Client Healing and Nurse Healers* that described nurses' and nurse leaders' evaluation of Northeastern Ontario nurses' QOWL and stress. This was supported by five key themes: 1) *Holistic Healing of Clients: Dueling Ideologies*, 2) *Facilitating Healing at the Bedside: Supporting Nurses' Work Life*, 3) *Geographical Hindrances to Healing: Healthcare System Inequalities*, 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding and Decision-Making Processes*, and 5) *Nurses' QOWL and Health Consequences*.

The findings of this research elucidated new knowledge related to factors impacting Northeastern Ontario nurses' ability to provide quality holistic care to facilitate their clients healing processes, which affected nurses' QOWL and stress. Supporting the holistic healing of clients and nurse healers requires nurses being able to access the supports and resources they need that maintains their legal and ethical standards of care. Inequitable healthcare system policies and decision-making processes that perpetuate healthcare system inequalities need to change. Improving nurses' QOWL and stress requires a concerted effort by several stakeholders. Healthcare policies and decision-makers need to listen to the voices of nurses and healthcare providers who live and work in rural and remote settings across Northern Ontario. New and

unique solutions and policies can be created that may eventually actualize the vision of the delivery of high quality healthcare services that are equitable for all Ontarians regardless of their geographic location.

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## CHAPTER 1: INTRODUCTION AND BACKGROUND TO THESIS

This thesis presents findings from a sequential explanatory mixed methods study that evaluated the quality of registered nurses' (RNs') work life and stress that worked in urban, rural and remote acute care hospitals located across Northeastern Ontario. Chapter I provides background information related to the nursing profession, roles of nurses, and a description of nurses' quality of work life working in different geographical areas. The review of the literature outlines the importance of evaluating and improving nurses' health and quality of work life (QOWL) and identifies a gap in knowledge presenting justification for this research. The theoretical underpinnings and framework guiding this study, and the research questions conclude Chapter II. Chapter III presents the purpose, research design, and specific methods I utilized in my study that are congruent with the philosophical foundations of pragmatism. The quantitative Phase I and qualitative Phase II findings are outlined in Chapters IV and V that shape the overall interpretation and understanding of the key themes that impact nurses' QOWL and stress. Chapter VI concludes this work with a discussion of the overall findings, limitations of the study, implications of the findings for the nursing profession, and recommendations stemming from the findings for policy and decision makers.

### **Background to Research**

In Canada, nurses comprise the largest professional group working in the healthcare system (Shields & Wilkins, 2006a; Shields & Wilkins, 2006b). Nurses have different types of designations that include: registered nurse (RN) in the general class, nurse practitioner who is an RN that is in the extended class, a licensed practical nurse or in Ontario a registered practical nurse, and registered psychiatric nurses. Registered psychiatric nurses are located mostly in the

western provinces and territories (Canadian Institute for Health Information, 2017; MacLeod et al., 2017b). It is important to note that in this document the term nurses will refer to all designations and RNs will refer only to registered nurses in the general class. As a professional discipline, nurses must meet the professional and ethical competencies and standards of care mandated by the provinces College of Nurses of Ontario and legislation that include: the *Nursing Act 1991*, and the *Regulated Health Professions Act, 1991* (College of Nurses of Ontario, 2002; College of Nurses of Ontario 2009). Annually, each nurse must complete his or her provincial nursing college renewal requirements to be allowed to continue working as a nurse.

### **Role of Nurse Healers**

Nurses have a prominent role in Canada's healthcare system (P. N. Clarke & Brooks, 2010; Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b; Tourangeau, Coghlan, Shamina, & Evans, 2005). Nurses' primary goal is to provide safe, competent, humanistic patient-centred care through the development of a therapeutic relationship (College of Nurses of Ontario, 2002). As a professional discipline, nursing is considered a human science based on values (Baumann O'Brien-Pallas, Armstrong-Stassen, Blythe, et al., 2001; Canadian Nurses' Association, 2002). Values contained in the Canadian Nurses' Association code of ethics include: safe, competent and ethical care; health and well-being, choice, dignity; confidentiality, justice, accountability; and quality practice environments. Treating others with dignity is a core value for nursing that guides humanistic patient-centred care (Milton, 2010).

Nurses view health holistically integrating a person's physical, mental and social well-being (WHO, 1978). Nurses, along with other healthcare professionals, facilitate holistic healing processes for clients that may not necessarily involve a cure (Levin, 2011; Zahourek, 2012). A nurse healer has been defined as: "one who facilitates another person's growth toward wholeness

(body-mind-spirit) or who assists another with recovery from illness or transition to peaceful death. Healing is not just curing symptoms. Rather, it is the exquisite blending of technology with caring, love, compassion, and creativity” (Dossey & Keegan, 2013, p. xxvii). The ability for nurses to meet the holistic healing needs for clients requires that there are enough nurses to provide the care.

The healing processes of an individual are affected by several factors including their general health status and their geographic location. The health of people living in northern, rural and remote locations is known to be lower than those living in urban centres (North East Local Health Integration Network, 2014). Therefore, the health information for people living in northern, rural and remote locations is an important consideration when exploring the quality of nurses’ work life caring for clients in Northeastern Ontario.

### **Demographic and Health Profile of the North East Local Health Integration Network**

The North East Local Health Integration Network is comprised of approximately 400,000 kms<sup>2</sup> with a population of 563,000 people in 2014. It is estimated that by 2036, 30% of the population will be 65 years of age and older representing a 55.5% increase from 2014. The majority of Ontarians (69%) live in urban centres, while 14% live in rural areas compared to Northeastern Ontario where 19% of people live in urban centres, and 30% in rural areas. Northeastern Ontario is culturally diverse with 23% of the population identified as being Francophone and approximately 11% being of Aboriginal, First Nation or Métis ancestry. The majority of Indigenous, First Nation or Métis peoples live in the most Northern, rural and remote areas of the North East region and coastal areas (North East Local Integrated Health Integration Network, 2014).

The health profile of people living in the North East Local Health Integration Network in

2014 indicated they had less life stress and a strong to very strong sense of community belonging when compared to Ontario. Poorer health practices and health status were revealed through lower life expectancy rates compared to Ontario. The female life expectancy rate in the North East Local Health Integration Network was 81.4% compared with 83.6% in Ontario. The male life expectancy rate was 76.5% compared with 79.2% in Ontario. Further, the North East Local Health Integration Network population also had higher percentages of smoking, drinking, obesity, and high blood pressure rates, higher rates of diabetes, arthritis, mood disorders, and chronic obstructive pulmonary disease when compared to Ontario provincial rates. A lower percentage of people (84%) in the North East Local Health Integration Network have a family doctor compared to Ontario (91.2%), and rated their health as very good to excellent compared with the rest of Ontario's percentages (North East Local Health Integration Network, 2014).

### **Northern, Rural and Remote Populations Health Access to Equitable Care**

Equitable access to timely healthcare is especially important to improve the health status of Indigenous, First Nation or Métis populations living in the most Northern, rural and remote areas of Ontario and across Canada. In a retrospective study, the behavioral and metabolic related health conditions of Indigenous men and women, from Manitoba, Canada, were explored and compared to data collected from the "Canadian Community Health Survey (2003) and the Manitoba First Nations Regional Longitudinal Health Survey for adults (2002/03)". The authors reported significantly higher rates of smoking, binge drinking, obesity, and diabetes with expectations that the incidence of cancer rates will become higher over the years for Indigenous peoples living on reserves. Addressing economic disparities and developing new health and social authorities were recommended to help reduce risks of cancer for this population (Elias et al., 2011, p. 701).

The incidence of cancer among Canadian Indigenous populations was reported as being lower than the rest of the population in past years; however, the incidence of cancer rates have been changing and are increasing. Mortality rates associated to cancer were reported to be 40% lower among First Nations peoples compared to the rest of the Canadian population between 1984 and 1988; however, mortality rates increased between 1979 and 1993 by 1.7% for First Nation females and 6.2% for First Nation males per year. In one decade (1991 to 2001) cancer became the second leading cause of death for First Nation females and the third leading cause of death for First Nation males (Elias et al., 2011).

In a study using geographical information systems from British Columbia, Canada, associations related to the socioeconomic status, travel times related to geographical distance to access cancer treatments for urban, suburban and rural head and neck cancer patients (n=11,050) between 1981 and 2009, were explored (Walker, Schuurman, Auluck, Lear & Rosin, 2017). The majority of patients lived in urban areas (76.4%), followed by rural (15.1%), and suburban areas (8.5%). Approximately 62% lived within a one-hour distance from the cancer treatment centre while 3% had travel times of 12 hours. The majority of rural patients had an average of six hours travel time that was calculated to be 33% greater than urban patients with a higher or affluent socioeconomic status. The researchers reported significant associations between socioeconomic disparities among patients who had nearly double the travel time to access treatment. A reduction in the travel times of 28% was observed with the creation of new cancer treatment centres closer to the patients' communities. Reducing travel times through financial travel assistance programs was one recommendation suggested to assist in the provision of equitable access to cancer care and potentially increase cancer survival rates (Walker et al., 2017).

## **Description of Urban, Rural and Remote Nurses Across Canada, Ontario, Northeastern Ontario, and Nursing Shortages**

Nurses have been described as the “cornerstone of Canada’s healthcare system” (Canadian Institute for Health Information, 2017, p. 28) that has been suggested to be crumbling. Researchers are predicting a looming global nursing shortage primarily based on the ageing demographics of nurses. It is suggested that this shortage will have a significant impact on the healthcare system and the quality of care that may negatively impact the health outcomes of patients (Chan, Tam, Lung & Wong, 2013; Canadian Institute for Health Information, 2017; Hussain, Rivers, Glover & Fottler, 2012). Descriptive statistics are collected annually by the nursing colleges and the Canadian Institute for Health Information, on all nurse designations that provide a variety of information such as the number of nurses, client care areas where they practice, the key employers of nurses, and demographic information such as age and gender for example, that assists in assessing for a nursing shortage.

Membership statistics related to RNs working in rural and remote locations across Canada, in Ontario, and in Northeastern Ontario through the provincial nursing college have been limited; however, some data have been gathered by a variety of agencies including the Canadian Institute for Health Information and several researchers over several years. One seminal research project, the *Nature of Nursing Practice in Rural and Remote Canada* study, was conducted between 2001 and 2004 to explore the nature of nurses’ practice across Canada (MacLeod et al., 2017a). A second national cross sectional mailed survey, the *Nursing Practice in Rural and Remote Canada II*, was conducted between April 2014 and September 2015, and included a stratified sample of 3,822 nurses across all Canadian provinces and territories. The aim of these studies was to inform healthcare decision and policy makers about rural and remote

nursing practice so that improvements could be made to the healthcare services and access to care for rural and remote populations across Canada (MacLeod et al., 2017b). The following section provides demographic information on RNs working in urban, rural and remote locations across Canada, in Ontario, and Northeastern Ontario with a discussion related to the predicted nursing shortage.

### **Urban, Rural and Remote Nurses Across Canada, Ontario, Northeastern Ontario**

In Canada, there were a total of 421,093 nurses from all designations able to practice between 2015 and 2016 that included 293,911 RNs or 69.7% (Canadian Institute for Health Information, 2017). Across Canada, in 2015 there were 45,926 nurses working in rural and remote locations providing care for 17.4% of the population (MacLeod et al., 2017a). Findings of the study conducted by MacLeod et al., (2017a), reported that the majority of rural and remote nurses across Canada were RNs (n=2,082), nurse practitioners (n=163), licensed practical nurses (n=1370), and registered practical nurses (n=207). In 2016, the Canadian Institute for Health Information reported that there were 104,140 RNs who renewed their membership (College of Nurses of Ontario, 2016). This was a decrease of 261 members from 2015. It is expected that the number of RNs renewing their license fluctuate annually as nurses decide to leave the profession, retire, or add members with the entrance of new graduates. However, there was a significant decrease in the number of RNs in 2014.

According to the College of Nurses of Ontario, there were 112,582 RNs in 2013 compared to the 104,298 RNs who renewed their license in 2014. The College of Nurses of Ontario had introduced new regulations for renewal requirements in 2013, and suggested that this was one explanation for the 8,284 RNs who did not renew their membership in 2014 (College of Nurses of Ontario, 2016). In Ontario in 2015, “7.3% of the regulated nurses were

employed in a rural or remote area of the province” and provided care to 11% of the population (Canadian Institute for Health Information, 2016a, p.13). There were a total of 5,378 RNs working in Ontario’s North East Local Integrated Health Networks region with 6,089 nursing employment positions in 2016 (College of Nurses of Ontario-Local Integrated Health Networks Summaries, 2016).

The knowledge and skills that nurses have allow them to work for a variety of employers and in several different specialty care areas. The College of Nurses of Ontario has 30 categories for nurses to indicate their main area of practice or specialty area when completing the annual renewal form as shown in Table 1. Although most categories may be familiar or common such as surgical or Intensive Care Units, a brief description of each of the 30 practice areas has been included in Appendix A. It is interesting to note that RNs are not asked to indicate whether or not they work in an urban, rural, or remote location. Based on these categories, the major employers of nurses can be identified. Hospitals continued to be the major employer of nurses (58.6%), followed by employers in the community (15.4%), long-term care facilities (10.6%), and other settings across Canada (Canadian Institute for Health Information, 2017). Rural and remote locations employed nurse practitioners in full time positions (75.8%), followed by registered practical nurses (62.7%) (MacLeod et al., 2017a). Rural and remote nurses in Canada reported working in 16 different places with the major employers being hospitals (42.0%) and long-term care homes (20.6%) (MacLeod et al., 2017a). The key employers of RNs in Ontario in 2016 were hospitals (53.9%), long-term care facilities (8.3%), and Community Care Access Centres (3.7%) (College of Nurses of Ontario, 2016). Two of the three key employers of RNs working in the North East Local Integrated Health Integration Network in 2016 were parallel to Ontario’s numbers and included hospitals (51.2%) and long-term care facilities at (8.3%). The third major

Table 1

*Areas of practice in Ontario: RN General Class (College of Nurses of Ontario, 2016, p. 77)*

Areas of practice in Ontario: RN General Class										
	Hospital		Community		Long-term Care		Other		Total nursing positions	
	#	%	#	%	#	%	#	%	#	%
Acute care	9,007	13.1	562	2.5	35	0.3	525	4.7	10,129	9.0
Administration	974	1.4	614	2.7	441	4.3	492	4.4	2,521	2.2
Cancer care	1,936	2.8	657	2.9	0	0.0	68	0.6	2,661	2.4
Cardiac care	2,751	4.0	106	0.5	2	0.0	63	0.6	2,922	2.6
Case management	175	0.3	3,097	13.7	14	0.1	530	4.7	3,816	3.4
Chronic disease	169	0.2	693	3.1	34	0.3	98	0.9	994	0.9
Complex continuing care	1,487	2.2	451	2.0	267	2.6	106	0.9	2,311	2.0
Critical care	7,511	10.9	45	0.2	1	0.0	98	0.9	7,655	6.8
Diabetes care	290	0.4	425	1.9	2	0.0	47	0.4	764	0.7
Education	296	0.4	345	1.5	68	0.7	2,771	24.6	3,480	3.1
Emergency	7,314	10.6	87	0.4	3	0.0	77	0.7	7,481	6.6
Foot care	5	0.0	309	1.4	59	0.6	80	0.7	453	0.4
Geriatrics	694	1.0	459	2.0	8,363	82.5	312	2.8	9,828	8.7
Infection control	203	0.3	172	0.8	52	0.5	56	0.5	483	0.4
Informatics	290	0.4	40	0.2	13	0.1	112	1.0	455	0.4
Maternal /newborn	5,394	7.8	526	2.3	2	0.0	233	2.1	6,155	5.5
Medicine	5,053	7.3	459	2.0	57	0.6	285	2.5	5,854	5.2
Mental health	5,481	8.0	977	4.3	39	0.4	414	3.7	6,911	6.1
Nephrology	2,323	3.4	90	0.4	2	0.0	54	0.5	2,469	2.2
Occupational health	316	0.5	94	0.4	9	0.1	623	5.5	1,042	0.9
Palliative care	569	0.8	1,426	6.3	95	0.9	54	0.5	2,144	1.9
Perioperative care	4,314	6.3	268	1.2	2	0.0	193	1.7	4,777	4.2
Policy	18	0.0	21	0.1	6	0.1	114	1.0	159	0.1
Primary care	361	0.5	3,137	13.9	261	2.6	589	5.2	4,348	3.9
Public health	13	0.0	3,632	16.1	5	0.0	257	2.3	3,907	3.5
Rehabilitation	1,731	2.5	117	0.5	30	0.3	124	1.1	2,002	1.8
Sales	2	0.0	5	0.0	2	0.0	81	0.7	90	0.1
Surgery	5,271	7.7	504	2.2	2	0.0	318	2.8	6,095	5.4
Telehealth services	72	0.1	65	0.3	0	0.0	245	2.2	382	0.3
Other responsibility	4,824	7.0	3,165	14.0	275	2.7	2,260	20.0	10,524	9.3
Sector total	68,844	100	22,548	100	10,141	100	11,279	100	112,812	100

employer in the North East Local Integrated Health Integration Network for RNs was College and Universities (6.8%), which was different from Ontario's ranking (College of Nurses of Ontario Local Health Integration Network Summaries, 2016). The major employers for rural and

remote nurses in Ontario were hospitals (53.2%), long-term care facilities (18.9%), and Community Health Centres (5.7%) (MacLeod et al., 2017a; MacLeod et al., 2017b).

There were 112,812 employment positions for nurses in Ontario in 2016 that reflected a 0.1 percent increase from the 2015 statistics (College of Nurses of Ontario, 2016). There was a discrepancy between the number of positions and nurses who reported being employed. There were 96,004 RNs who reported being employed with some RNs nurses reported working one, two, three or more than three jobs (College of Nurses of Ontario, 2016). The majority of Ontario RNs working for one employer reported their job status as working full time (57.3%), followed by part time (21%), and casual (6.5%). Similar to Ontario, the majority of RNs in the North East LOCAL HEALTH INTEGRATION NETWORK worked full time (58.6%); however, more RNs worked part time (28.1%) and casual (13.4) when compared to the provincial statistics (College of Nurses of Ontario North East Local Health Integration Network Summaries, 2016). In comparison to rural and remote nurses across Canada, a larger percentage of rural nurses in Ontario worked full time (61.5%) and part time hours (31.3%) (MacLeod et al., 2017a; 2017b).

According to the Canadian Institute for Health Information, 47.8% of nurses were in the age range of 35 to 54 years of age in 2016. This indicated a decline by 8.9% since 2007, while the overall numbers of younger nurses increased (Canadian Institute for Health Information, 2017). The number of nurses aged 55 years and older across Canada increased “from 80,501 in 2007 to 95,633 in 2016” (Canadian Institute for Health Information, 2017, p. 18). The majority of rural and remote nurses across Canada (60%) were “45 years of age or older” with 29.6% in the retirement age range (55-64 years of age) in 2015 (MacLeod et al., 2017a, p.4). The average age of RNs working in Ontario in 2016 was 45 years (College of Nurses of Ontario, 2016). The largest numbers of RNs were in the 30 to 54 age range (59%), followed by RNs 55 years and

older (25.9%), with RNs 18 to 29 years of age (15.2%) being the smallest number (College of Nurses of Ontario Local Integrated Health Networks Summaries, 2016). The largest numbers of RNs in the North East LOCAL HEALTH INTEGRATION NETWORK were also in the 30 to 54 age range (60.8%), followed by RNs 55 years and older (22.3%), with RNs 18 to 29 years of age (16.9%) being the smallest number. Similar to Canadian statistics Ontario rural and remote nurses sample (n=422), the majority of rural and remote nurses in Ontario were 45 years and older (65.6%) with 32.4% being between 45 and 54 years of age, and 33.2% in the retirement age range of 55 to 64 years of age (MacLeod et al., 2017a; MacLeod et al., 2017b). RNs in rural Ontario were generally older than RNs working in rural locations across Canada (MacLeod et al., 2017a; Jonatansdottir, Koren, Olynick et al., 2017).

The majority of Ontario rural RNs were female (93.6%) (MacLeod et al., 2017a; Jonatansdottir, Koren, Olynick et al., 2017). The number of male nurses was reported to be 7.2% in 2016, which was higher than the provincial percentage (College of Nurses of Ontario Local Integrated Health Networks Summaries, 2016). The number of male RNs in Ontario has increased over the years from 4.5% in 2007 to 6.7% in 2016 (College of Nurses of Ontario Local Integrated Health Networks Summaries, 2016).

### **Nursing Shortages**

In a recent report *A Universal Truth: No Health Without a Workforce*, prepared by the World Health Organization (WHO) (2014), the shortages of nurses and other healthcare professionals were recognized as a global issue estimated to be 12.9 million healthcare professionals by 2035. Nursing shortages for RNs in the United States of America were estimated to range between 300,000 and one million by 2020 and will impact the quality of care provided to patients (Bae, Kelly, Brewer & Spencer, 2014). Key factors suggested to contribute

to a nursing shortage are presented in the following section and include: the ageing nurse population, the number of RNs compared with the number of employment positions for RNs, and overtime rates and costs to the healthcare system.

As previously described, nurses in Canada, Ontario, and Northeastern Ontario are getting older and nearing retirement age. Jonatansdottir et al., (2017) reported that 34% of rural nurses working in Ontario were planning to retire within five years compared to 30% of rural nurses across Canada. There is a great concern that there will not be enough RNs to work in the rural and remote locations in the coming years (MacLeod, Stewart, Kulig, Anguish et al., 2017a; Jonatansdottir, Koren, Olynick et al., 2017). In conjunction with an ageing population there are other factors to consider when discussing the potential nursing shortage such as the supply and demand of nurses.

According to the Canadian Institute for Health Information (2017), the supply of RNs and nurse practitioners grew by 0.7% from 2015 to 2016; however, changes have been occurring in the number or demand of licensed practical nurses and RNs working in all settings since 2007. For example, in hospital settings the number of licensed practical nurses increased from 16.3% to 21.2% in 2016, while the number of RNs and nurse practitioners decreased from 83.7% in 2007 to 78.8% in 2016. Possible explanations for the shift in the staffing mix were suggested to relate to the staffing costs that typically comprise 60% of a hospital's budget and the fiscal restraints imposed on hospitals by provincial and territorial governments. This trend seems to suggest that the need for nurses may continue to exist; however, the need for RNs may decrease. Additional factors include the number of available seats in educational institutions for nursing students and changes in professional regulations such as changes to the national examination process (Canadian Institute for Health Information, 2017).

## **Employment Positions and Overtime**

According to the College of Nurses of Ontario (2016), there were more employment positions for RNs in Ontario (n=112,812) than the number of RNs (n=96,004) available to practice in 2016 (College of Nurses of Ontario Local Integrated Health Networks Summaries, 2016). Similarly, in Northeastern Ontario, there were more employment positions (n=6,089) than the number of RNs (n=5,378) available to practice. Although some RNs reported working two or more positions, these numbers could suggest that there was a shortage of RNs for the number of employment positions provided that one RN only worked one position (College of Nurses of Ontario Local Health Integration Network Summaries, 2016).

An important indicator to explore nursing shortages involves the amount of overtime that nurses worked. In a report prepared by Jacobson Consulting Inc. (2017) for the Canadian Federation of Nurses Unions on absenteeism and overtime, data were collected and analyzed based on the Statistics Canada Labour Force Survey between the years 1997 and 2016. The authors found that in 2016 nurses worked an average of 7.1 hours per week of paid overtime that was approximately 15.2 million hours per year. This was an increase from the 13.7 million hours of paid overtime nurses worked in 2014. Nurses reported working 3.3 hours per week of unpaid overtime in 2016, which was less than the 3.6 hours in 2014. This was approximately 4.9 million hours per year in 2016 and less than the 5.4 million hours in 2014. The combination of annual paid and unpaid overtime hours across Canada were calculated to be 20.1 million hours and equivalent to the creation of 11,100 full time nursing positions. The cost of paid overtime in 2016 was \$788 million dollars. Nurses worked unpaid overtime worth approximately \$180 million dollars, Together, the cost of paid and unpaid overtime was \$968 million dollars in 2016 that was more than the \$860 million dollars that overtime cost in 2014 when calculated with an

overtime premium pay scale of 1.5 times the nurses' hourly rate (Jacobson Consulting Inc. 2017).

In Ontario, nurses worked 70,600 hours of paid overtime per week, in 2016, with an annual cost of \$196.7 million dollars per year (Jacobson Consulting Inc., 2017). Unpaid overtime hours were 34,000 hours per week with an approximate cost of \$61.7 million per year in 2016. Together the paid and unpaid overtime hours would cost the healthcare system in Ontario \$258.4 million dollars per year. The authors suggested that the findings of their report indicated that absenteeism and overtime rates might be linked to excessive workloads. The provision of safe levels of nursing staff was suggested to potentially improve patient care outcomes, and reduce the amount of paid and unpaid overtime costs for the healthcare system (Jacobson Consulting Inc. 2017). Excessive workloads, overtime and absenteeism rates suggested to contribute to the nursing shortage might be connected to a broader issue related to gender with the majority of nurses being female, and the quality of nurses' work environments and work life.

### **Gender, the Nursing Profession, and Dignity**

Nursing has been described as a demanding profession that has both rewards and challenges. According to Mullen (2015), people are motivated to become a nurse to be able to provide a meaningful service to others as well as personal factors such as being respected by others. In 1852 Florence Nightingale posed the question, "Why have women, passion, intellect, moral activity – these three – and a place in society where no one of the three can be exercised?" (as cited in Chinn, 1989, p. 72). This question asked by Nightingale remains particularly salient when exploring gender issues for the predominantly female nursing profession in today's social context of urban, rural and remote healthcare organizations. Gender refers to characteristics assigned to male and females that are constructed by society (Vlassoff & Garcia Moreno, 2002).

The notion of gender stems primarily from feminist perspectives (Vlassoff & Garcia Moreno; Wall, 2010). The importance of uncovering gender issues is the need to be aware of the potential to subjugate women in positions that are subservient and viewed as less valuable or less powerful than those that have traditionally been assigned to men (Vlassoff & Garcia Moreno).

Understanding gender issues as it pertains to nurses assists in identifying factors that can affect the quality of nurses' work life, work environments and their health (Vlassoff & Garcia Moreno). Nurses' QOWL was suggested to be influenced by a variety of environmental factors related to sociocultural, historical, political, and economic perspectives (McIntyre, 2003). Sociocultural perspectives pertain to attitudes towards the value of nurses' work and gender (David, 2000; Evans, 2004; Fisher, 2009; McIntyre, 2003; Vlassoff et al., 2002; Wall, 2010). A major factor that perpetuates people's perceptions and gender stereotyping of nurses and the nursing profession stems from the portrayal of nurses in mass media productions such as films, television, and advertisements (Fealy, 2004; Fletcher, 2007; Stanley, 2008). Images of nurses as the physician's handmaiden who are only capable of following orders creates a perception that nurses are unable to be leaders or competent decision makers (Fletcher; Stanley). The social construction of nurses based on gender can negatively shape perceptions related to the value of work conducted by nurses. As Hallam (1998) suggested, "the image of nursing cannot be separated from the ideas and values that construct its practice" (as cited in Fletcher, p. 210). Nurses need to be cognizant of the destructive role and influence that media can have on the image of nurses (Fealy, 2004).

The social construction of the concepts and roles of a nurse and nursing can be traced over time and situated within patriarchal cultural contexts embedded in healthcare systems (David, 2002; Vlassoff & Garcia Moreno, 2002; Wall, 2010). Historically, nursing has been

perceived as an appropriate occupation for females (David, 2002; Evans, 2004; Fisher, 2009; Vlassoff & Garcia Moreno, 2002; Wall, 2010). Porter (1992) suggested, “the status of nursing within the social organization of healthcare is the result of assumptions founded on a socio-biological model of gender differentiation, in which women are seen as more emotional and caring, while men are more rational and decisive” (as cited in Wall, 2010, p. 151). According to David (2002), the nursing profession evolved out of a hierarchical medical model performing tasks that would be considered inappropriate for physicians.

Wall (2010) notes that healthcare organizations such as hospitals can be gendered and can influence the status of nursing. Organizational gendering is prevalent in the ways in which work is divided and through processes that support power over knowledge and technology by males (Wall, 2010). Gender stereotyping within patriarchal healthcare systems can affect nurses’ status and limit opportunities for the nurses to influence decisions and policies impacting their work life (Fletcher, 2007).

Provincial governments have been primarily responsible to fund nursing positions with hospitals being a major employer (Heitlinger, 2003; Pitblado, Medves, MacLeod, Stewart & Kulig, 2002). Nursing positions and decisions related to nurses’ work is susceptible to political and economic ideologies focused on cost efficiencies, and balanced budgets (Heitlinger; Pong & Russell, 2003). Hospital restructuring processes and budgetary constraints were examples of how neoliberal ideologies of cost effectiveness and cost efficient practices that were mandated by provincial governments has a direct impact on the work of nurses (Carroll & Shaw, 2001). Financially, nurses consistently do not have autonomous decision-making ability to allocate funding or resources within their work environments (McIntyre, 2003).

The nursing profession itself needs to take ownership for its part in sustaining the notion

of nursing as gendered work (Wall, 2010). It is known that nurses' actions are socially organized and shaped by professional standards of practices and policies as well as power relationships in organizations (Campbell & Gregor, 2002). Nurses may have become accustomed to a healthcare world that is "dominated by efficiency, utility, quantification, and technological solutions" (Ceci & McIntrye, 2001, p. 123). Nurses who are constrained to care in work environments dominated by neoliberal ideologies may choose to stay and tolerate unacceptable conditions, remain silent, experience burnout, or become discouraged and leave the nursing profession altogether (Ceci & McIntrye, 2001). Nurses need to be aware of the existing power relationships embedded in the sociocultural, political, and economic healthcare institutions to effect change to the quality of their work life and work environments.

The quality of nurses' work life affects how nurses are able to provide care congruent with nursing's values and ethos of dignity. According to Milton (2010), "honouring dignity in nurse practice is not limited to or defined by business, labour, or workforce oriented management behaviour, organizational structure, or technology" (p. 289). The value of dignity espoused by the nursing profession extends beyond the therapeutic relationship with the client. Nurses who are not respected or not treated with dignity can experience a lack of self-worth that can diminish the respect they extend to their clients and colleagues (Gallagher, 2004, as cited in Milton). Nurses need to treat themselves with dignity and experience being treated with dignity in their everyday working life (Milton, 2010).

### **Quality Practice Environments**

Nurses have an advocacy role to promote quality practice environments that ensure safe competent care that is congruent with nursing's professional and ethical standards of practice for the health, well-being, and holistic healing of clients in urban, rural and remote acute care, and

community settings. A crucial aspect of the healing process involves the quality of the work environment that is aimed at supporting and meeting the holistic healing needs of the client (Dossey & Keegan, 2013). In a Joint Position Statement released by the Canadian Nurses' Association and the Canadian Federation of Nurses Unions (2014a), the characteristics of quality practice environments were described. A quality practice environment places the patient care needs at the centre and ensures that nurses are able to meet their professional legal, and ethical standards, and care responsibilities (Canadian Nurses' Association & Canadian Federation of Nurses' Unions, 2014a). Nurses in quality practice environments are involved in policy and decision-making processes that have a direct impact on their work. Nurses would experience a working environment where there is open communication, where nurses are respected and recognized for their work, and work in collaboration with all members of the organization. Effective leadership would provide guidance and advocate for the supports and resources needed by nurses, including manageable workloads that are safe for patients and the nurse. Nurses would have access to up to date technologies and information to support their practice, and opportunities for professional development through continuing education (Canadian Nurses' Association & Canadian Federation of Nurses' Unions, 2014a). The characteristics of quality practice environments have been actualized in hospitals that have achieved Magnet status through an accreditation process (Drenkard, 2010; Kelly et al., 2011). Magnet hospitals provide high QOWL for nurses, which has demonstrated positive health outcomes for patients, nurses (Aiken, Sloane, et al., 2011a; Drenkard, 2010; Horrigan, Lightfoot, Larivière & Jacklin, 2013; Kelly et al., 2011), and cost savings to healthcare systems (Drenkard, 2010). Although several factors were described as being characteristic of a quality practice environment, the quality of nurses' work life and work environments have not been characterized as ideal for all settings.

## **Bill 46, Nurses' QOWL, and Satisfaction Surveys**

The passage of *Bill 46: Excellent Care for All Act* into legislation on June 8<sup>th</sup>, 2010 substantiated that quality healthcare in Ontario is a high priority for the provincial government and the Ministry of Health and Long Term Care, (Ontario Legislative Assembly, 2010), and began to address some of nurses' QOWL concerns. *Bill 46* affirms the fundamental principle of a publically funded healthcare system contained in the *Canada Health Act* (1984), and recognizes "that a high quality healthcare system is one that is accessible, appropriate, effective, efficient, equitable, integrated, patient-centred, population health focused, and safe" (Ontario Legislative Assembly, 2010, p.3). The terms 'effective' and 'efficient' are two performance indicators used in *Bill 46* to describe high quality healthcare systems (Ontario Legislative Assembly, 2010) that have an impact on nurses' QOWL (Brooks & Anderson, 2005). *Bill 46* legislates the utilization of best practice guidelines in the provision of patient care, and holds all persons involved in the delivery of healthcare services accountable (Ontario Legislative Assembly, 2010). Further, *Bill 46* mandates that healthcare agencies need to administer satisfaction surveys to patients and caregivers annually, while staff satisfaction surveys and perceptions of quality care must be collected every two years (Ontario Legislative Assembly, 2010).

Several authors suggest there are differences between the constructs of QOWL and job satisfaction (Brooks et al., 2007; Brooks & Anderson, 2004, 2005; P. N. Clarke & Brooks, 2010; Martel & Dupuis, 2006). Job satisfaction surveys lack a theoretical base to define and measure the concept (Brooks et al., 2007; Brooks & Anderson, 2005; P. N. Clarke & Brooks, 2010), and are considered an inadequate measure of QOWL such that "30 % of the variance explained in job satisfaction surveys is a function of personality, something an employer can do little to change" (Brooks & Anderson, 2004, p. 269). Satisfaction surveys, legislated by *Bill 46*, may provide a

narrow knowledge base to inform decision and policy makers in the creation of policies that could improve nurses' QOWL.

### **Quality of Work Life Indicators**

Although Bill 46 monitors some indicators to measure nurses' QOWL and patient safety concerns, through the mandatory collection of patient and staff satisfaction surveys, satisfaction is only one indicator to measure the quality of nurses' work life. Several factors were identified that could potentially be utilized as indicators to measure the QOWL for nurses; however, there was inconsistent agreement to the key QOWL indicators that need to be incorporated. For example, the Canadian Council on Health Services Accreditation (2004) suggested six indicators were commonly used to measure nurses QOWL that included: staff satisfaction, absenteeism, professional development opportunities, turnover rates, overtime hours, and span of control. The Ontario Health Quality Council (2010) listed absenteeism, lost-time injuries, overtime, self-reported health status, and work job stress as commonly recognized QOWL indicators that have been used globally (Ontario Health Quality Council, 2010).

In a concerted effort to identify key QOWL indicators, several major stakeholders from private and public organizations including professional nursing associations and unions, government agencies, employers, researchers, the Canadian Council on Health Services Accreditation invited educational bodies and managers from across Canada to a meeting in 2004. Fourteen themes were suggested as key worklife indicators (Canadian Council on Health Services Accreditation [CCHSA], 2004). More recently a report by the Ontario Health Quality Council synthesized healthy work environment literature and models to develop a framework for exploring QOWL variables in a comprehensive and consistent manner in Ontario, Canada (Ontario Health Quality Council, 2010). Eleven key indicators included by the Ontario Health

Quality Council were identified similar to the indicators developed by the Canadian Council on Health Services Accreditation (2004). Comparisons of the key indicators from both councils are depicted in Table 2. Additional factors included in the Ontario Health Quality Council (2010) were relationships with physicians, patient-centred values, and professional development opportunities. Rewards and recognition, stress and burnout, workplace health and safety, and abuse and violence were included as key indicators by the Canadian Council on Health Services Accreditation (2004). The combination of key indicators from both reports provides a comprehensive list of factors that can be utilized to potentially explore nurses' QOWL.

Table 2

*Comparison of Quality of Work Life Indicators*

Comparison of Quality of Work Life Indicators	
Ontario Health Quality Council (2010)	Canadian Council on Health Services Accreditation (2004)
Communication	Communication
Collaboration	Collaboration/teamwork
Organizational culture and climate	Organizational culture
Organizational leadership	Leadership effectiveness
Nurse manager support and leadership	Supervisory support Organizational support
Control over practice	Professional practice
Autonomy and decision-making	Scope of authority Span of control
Workload	Workload and staffing
Relationships with physicians, Patient-centred values, Professional development opportunities	Rewards and recognition Stress and burnout Workplace health and safety Abuse and violence

## **Characteristics of Nurses' work Environments**

Researchers have suggested that Canadian nurses are the sickest workers averaging 20.9 sick days off work per year compared with all other Canadian occupations (Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b). The total days lost due to illness and disability for Canadian nurses working in the Province of Ontario in 2005 was 15.3%, more than double the total industry rate of 7.1% (Shields & Wilkins, 2006b). In 2010, illness and disability were attributed to the absenteeism of 19,200 nurses across Canada each week (Canadian Federation of Nurses Unions, 2011). Although the number of nurses absent due to illness and disability has decreased slightly compared to 2008, full-time nurses continue to have the highest illness and disability related absenteeism among all other Canadian healthcare providers and occupations, with an annual cost of \$711 million (Canadian Federation of Nurses Unions, 2011). This has enormous financial implications for Canada's healthcare system with the need to replace the equivalent of 11,400 full time nursing jobs annually (Canadian Federation of Nurses Unions, 2011). The costs to the healthcare system associated with nurses' illness and disability, injury, absenteeism, and overtime are significant (Canadian Federation of Nurses' Unions, 2011; Canadian Institute for Health Information, 2007; Canadian Nurses' Association, 2008b; Ontario Health Quality Council, 2010; Quality Worklife Quality Healthcare Collaborative, 2007). One nursing association suggested a 50% reduction in absenteeism would result in a cost savings of \$500,000,000 for the healthcare system (Canadian Federation of Nurses Unions, 2009).

Researchers have suggested that nurses' health is linked to their quality of work life (QOWL) and unhealthy work environments (Kerr et al., 2005; Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b). Major health problems that have been identified for nurses included physical injuries related to musculoskeletal injuries, and psychological issues

related to stress and burnout (Kerr et al., 2005). High stress has also been identified as a contributing factor to illness and absenteeism rates (Statistics Canada, 2006), and linked to difficulties related to the retention and recruitment of nurses (Pong & Russell, 2003). Work characteristics that may shape nurses' perceptions of their QOWL included: higher acuity levels of patients, professional shortages, increased time dedicated to non-nursing tasks, and the number of patients assigned to nurses (Baumann et al., 2001; Rukholm et al., 2003, Sochalski, 2001; Spence Laschinger, Sabiston, Finegan & Shamian, 2001). Leadership, social and professional relationships, systems and structures, information, evidence and knowledge, and characteristics associated with work were additional factors identified as impacting nurses' QOWL (Hanson, Fahlman, & Lemonde, 2007).

### **Characteristics of Rural and Remote Nurses' work Environments**

There are false assumptions that the roles of nurses and the characteristics of the work environments in rural and remote settings are similar to those of nurses working in urban settings when there are vast differences. Some characteristics impacting rural and remote nurses' QOWL included: the health of the rural and remote population, geographic contexts, the delivery of healthcare services, healthcare systems and structures, human resource issues, and unpredictable workloads.

It is well known that Canadians living in rural and remote locations have poorer health status compared to those living in urban settings. There are a number of possible explanations for this reality. For instance, access to healthcare is dependent upon geographical locations and distance (Walker et al., 2017), and weather conditions (MacLeod, Kulig, Stewart, & Pitblado, 2004). Some of these factors were suggested to relate to general changes occurring in the healthcare system over time while others may pertain to the health disparities known to exist

between individuals and groups living in urban, rural, and Northern areas (Crichton, Robertson, Gordon & Farrant, 1997; Kirby & LeBreton, Vol. 2., 2002; Pong, Pitblado & Irvine, 2002; Romanow, 2002).

Several benefits or rewards for nurses working in rural and remote locations across Canada were identified that included: nurses' satisfaction with their nursing practice, the location of the community, the type of practice setting that they were interested in, and financial rewards (MacLeod et al., 2017a). Similarly, rural nurses in Ontario described the location of the community and the type of practice setting as benefits (Jonatansdottir et al., 2017). Nurses preferred living in smaller communities, living close to family members who are able to support them, being close to nature, and having a greater autonomy in nursing practice compared to urban settings (Jonatansdottir et al., 2017; MacKinnon, 2014).

Rural nurses were reported to care for acute patients with fewer healthcare professionals than in urban settings (Baumann, Hunsberger, Blythe, & Crea, 2006; Canadian Institute for Health Information, 2007), had limited access to physicians and other allied healthcare professionals, and limited access to peer supports (Hunt & Hunt, 2016). MacLeod et al. (2017b), found that the majority of RNs working in rural locations reported working according to their scope of practice (90%) with 10% working beyond their scope (MacLeod et al., 2017b). the combination of rural and remote nurses having to work autonomously with limited resources can be connected to some nurses experiencing moral distress (MacKinnon, 2014).

Further challenges for rural and remote RNs that were suggested to impact nurses' QOWL included: heavy workloads (Hunt & Hunt, 2016; MacLeod et al., 2017b), absenteeism (MacLeod et al., 2017b), not enough staff and the staffing mix (Lea & Cruickshank, 2015), limited resources (Hunt & Hunt, 2016), and professional isolation (Bjorklund & Pippard, 1999;

DesMeules et al., 2006; Hunt & Hunt, 2016; MacKinnon, 2014; Leipert & Anderson, 2012; McIntyre, 2003), and financial constraints, (Kenny & Duckett, 2003). The need for access to continuing educational opportunities was identified as a high priority for rural and remote nurses (Baumann et al., 2006; DesMeules et al., 2006; Hunsberger et al., 2009; Hunt & Hunt, 2016; Leipert & Anderson, 2012; MacKinnon, 2014; Mbemba, Gagnon, Paré, & Côte, 2013; Montour et al., 2009). The lack of access to educational opportunities added to nurses' feelings of professional isolation (DesMeules et al., 2006; Hunt & Hunt, 2016; Leipert & Anderson, 2012; MacKinnon, 2014). The lack of supports from organizations, physicians, and the lack of political policies to support rural and remote nursing practice were also considered to be barriers to rural and remote nursing practice (Hunt & Hunt, 2016).

### **Physical and Psychological Acts of Violence in Nurses' Work Environment**

A disturbing characteristic impacting the QOWL of all nurses across Canada involves reports of physical and psychological acts of violence against nurses in their work environments (MacLeod et al. 2017b; Shields & Wilkins, 2009). Nurses' experiences of physical and psychological violence by patients in hospitals or long term care homes were reported by Shields and Wilkins (2009) based on data collected from the *National Survey of the Work and Health of Nurses* (2005). The authors found that 34% of nurses across Canada experienced physical assault and 47% experienced emotional abuse. Factors associated with abuse included: male gender, inexperience, working non-day shifts, not having adequate staffing or resources, and low support with supervisors and co-workers (Shields & Wilkins, 2009). More recently, acts of psychological and physical violence were either experienced or witnessed by RNs working in rural locations across Canada.

According to MacLeod et al. (2017b), rural and remote RNs in the *Nursing Practice in Rural and Remote Canada II* study “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%)” (MacLeod et al., p. 8). Compared to previous results from the first *Nature of Nursing Practice in Rural and Remote Canada* study conducted between 2001 and 2004, the percentage of emotional abuse increased by 3%, threat of assault increased by 2%, physical assault decreased by 2%, verbal/sexual harassment was the same percentage, and sexual assault decreased by 0.4%. RNs reporting being a witness to “emotional abuse (34%), physical assault (22%) and threat of assault (22%). Some nurses reported witnessing verbal/sexual harassment (16%), property damage (5.1%), sexual assault (1.7%) and stalking (1.2%)” (MacLeod et al., 2017, p. 8).

### **Summary of Background for Research**

The sustainability of our Canadian healthcare system to meet the demands of healthcare and healing for clients in urban, rural and remote hospital settings is dependent upon the health of nurses and the quality of nurses’ work environments (Clark & Brooks, 2010; Kerr et al., 2005; Ontario Health Quality Council, 2010). Several characteristics of quality work environments that related to the quality of nurses work life were identified, however, many work environments do not meet these standards. Excessive workloads, overtime and absenteeism rates were suggested to characterise low quality work environments and contribute to the nursing shortage. As the largest professional group working in the healthcare system, it is imperative to explore and improve nurses’ QOWL particularly in view of the predicted crisis related to the recruitment and retention of nurses and shortages related to an aging nursing population (Ellis et al., 2006; Ontario Health Quality Council, 2010; Priest, 2006). Estimated projections of the nursing

shortage across Canada was suggested to be 60,000 nursing full time equivalents by 2022 (Canadian Federation of Nurses Unions, 2009), and described as a “demographic time bomb” (Priest, 2006, p. 13). Nursing shortages in the United States of America were estimated to cost \$300,000 to \$1,000,000 by 2020 (Bae et al., 2014), with a global shortage of healthcare professionals estimated to be 12.9 million by 2035 (World Health Organization [WHO], 2014).

## CHAPTER 2: REVIEW OF THE LITERATURE AND RATIONALE FOR RESEARCH

My study explored the quality of nurses' work life among urban, rural and remote Northern Ontario nurses. The background literature revealed that there were several factors that can potentially impact nurses' quality of work life. A comprehensive understanding of key factors associated with nurses' QOWL in urban, rural and remote contexts was crucial for this research as nurses' QOWL and work environments were linked to negative health consequences for nurses', patients', and increased costs for the healthcare system. Although quality practice environments do exist limited knowledge exists pertaining to the quality of Northeastern Ontario urban, rural and remote nurses' work life and work environments. Therefore the review of the literature was conducted to identify additional QOWL factors.

I began by conducting a search for literature among several electronic databases, including: Academic Search Complete, CINAHL, Ontario Scholars Portal, Ovid, Proquest, PsycINFO, and Sage Publications, to identify research articles that explored QOWL factors. Key search words included: nurses' quality of work life, nurses' health, nurses' practice environments; patient outcomes, and healthcare system outcomes. Approximately 62 English-language research articles published from 2002 to 2017 were relevant and included in this review. The review is divided into four major sections. The first section reviewed 13 articles that explored general QOWL factors affecting nurses. Section two examined 27 articles relevant to nurses' health outcomes, such as stress and burnout, and injuries of urban, rural and remote nurses. Section three reviewed 11 articles concerning the health outcomes of patients, such as adverse events, errors, infections and mortality rates, as well as a few articles that present findings of what constitutes quality patient care from the perspectives of patients. The final

section included 11 articles pertaining to factors affecting outcomes for the healthcare system, such as absenteeism and the recruitment and retention of nurses that increases costs, and economic burdens for the healthcare system. A summary of the key findings from the literature is presented at the end of each major section. An overall synthesis of the literature review is provided as well as the rationale justifying the need for this research at the end of this chapter.

### **Nurses' Quality of Work Life Variables**

Nurses have been referred to as the front line workers. Nurses' QOWL has been suggested to be challenging to evaluate as this concept can incorporate a variety of variables that include social, organizational, and the practice environment dimensions. The QOWL impacts the quality of care they provide to patients' which is influenced by multiple factors that include a persons' "physical, social, psychological and environmental dimensions"(Nayak & Sahoo, 2015, p. 264).

The identification of factors influencing nurses' QOWL were explored in a systematic literature review of 23 studies that were conducted between 1980 and 2009 in seven countries that included: Canada, Iran, Italy, Saudi Arabia, Spain, Taiwan, and the United States of America (Vagharseyyedin, Vanaki, & Mohammadi, 2011). Six key QOWL predictor variables were identified that included: leadership style practices and decision-making latitude, shift-work, salary and benefits; relationships with colleagues, workload and job strain, and demographic characteristics (Vagharseyyedin et al., 2011). The majority of studies were cross-sectional, and classified as quantitative studies (n=19). The remaining four studies included qualitative and mixed methods approaches (Vagharseyyedin et al., 2011). Findings from the quantitative designs revealed that the instruments utilized to measure QOWL were mostly developed by the researchers or created through the combination of several instruments (Vagharseyyedin et al.,

2011). Only three studies used instruments with psychometric properties (Vagharseyyedin et al., 2011). Two of these three studies in this review utilized the Brook's Quality of Nursing Work Life instrument (Vagharseyyedin et al., 2011).

Six additional articles were reviewed that explored nurses' QOWL predictor variables (Brooks & Anderson, 2004; Brooks et al., 2007; Chow, 2015; Khani, Jaafarpour, & Dyrekvandmogadam, 2008; McGillis Hall, Doran, O'Brien-Pallas, et al., 2006a). Four of these articles utilized the Brook's Quality of Nursing Work Life instrument (Brooks & Anderson, 2004; Brooks et al., 2007; Khani et al., 2008). One article used the modified Chinese version of the Brook's Quality of Nursing Work Life instrument (Chow, 2015). Another six articles explored nurses' QOWL with individual nurse factors such as resilience and organizational commitment, job satisfaction, and leadership styles (Caricatil et al. 2015; Cummings et al., 2008; Hart, Brannan & De Chesnay 2014; Malloy & Penprase, 2010; Nayak & Sahoo, 2015; Pineau Stam, Spence Laschinger, Regan & Wong, 2015).

The QOWL of 723 RNs working in hospital settings located in an American Midwestern state, was explored using a cross sectional study (Brooks & Anderson, 2004). A 48.2% response rate was reported from the self-administered mailed survey. The 42-item Brook's Quality of Nursing Work Life instrument, examined four dimensions of nurses' work life that included: work design or environments, work and home life balance, the work nurses perform, and societal views of nursing (Brooks & Anderson, 2004). Validity of the four subscales was derived from factor analysis (Brooks & Anderson, 2004). Test-retest of the total scale resulted in a Cronbach's alpha coefficient of 0.90. A Cronbach's alpha score of 0.70 is considered a minimally acceptable measure of reliability (Bowling, 2009). The work context

subscale demonstrated acceptable reliability score (0.88); however, work life and home life (0.56), work design (0.58), and work world (0.60) scores were poor (Brooks & Anderson, 2004).

The authors reported that the majority of nurses' indicated that their workload was too heavy, there was not enough time to complete tasks, and nurses were concerned about the quality of patient care (Brooks & Anderson, 2004). Nurses expressed difficulty balancing their work and family life, did not feel respected by administration, desired to participate more fully in decision-making, and were not recognized for their accomplishments by managers (Brooks & Anderson, 2004). The findings suggested that nurses need support, supplies and resources to do their work, have the ability for self-scheduling, recognition from their supervisors, and opportunities for shared governance that allow nurses to participate in decision-making processes, (Brooks & Anderson, 2004).

The QOWL of 1,554 RNs, working in three hospital settings from three American Midwestern states were examined as part of a longitudinal five-year project exploring nurses' retention. Nurses' QOWL was measured with the Brook's Quality of Nursing Work Life instrument at the beginning of the project and at 18 months following the introduction of programs (Brooks et al., 2007). Results from the baseline survey yielded a 19% response rate (n=293) and indicated that nurses identified a need for: competent leaders, increased nursing and support staff, and additional supplies and equipment (Brooks et al., 2007). Shared governance, child and elder care programs, self-scheduling, the removal of non-nursing tasks to devote more time for direct patient care activities, and public relation strategies to communicate accurate views of nursing to society were additional needs identified (Brooks et al., 2007). Results from the second data collection yielded a 34% response rate (n=489) (Brooks et al., 2007). The overall

findings were utilized to establish unit based shared governance councils, and the formation of new programs including nursing research committees.

A cross sectional design exploring the QOWL of 120 RNs working in hospital settings in Iran, was conducted using the Brook's Quality of Nursing Work Life instrument (Khani et al., 2008). Cronbach's alpha scores of the instrument's four subscales were reported as being acceptable to good: work life/home life (0.75), work design (0.78), work context (0.90), and the work world (0.83) (Khani et al., 2008). The majority of nurses reported: heavy workloads (82%), an inadequate salary (95%), a lack of autonomy (79%), a work and home life imbalance (76%), experiencing negative impacts from rotating shifts (69%), and inadequate time for work completion (54%) (Khani et al., 2008). They reported concerns related to the quality of patient care, desired shared governance opportunities, a need for increased staffing levels, and society's incorrect perceptions of nurses (Khani et al., 2008). The authors concluded that improving nurses' QOWL may improve productivity and assist with retention (Khani et al., 2008).

Chow (2015), explored the QOWL of nurses (n=75), working in hospitals located in Hong Kong, China using a modified version of Brook's QNWL instrument. The author stated that the nurses had slightly higher than average scores on the instrument with factors having a positive effect on their QOWL that included: being satisfied with their relationships with co-workers, receiving support from non-nursing staff, access to training, and salaries. Some factors negatively impacting nurses' QOWL included: heavy workloads, not enough time to do the job well, feeling fatigue following work, shift work, a lack of participation in decision making processes, and a lack of recognition by managers or supervisors (Chow, 2015). Improving nurses' QOWL was recommended to augment meeting personal and organizational objectives (Chow, 2015).

One mixed methods study was conducted over nine months to determine the feasibility of collecting QOWL indicators involving a purposive sample of 20 public and private healthcare facilities located in urban and rural healthcare facilities located in Northern and Southern Ontario (McGillis Hall, Doran, O'Brien-Pallas, et al., 2006a). The healthcare facilities included 16 acute care units, 30 long-term care units, 15 complex continuing care units and four home care settings located in: Hamilton, Kingston, London, Manitoulin, Mississauga, Nepean, Ottawa, Sudbury, Thunder Bay, and Toronto. The Nursing Work Index-Revised (Aiken & Patrician, 2000) and the Work Quality Index (Whitley & Putzier, 1994) instruments were completed by 451 RNs, Registered Practical Nurses, and unregulated health workers. Interviews were conducted with 53 unit managers. Secondary data were also collected from administrative databases (McGillis Hall, Doran, O'Brien-Pallas, et al., 2006a).

QOWL factors explored included: educational background, experience, use of overtime hours; absenteeism hours, level of autonomy and decision making; professional development opportunities, job satisfaction, and workload and productivity (McGillis Hall, Doran, O'Brien-Pallas, et al., 2006a). The authors reported that some differences in work life issues were noted between the RNs, Registered practical nurses and unregulated health workers (McGillis Hall, Doran, O'Brien-Pallas, et al., 2006a). The results of the Practice Environment Scale-Nursing Work Index-Revised (Aiken & & Patrician, 2000) indicated that RNs had higher perceptions of autonomy, the nurse-physician role, and organizational support than registered practical nurses. The authors concluded that collecting nursing work life indicators was feasible; however, nurse managers had difficulties accessing some of the data from administrative databases in some sectors. The decision to grant access was determined by each site (McGillis Hall, Doran, O'Brien-Pallas, et al., 2006).

## **Individual Nurse Factors, Job Satisfaction, and Resilience**

In a cross-sectional study conducted in 2011 by Caricatil et al., (2015), the job satisfaction of hospital nurses (n=576) was explored in relation to the work climate, work values, professional commitment variables. The researchers suggested that both the work climate and professional commitment were predictors of job satisfaction (Caricatil et al., 2015). One study explored the relationships between personal and workplace resources and the job satisfaction of new graduate nurses working in Ontario Canada (Pineau Stam et al., 2015). Nurses (n=205) who worked less than three years were considered as new graduate nurses for this study. Secondary data from a larger study were used for the analysis (Pineau Stam et al., 2015). Personal resources were described as psychological capital that included: “self-efficacy, hope, optimism, and resiliency” (Pineau Stam et al., 2015, p. 194). Workplace or structural resources included empowerment and staffing. The authors reported that job satisfaction was associated with the personal and work resources that included adequate staffing and explained 38% of the variance in the multiple regression model (Pineau Stam et al., 2015).

Cummings and colleagues examined additional psychosocial work life variables that included nursing leadership, nurses’ work environments, and job satisfaction in a prospective descriptive study of 515 oncology part-time and full-time nurses from hospital, clinic, and community care settings across Canada (Cummings et al., 2008). Results from the self-reported mail survey indicated that leadership as well as positive relationships among colleagues, supervisors, and physicians influenced nurses’ perceptions of the quality of their work environments and job satisfaction (Cummings et al., 2008). The psychosocial work environment and leadership styles were factors that were also explored by Malloy and Penprase (2010).

The researchers utilized a quantitative cross-sectional mailed survey of RNs (n=122) in supervisory and non-supervisory positions in the United States of America. The findings indicated that nursing leaders who used transformational leadership styles positively influenced the psychosocial work environment.

Nayak and Sahoo (2015) explored the relationship of QOWL of healthcare employees (n=205) with their commitment to the organization and their organizational performance using a self-administered questionnaire. Employees who are committed to their organization have been suggested to be more adaptable and productive. The authors found that organizational commitment had a significant partial mediation effect between healthcare professionals' QOWL and their organizational performance. Improving QOWL for employees was recommended for increased positive outcomes for organizations related to the quality of services provided (Nayak & Sahoo, 2015).

In a systematic review of the literature conducted by Hart et al., (2014), seven out of 455 articles, published between 1990 and 2011, were explored to understand the concept of resilience among nurses and its contributing factors. Resilience was described as a person's ability to cope with difficult or challenging situations. The authors suggested that workplaces undergoing continual changes, incongruent organizational goals with nurses' professional or personal values and standards created conflict for nurses, which affected resilience. Resilience was also affected when nurses perceived they were not being listened to, supported, or felt cared by their employers' as well as work life imbalances. Cognitive dissonance affected resilience for new graduates who experienced frustration when trying to reconcile the differences between their undergraduate preparation and "the real world of nursing practice" (Hart et al., 2014, p. 274). Some personal factors associated with resilience included: hopeful attitudes, self-efficacy,

adaptability, flexibility, coping abilities, and being competent. Addressing factors negatively impacting resilience and work life imbalances were suggested by the authors as strategies to contribute to nurses' ability to become resilient and the organizations ability to recruit and retain nurses (Hart et al., 2014).

### **Summary of Nurses' Quality of Work Life Variables**

In summary, some researchers identified similar variables associated with nurses' QOWL that included heavy workloads (Chow, 2015; Khani et al., 2008; Vagharseyyedin et al., 2011), and job strain (Vagharseyyedin et al., 2011). Nurses reported that there was not enough time to provide care to patients (Brooks & Anderson, 2004; Khani et al., 2008), and had concerns about the quality of patient care (Brooks & Anderson, 2004; Brooks et al., 2007; Khani et al., 2008). The removal of non-nursing tasks to devote more time for direct patient care activities was suggested to improve nurses' QOWL (Brooks et al., 2007). Nurses also suggested they needed organizational supports, resources (Brooks & Anderson, 2004; Brooks et al., 2007; Chow, 2015; Khani et al., 2008; McGillis Hall, Doran, O'Brien-Pallas, et al., 2006; Pineau Stam et al., 2015), and increased nursing and non nursing staffing to do their jobs (Brooks & Anderson, 2004; Brooks et al., 2007; Khani et al., 2008; Pineau Stam et al., 2015).

Nurses suggested that they needed to feel respected and recognized by administration (Brooks & Anderson, 2004), expressed the desire to participate more fully in decision-making processes (Brooks & Anderson, 2004; Brooks et al., 2007; Chow, 2015; Khani et al., 2008; Vagharseyyedin et al., 2011), and to have more autonomy (Khani et al., 2008; McGillis Hall, Doran, O'Brien-Pallas, et al., 2006). Leadership and leadership styles were identified as impacting their QOWL (Brooks et al., 2007; Cummings et al., 2008; Khani et al., 2008; Malloy, & Penprase, 2010; Vagharseyyedin et al., 2011), as well as shift-work (Chow, 2015; Khani et al.,

2008; Vagharseyyedin et al., 2011), adequate salary and benefits (Chow, 2015; Khani et al., 2008; Vagharseyyedin et al., 2011), and demographic characteristics (Vagharseyyedin et al., 2011). The ability to balance their home and work life (Brooks & Anderson, 2004; Khani et al., 2008), and society's accurate views of nursing (Brooks et al., 2007; Khani et al., 2008), were additional factors that affected nurses' perceptions of the quality of their work life.

Individual nurse characteristics were suggested to affect nurses' perceptions of the quality of their work life and work environments by several authors. Organizational commitment was found to be a partial mediating factor for nurses' perceptions of their QOWL (Nayak and Sahoo, 2015). Job satisfaction was reported to be affected by nurses' commitment (Caricatil et al., 2015), and personal resources such as resiliency (Pineau Stam et al., 2015). Nurses' ability to cope with stressful or difficult situations was impacted when the organizational goals conflicted with nurses' professional values and standards. Feeling cared for and supported by managers and administrators, not being listened to, and imbalances with work and home life also affected nurses' resilience (Hart et al., 2014).

A few limitations were noted from the studies that included small sample sizes (Brooks & Anderson, 2004; Brooks et al., 2007; Malloy & Penprase, 2010), poor reliability scores of three subscales (Brooks & Anderson, 2004), no reported reliability scores for the instrument utilized, a lack of description related to the statistical analysis utilized (Brooks et al., 2007), low response rates to surveys (Brooks et al., 2007; Malloy & Penprase, 2010), small samples sizes (Chow, 2015), and only one study conducted on Canadian nurses. All of these factors limit the generalizability of these findings for urban, rural and remote nurses working in Northeastern Ontario.

## **Impacts of Nurses' Quality of Work Life on Nurses' and Patients' Health Outcomes, and Outcomes for the Healthcare system**

Healthy work environments are considered to be a human right that has social and economic benefits for society (World Health Organization, 2004). Several studies conducted globally have continually confirmed associations between the quality of nurses' work life and environments to the negative health outcomes of nurses, patients, and the healthcare systems (Bragadóttir, 2016). The following sections present literature describing these outcomes.

Twenty-seven articles were reviewed that explored urban, rural and remote nurses' predictors related to nurses' QOWL and working environments associated with nurses' health outcomes. Five articles identified some factors related to nurses' general health concerns (Holman et al., 2009; Ratner & Sawatzky, 2009; Shields & Wilkins, 2006a; 2006b; Wilkins et al., 2007). Three of these five studies stemmed from one landmark cross-sectional study (Shields & Wilkins, 2006a; 2006b; Wilkins et al., 2007) with findings that overlap in more than one section in this review. Ten articles explored nurses' stress (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011; Aiken et al., 2012; Enns, Currie & Wang, 2015; Kelly, McHugh, & Aiken, 2011; Kerr, Spence Laschinger, Severin, Almost, & Shamian, 2005; McGillis Hall & Kiesners, 2005; McGrath, Reid & Boore, 2003; Pindek & Spector, 2016; Rajbhandary & Basu, 2010; Tourangeau et al., 2005). Two of these articles explored the association of nurses' work environments with depression among nurses (Enns et al., 2015; Rajbhandary & Basu, 2010). One article explored nurses' stress in relationship to organizational commitment and personal factors (Pindek & Spector, 2016). The remaining six articles examined injuries among stemming from the quality of nurses' work life and practice environments (Clarke, 2007; S. Clarke, Rockett, Sloane, & Aiken, 2002; de Castro et al., 2010; O'Brien-Pallas et al., 2004; Shields & Wilkins,

2006b; Trinkoff, Le, Geiger-Brown & Lipscomb, 2007). Six additional studies were reviewed to explore QOWL factors that may impact nurses working in rural and remote locations (Andrews et al., 2005; Baumann, Hunsberger, Blythe, & Crea, 2006; Hunsberger, Baumann, Blythe & Crea, 2009; MacLeod et al., 2017b; Montour, Baumann, Blythe, & Hunsberger, 2009; Opie et al., 2010). Several factors were found to be interwoven and overlapped denoting the complexity of healthcare and nurses' practice environments that spanned across all geographic locations.

### **Nurses' Physical and Mental Health**

Concerns related to the quality of Canadian nurses' work life and health were increased by the findings of a landmark cross-sectional study conducted in 2005 by Statistics Canada, in collaboration with Health Canada and the Canadian Institute for Health Information (Shields & Wilkins, 2006a). The sample of 18,676 RNs, registered practical nurses and registered psychiatric nurses employed during the period of the study were from a variety of work settings and represented every Canadian province and territory. Self-reported data were collected via telephone interviews with an 80% response rate. The survey integrated a variety of quantitative instruments including items from the Practice Environment Scale-Nursing Work Index-Revised (Aiken & Patrician, 2000) and Karasek et al., (1998) Job Content Questionnaire (Shields & Wilkins, 2006a). Specific results describing Ontario nurses' health and QOWL were reported in a subsequent document (Shields & Wilkins, 2006b).

Findings revealed that 68% of Ontario nurses stated that there was too much work for one person, 64% worked through their breaks, and 65% indicated that their jobs were physically demanding. Nurses' ability to deal with workload was affected by both their physical (32%) and mental health (19%). Thirty-three percent reported high job strain and 14% noted the occurrence of medication errors. Nurses perceived their work to be extremely stressful (58.9%), which was

almost double in comparison with all other occupations (30.2%). They underscored that the findings related to work stress should be viewed with caution as only four items from Karasek's (Karasek et al., 1998) questionnaire were included in the survey that yielded lower than expected Cronbach alpha coefficients ranging from 0.23 to 0.54 (Shields & Wilkins, 2006b).

Additional findings based on data collected from the same national survey indicated that nurses' poor general physical and mental health were associated with work stress, high job strain, low levels of support; autonomy, lack of respect, and poor relationships with physicians (Wilkins, McLeod, & Shields, 2007). The authors of the three reports, based on the national survey, concluded that workload and job stress were factors that affected nurses' physical and psychosocial health, contributed to illness, disability, and absenteeism rates; and were associated with nurses' QOWL (Shields & Wilkins, 2006a, 2006b; Wilkins et al., 2007).

Findings from two studies reported that nurses' general health and experiences of increased body and back pain were linked to their work environments and stress. In one cross sectional study the physical and mental health of 1,000 randomly selected nurses working in the state of Alabama, in the United States of America, were compared to the health of the general population in the United States of America, Canada, and the United Kingdom (Holman et al., 2009). The quantitative survey collected data utilizing the short form 36 (SF-36), instrument. A 10.1% response rate yielded 87 useable surveys for analysis and were compared with research studies using the SF-36 that were conducted between 1993 and 2000. The results revealed significant differences in three categories. Alabama nurses in the 35-44 age range had poorer social functioning than the general population in the United Kingdom, poorer physical functioning than the general populations in the United States of America and United Kingdom, and increased bodily pain compared to the general populations in Canada and the United

Kingdom. The researchers suggested that Alabama nurses' health was linked to their workplace settings (Holman et al., 2009).

In a quantitative cross-sectional study using data collected from the 2003 Canadian Community Health Survey the health of Canadian nurses ( $n = 1,945$ ) was compared to that of postsecondary female graduates ( $n = 15,747$ ) by Ratner and Sawatzky (2009). Findings indicated that 55.8% of nurses worked in quite a bit or extremely stressful situations compared to 34.9% of other women employed with postsecondary education, and that nurses had more back problems ( $p < .05$ ). The authors concluded that the findings were associated with nurses' work (Ratner & Sawatzky, 2009).

### **Impact of Stress on Nurses' Health Outcomes**

Stress has been shown to have negative effects on nurse's physical and mental health and can impact the quality of care nurses provide to their patients (Fiabane, Giorgi, Sguazzin, & Argentero, 2013; Mosadeghrad, Ferlie & Rosenberg, 2011; Zeller & Levin, 2013). Stress involves the interaction of several personal and work related factors. Individual nurse characteristics such as health patterns and family obligations are a few examples of personal stressors, with conflict resolution skills and coping abilities as personal resources. Work related factors can include nurses' workloads, staffing levels, workplace hazards, the organizational climate, support, supervision, work demands, decision making ability, and control (Zeller & Levin, 2013).

Occupational stress has been globally recognized to contribute to poor physical and psychological health outcomes for healthcare professionals that generate enormous costs to healthcare systems. According to the World Health Organization (2004), stressors in the work place can be categorized as being either physically or psychologically hazardous to the

employee's health and included: job content and the degree of control over their jobs, participation in decision making, workload, shift work, interpersonal relationships, poor leadership, home-work life imbalances, environmental noise and equipment, violence and bullying in the work place, role conflict, and career development such as job security. Some additional work stressors were suggested to include: a lack of time to complete work tasks, and lack of skills to complete the work (Fletcher, Sindelar, & Yamaguchi, 2011).

Physical consequences associated with stress included: cardiovascular illness, musculoskeletal disorders, mood disturbances, injuries, poor mental health (Mullen, 2015; National Institute for Occupational Safety and Health (2013); O'Keefe, Brown & Christian, 2014; WHO, 2004), pain (Mullen, 2015), fatigue, and hypertension (WHO, 2004). Psychosocial manifestations of stress included: anxiety, irritability, depression, (O'Keefe, Brown & Christian, 2014; WHO, 2004), "anger, feelings of helplessness, and pessimism" (O'Keefe, Brown & Christian, 2014, p. 433), sleep disorders (Mullen, 2015), and reduced organizational commitment (WHO, 2004). Additional occupational stressors were reported to be associated with a lack of motivation and unhealthy behaviours such as overeating leading to obesity (Han, Storr, Trinkoff, & Geiger- Brown, 2011). Annual costs linked with the healthcare utilization to address stress related health problems in the United States were reported to be approximately \$68 billion (Azagba & Sharaf, 2011). Developing health promotion policies aimed at reducing stress and making changes to stressful situations within the organization, versus focusing on individuals were strategies recommended by the authors to reduce stress among healthcare employees and costs to the healthcare system (O'Keefe, Brown & Christian, 2014).

### **Stress and Burnout**

Stress, burnout, musculoskeletal, and sharps injuries affecting nurses' health were linked

to their work environments by several researchers (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011; Aiken et al., 2012; Enns et al., 2015; Kelly, McHugh, & Aiken, 2011; Kerr, Spence Laschinger, Severin, Almost, & Shamian, 2005; McGillis Hall & Kiesners, 2005; McGrath, Reid & Boore, 2003; Tourangeau et al., 2005). Several quantitative cross sectional studies that collected data from 98,116 staff nurses working in 1,406 hospitals between 1999 and 2009 from nine countries, including Canada and the United States of America, explored nurses' QOWL and impacts to nurses' health outcomes using the Practice Environment Scale-Nursing Work Index-Revised scale. Findings from across all countries and cultures affirmed negative health outcomes for nurses including burnout were linked with poor work environments (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011). Hospitals with better working environments were associated with lowers odds of burnout and job dissatisfaction among nurses, and reports by nurses of increased quality of care outcomes for patients (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011).

Kelly, McHugh, and Aiken (2011) conducted a secondary analysis of data collected from nurses working in Magnet (n=4,562) and non-Magnet hospital settings (n=21,714). Magnet hospital settings were described as hospitals that have been accredited by the American Nurses Credentialing Center (Drenkard, 2010; Kelly, McHugh, & Aiken, 2011). Hospitals with Magnet ® status focus on characteristics of nurses' practice environments including: leadership, empowerment, professional practice, creation of knowledge and improvements, and quality outcomes (Drenkard, 2010). Findings reported by the researchers indicated that Magnet hospitals had significantly better practice environments ( $p < 0.001$ ), had lower patient to nurse ratios, and 13% of nurses were less likely to report high burnout rates compared with non-Magnet hospital settings (Kelly et al., 2011).

The quality of nurses' work environments was explored in relation to patient outcomes

between the United States and 12 European countries using the Practice Environment Scale-Nursing Work Index-Revised in one cross-sectional study (Aiken et al., 2012). American participants included nurses ( $n = 27,509$ ) and patients ( $n = 120,000$ ) from 430 hospitals. European participants included nurses ( $n = 33,659$ ) and patients ( $n = 11,318$ ) from 210 hospitals. The researchers reported that, although differences existed between countries' healthcare systems, the need for improvement in the quality of care and nurse burnout was consistent in all 13 countries (Aiken et al., 2012). Language differences were reported to be a potential limitation to the study, and it was recommended that the findings be viewed with caution (Aiken et al., 2012).

In a qualitative narrative study involving eight hospitals across Ontario, eight nurses from medical and surgical units were interviewed to understand nurses' work environments using the effort-reward imbalance theoretical model (McGillis Hall & Kiesners, 2005). The acuity of patients, workloads, and staffing levels influenced nurses' perceptions of their work environments and the adequacy of care provided to patients. Increased frustration and stress were stated to affect nurses' health, work and family life, and potentially had negative impacts on patient outcomes. Excessive stress associated with work environments was linked to increased absenteeism rates. The need to address nurses' stress was recommended to enhance nurses' health (McGillis Hall & Kiesners, 2005).

In a descriptive survey, the evaluation and responses of 5,117 RNs, and Registered practical nurses working on medical and surgical practice environments from 75 hospitals across Ontario were explored (Tourangeau, Coghlan, Shamian, & Evans, 2005). A 65% response rate was received from a mailed questionnaire to compare similarities and differences between the two nursing groups, RNs and Registered Practical Nurses. The Ontario Nurse Survey

(Tourangeau et al., 2005), (2003) developed for this study, incorporated three instruments: the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996), the Practice Environment Scale (Lake, 2002) of the Nursing Work Index-Revised, and the McCloskey Mueller Satisfaction Scale (Mueller & McCloskey, 1990). Acceptable reliability scores were reported for the five subscales of the Practice Environment Scale-Nursing Work Index-Revised: i) nurse manager ability and leadership (0.84), ii) nurse participation in hospital affairs (0.85), iii) nursing foundations for quality care (0.79), iv) adequacy of staffing and resources (0.80), and v) collegial relationships among nurses (0.83) (Tourangeau et al., 2005). Findings indicated that both nursing groups experienced moderate burnout levels and that QOWL factors, such as support from management, staffing levels, and resources, required improvement (Tourangeau et al., 2005).

In a qualitative descriptive study, interviews of 62 nursing stakeholders from across Canada were conducted to examine the major work-related issues for nurses (Kerr et al., 2005). Findings revealed that the key work-related health issues for nurses included stress, burnout, and musculoskeletal injuries. The researchers concluded that these factors were linked with nurses' work environments (Kerr et al., 2005).

McGrath, Reid and Boore (2003) reported nurses' psychological health outcomes were linked to their QOWL. The effects of occupational stress on nurses (n=171), from a random stratified sample, working acute care and community settings in Northern Ireland, were explored in a cross sectional quantitative survey (McGrath et al., 2003). A central finding indicated that moderate to high stress levels for nurses were linked to a lack of time to provide patient care activities that were perceived as necessary by nurses to actualize the professions' commitment to holistic care (McGrath et al., 2003). This factor was found to affect nurses' psychological health and well-being.

## **Stress and Depression**

Globally, depression has been reported to be a “leading cause of disability and the second largest contributor to disease” (Enns et al., 2015, p. 269). Major depressive episodes among nurses are a growing concern and have been suggested to contribute to the illness, disability and absenteeism rates among nurses. Two articles explored the association of nurses’ work environments with their mental health (Enns et al., 2015; Rajbhandary & Basu, 2010). In 2010, the prevalence of major depressive disorders among Canadian nurses was reported to be 10%. This was suggested to be almost double in comparison with the average working Canadian woman (Enns et al., 2015). Enns et al. (2015), conducted a secondary analysis on data collected by the Canadian *National Survey of the Work and Health of Nurses* (2005) of female nurses (17,437) to explore associations between nurses’ work environments, autonomy, depression, and absenteeism. The researchers reported a significant association between low autonomy and high job strain among nurses who experienced a major depressive episode in the previous year and higher absenteeism rates, with job strain having the greatest impact. Addressing autonomy and job strain in nurses’ work environments were recommended to decrease the prevalence of major depressive episodes among nurses (Enns et al., 2015).

Rajbhandary and Basu (2010), conducted a secondary analysis on data collected from Canadian nurses by the *National Survey of the Work and Health of Nurses* (2005) to explore associations between absenteeism rates and working conditions. The authors reported that absenteeism rates among nurses were higher in hospitals when compared to other settings such as physician offices, government and educational institutions. Depression was found to be a significant factor related with absenteeism among RNs and licensed practical nurses. Improving the working conditions for nurses was recommended to potentially decrease absenteeism rates

and associated costs (Rajbhandary & Basu, 2010).

### **Stress, Organizational Commitment and Personal Factors**

Several factors affecting nurses' stress have focused on the quality of their work environments and work life; however, a nurse's interpretation of perceived stressors, such as organizational constraints, and their ability to cope, has been suggested to be associated with the personal characteristics and resources of the individual. One meta-analysis conducted by Pindek and Spector (2016) explored the relationship of organizational constraints with work environment, personal variables, and strain and well-being variables, based on data from 84 research reports that included 33,998 employees. Organizational constraints were identified as being similar to situational constraints and included: "job-related information, equipment, supplies, budgetary support, required services from others, task preparation/training, time availability, and physical aspects of the work environment" (Pindek & Spector, 2016, p.8). Work environment included ten variables: interpersonal conflict, workload, role ambiguity, role conflict, autonomy, experienced, incivility, work-family conflict, procedural justice, distributive justice, and support. Twelve variables were included under personal characteristics: gender, age, tenure, job level, work hours, conscientiousness, agreeableness, self-efficacy, locus of control, negative affectivity, trait anger, and trait depression. Strains and well-being included 19 variables: job satisfaction, commitment, physical or somatic symptoms such as headaches, positive emotions, negative emotions, frustration, anxiety, stress, emotional exhaustion, intention to quit, counter productive work behaviour, counter productive work behaviour individually focused, counter productive work behaviour organizationally focused, sabotage, interpersonal aggression, theft, production deviance, withdrawal, and absenteeism (Pindek & Spector, 2016).

The researchers found that organizational constraints showed a significant relationship

and were identified as a predictor of workers strain. Negative emotions, included in the strain and well-being category, had a strong association to organizational constraints. Personal characteristics that included age, tenure, and the level of the job in the organization had a small association with organizational constraints. Other personal characteristics found to have a large association with organizational constraints included the individual's locus on control, negative affectivity, trait anger and trait depression. Higher perceptions of organizational constraints were found among individuals who had an external locus of control and high emotion-related traits. Although all of the variables listed in the work environment category were found to be significantly associated with organizational constraints, the level of the significance varied for each factor and could depend upon the interactions between the person and the work situation. For example, a person may perceive a higher workload if the organizational constraints affect the pace of work, or conflicts between a person and co-workers that are perceived as having a lack of support (Pindek & Spector, 2016).

Pindek and Spector (2016) found that organizational constraints were uniquely associated with employees' counter productive work behaviour, their job satisfaction, physical symptoms, and negative emotions. The researchers suggested that although all of the organizational constraints variables have been routinely included in previous research studies, the combined contribution of organizational constraints as a variable needs to be considered an important variable for future studies and theory development (Pindek & Spector, 2016).

## **Injuries**

Increased risks for occupational injuries impacting nurses' health that were associated with the quality of nurses' work life and practice environments were explored by several

researchers (Clarke, 2007; S. Clarke, Rockett, Sloane, & Aiken, 2002; de Castro et al., 2010; O'Brien-Pallas et al., 2004; Shields & Wilkins, 2006b; Trinkoff et al., 2007). Findings from the National survey on nurses' health revealed that in 2005, needle stick injuries were experienced by 45% of Ontario nurses at some point in their career. This finding was suggested to stem from nurses' QOWL and work environments (Shields & Wilkins, 2006b).

In a cross sectional quantitative survey involving 22 US hospitals, the odds of needle stick injuries were examined in relationship to staffing, organizational climate and the number of years of experience of 2,287 medical surgical nurses (S. Clarke, Rockett, Sloane, & Aiken, 2002). The findings indicated that working conditions were a determinant for the risk of needle stick injuries (S. Clarke et al., 2002). Results of a secondary analysis conducted of data collected in a mailed survey in 1999 of 11,516 randomly selected nurses working in 188 United States of America hospitals in the state of Pennsylvania, found 33% less risk of injuries from sharps associated with better practice environments (Clarke, 2007). Nurses who had less than five years of working experience were more likely to be injured. Additionally, no association was found between staffing levels and injuries from sharps (Clarke, 2007).

One longitudinal study was conducted by Trinkoff et al. (2007) to explore associations of needle stick injuries to the number of needles used per day, work schedules, and shift work factors of RNs (n=2,273) working in two states in the United States of America. Data were collected in three waves between November 2002 and April 2004. During the first wave, nurses reported that they had a needle stick injury in the previous year (15.6%). This had increased to cumulative incidence reports of 16.3% in the third wave. The researcher found that the increased odds of needle stick injuries were significantly ( $p < 0.001$ ) associated with the number of needles used per day, nurses working greater than 13 hours once per week, nurses working evening or

night shifts, not having at least 10 hours between shifts, and the physical demands of the job (Trinkoff et al., 2007).

Similarly, de Castro et al. (2010) found that a higher risk of injury for nurses was associated with working non-day shifts and overtime in a cross sectional study of 655 RNs who worked in the Philippines reported (de Castro et al., 2010). The identification of factors associated between lost time claims, from work related injuries, and overtime rates were explored with a cross sectional secondary analysis study of 8,044 RNs working in 127 Ontario hospitals, data collected between 1998 and 1999 by O'Brien-Pallas et al. (2004). The authors found that for each hour of overtime that a registered nurse (RN) worked each week there was a 70% increase in lost-time claims (O'Brien-Pallas et al., 2004).

### **Impact of Rural and Remote Nurses' Quality of Work Life on Nurses' Health Outcomes**

As previously mentioned, in 2015 there were 45,926 nurses working in rural and remote locations across Canada that provided care for 17.4% of the population (MacLeod et al., 2017a), with 7.3% of Ontario nurses working in rural and remote areas of the province who provided care for 11% of the population (Canadian Institute for Health Information, 2016a, p.13). Nurses working in rural and remote locations care for acute patients with fewer healthcare professionals compared to nurses working in urban locations (Baumann, Hunsberger, Blythe, & Crea, 2006; Canadian Institute for Health Information, 2006). Thus far, the literature reviewed has not distinguished QOWL factors and health outcomes for nurses working in rural and remote areas. Therefore, six additional studies were reviewed as it was relevant to explore literature specifically related to QOWL factors that may impact nurses working in rural and remote locations (Andrews et al., 2005; Baumann, Hunsberger, Blythe, & Crea, 2006; Hunsberger,

Baumann, Blythe & Crea, 2009; MacLeod et al., 2017b Montour, Baumann, Blythe, & Hunsberger, 2009; Opie et al., 2010).

In the second national cross sectional mailed survey, the *Nursing Practice in Rural and Remote Canada II*, conducted between April 2014 and September 2015, of 3,822 rural and remote Canadian nurses, (MacLeod et al., 2017b) reported that the general and mental health of rural and remote nurses across Canada was good to very good by most RNs at 75% and 73% respectively. Fewer RNs reported their general health to be excellent at 20%, and 4.3% indicated their health to be fair to poor (MacLeod et al., 2017b). RNs reported their mental health to be excellent at 21%, with 5.7% reporting fair to poor mental health (MacLeod et al., 2017b).

One qualitative descriptive study was conducted by Baumann, Hunsberger, Blythe, and Crea (2006) of 19 rural Southwestern Ontario hospitals to provide policy makers with knowledge related to rural nursing practice, and the impact of government policies surrounding rural nursing workforce issues. Semi-structured questions were used to interview the purposive sample of 21 nurse managers, 30 RNs, and 14 Registered Practical Nurses. RNs were selected by nurse administrations to be interviewed with additional recruitment of participants by snowball sampling techniques. Data were analyzed using the constant comparative method and the findings were interpreted with thematic analysis. The researchers reported that the span of control for managers had expanded with the amalgamation of several sites, which posed communication challenges related to distances. The authors reported that rural nurses were more likely to work part time and have more than one job. Rural nurses had greater autonomy, were more likely to be cross trained to work in several areas, have unpredictable workloads and work hours, and required continuing educational opportunities for a broad generalist knowledge base (Baumann et al., 2006). Several keys recommendations were suggested by the authors to address

challenges related to rural nursing workforce planning, staffing, scheduling, education, safety issues, and the need to develop specific government policies for rural contexts (Bauman et al 2006).

Additional thematic analysis from Baumann's et al., (2006) study was conducted by Hunsberger, Baumann, Blythe and Crea (2009), to explore the work life challenges and the availability of resources, and supports for nurses in rural practice. The findings revealed that nurses "felt frustrated and powerless when they lacked resources, support, and influence to manage negative situations" (Hunsberger et al, 2009, p. 17). The authors concluded that specific rural strategies aimed at increasing rural nurses' influence, addressing the lack of resources that created stress for nurses, and access to continuing educational opportunities could improve rural nurses' QOWL and retention (Hunsberger et al, 2009).

Access to resources and the needs for continuing educational opportunities were also a finding by Andrews et al. (2005). The work characteristics of 304 randomly selected Canadian nurses who practice in rural and remote settings using a mailed self-report survey with a 68% response rate were explored. The authors reported that 27% of rural nurses had worked more than one job and had increased job satisfaction when they were able to have "face to face contact with colleagues" (Andrews et al., 2005, p. 29). Job satisfaction was also linked with nurses' ability to access equipment and continuing education opportunities (Andrews et al., 2005).

The characteristics of rural nursing practice was explored by Montour, Baumann, Blythe, and Hunsberger (2009) in a qualitative descriptive study of a purposive sample of eight nurse administrators, seven RNs and six Registered practical nurses from seven rural and small community hospitals located in the Hamilton Brant region of Southern Ontario, Canada. Changes

stemming from the implementation of Local Integrated Health Networks (LOCAL HEALTH INTEGRATION NETWORKS) and organization of health systems increased nurse manager's responsibilities that in turn reduced communication with frontline nurses. The authors suggested that rural nurses have difficulty finding full time employment requiring them to have more than one job. The need for having a generalist knowledge base, transporting patients, the application of new e-technologies, and changing disease patterns were identified as rural practice challenges. The creation of specific recruitment strategies for rural areas was recommended to sustain the rural nursing workforce (Montour et al., 2009).

One cross-sectional study explored the occupational stress and psychosocial health of 349 Australian nurses working in remote regions using the Job Demand model (Opie et al., 2010). Findings indicated that major job demand issues were related to staffing, workload, poor management, and concerns for safety. Job satisfaction was related to educational and skill development factors. The needs to increase resources for nurses' work, and reduce emotional exhaustion were recommended (Opie et al., 2010).

### **Summary of Impacts of Nurses' Quality of Work Life**

In summary, the review of literature related to QOWL predictors associated with nurses' health revealed that nurses are the sickest workers in Ontario (Shields & Wilkins, 2006b). Nurses' work is demanding, which can impact nurses' physical and mental health (Ratner & Sawatzky, 2009; Shields & Wilkins, 2006a; Shields & Wilkins, 2006b). Alabama nurses between 35 and 44 years of age were found to have poorer physical function and increased bodily pain, when compared to general populations in other countries, and were linked to their working environment factors (Holman et al., 2009). Nurses who worked in situations reported to be quite a bit to extremely stressful, had more back problems (Ratner & Sawatzky, 2009). Nurses'

psychological health and well-being were linked to a lack of time to provide patient care activities that were perceived as necessary by nurses to actualize the professions' commitment to holistic care that created stressful situations (McGrath et al., 2003). Poor QOWL environments were associated with increased stress (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011; Aiken et al., 2012; Enns et al., 2015; Kelly, McHugh, & Aiken, 2011; Kerr, Spence Laschinger, Severin, Almost, & Shamian, 2005; McGillis Hall & Kiesners, 2005; McGrath, Reid & Boore, 2003; Rajbhandary & Basu, 2010; Tourangeau et al., 2005), injuries (S. P. Clarke, 2007; Shields & Wilkins, 2006a; 2006b). Organizational constraints were found to be affecting employee's stress, job satisfaction, and their physical and psychological health (Pindek & Spector, 2016). Working non-day shifts and overtime were also reported to be associated with increased sharps injuries (de Castro et al., 2010; Trinkoff et al., 2007). Researchers suggested nurses' QOWL was linked to absenteeism and depression (Enns et al., 2015; Rajbhandary & Basu, 2010).

The general and mental health of nurses working in rural and remote areas was reported to be good to very good (MacLeod et al., 2017b). A few differences were noted between QOWL factors for nurses in rural settings compared with urban settings. Although rural nurses reported higher levels of autonomy (Baumann et al., 2006) and increased job satisfaction when they were able to meet with colleagues in person (Andrews et al., 2005), nurses in rural settings were more likely to work part time (Baumann et al., 2006; Montour et al., 2009), have unpredictable workloads and work hours (Baumann et al., 2006). Opie et al. (2010) suggested that the job demands, staffing and workload issues impacted rural nurses' QOWL and health. Rural nurses are often involved in the transporting of patients to larger urban centres (Montour et al., 2009). Nurses also reported that they "felt frustrated and powerless when they lacked resources, support, and influence to manage negative situations" (Hunsberger et al, 2009, p.17).

A few limitations were identified among the studies that related to the cross section design that did not include representation of rural nurses who may have resigned, related to their experiences of stress, and a low response rate (Opie et al., 2010). None of the studies identified nurses working in urban, rural and remote locations in Northeastern Ontario, thus limiting the generalizability of the findings of these studies. The literature strongly suggests that nurses' health is influenced by several factors that have been linked with the QOWL and poor quality work environments (Aiken, Sloane, et al., 2011a; S. P. Clarke, 2007; Kelly et al., 2011; (Kerr et al., 2005; Shields & Wilkins, 2006a; Shields & Wilkins, 2006b Trinkoff et al., 2007). Given the pivotal role of nurses in the provision of quality care to patients, the literature was explored to identify factors influencing nurses' health and QOWL in urban, rural and remote settings.

### **Impacts of Nurses' Quality of Work Life on Patient Health Outcomes**

Quality healthcare implies the provision of safe, competent care that will ensure positive health outcomes for patients (Canadian Nurses' Association, 2002; College of Nurses of Ontario, 2002; Romanow, 2002). The importance of the nurse's role in patient safety has been well established (Kirwan, Matthew & Scott, 2013). The critical need to research urban, rural and remote nurses' QOWL and health was heightened by reports that nurses' QOWL impacts the quality of care provided to patients and concerns for patient safety (Baumann et al., 2001; Canadian Federation of Nurses Unions, 2009, 2011; Canadian Institute for Health Information, 2007b; Canadian Institute for Health Information- Institute, 2016; Ellis, Priest, MacPhee, & Sanchez, 2006; Ontario Health Quality Council, 2010) .

The Canadian Institute for Health Information-Canadian Patient Safety Institute (2016) reported that one in every 18 patients admitted in a Canadian hospital experienced a harmful event that was preventable in 2014 to 2015. This was estimated to be over 138,000 people being

impacted. Patients admitted for surgical procedures had the highest percentage of harmful events per 100 patients at 7.6%, followed by medical patients (6.2%), with newborns having the lowest percentage (1.0%). One in eight patients (n=17,300) or 12.5% who experienced a harmful event died with a mortality rate being four times higher compared with patients who did not experience harmful events (Canadian Institute for Health Information Canadian Patient Safety Institute, 2016). According to the World Health Organization (2012), approximately one in 10 patients living in a developed country is at risk of an adverse event while hospitalized. One report indicated that between 40% and 50% of Canadian patients were at risk for adverse events from medication errors at the time of admission to hospitals, and 40% of patients were at risk for adverse events at the time of discharge from a hospital (Accreditation Canada, 2011).

Preventable nosocomial infections affect 1.4 million individuals globally (World Health Organization, 2012). One in 1,000 Canadian seniors older than 65 years experienced a hip fracture during a hospital stay between April 2003 and March 2006 (Canadian Institute for Health Information, 2007c). Alarming estimates of between 48,000 and 98,000 patient deaths annually have been reported in the United States as a result of healthcare errors (Keller, 2009; Kohan, Corrigan, & Donaldson editors, 2000; Shojania, 2012).

In a Canadian retrospective study, Baker et al. (2004) found that 7.5% of patients admitted to hospitals experienced one or more adverse events. Across Canada, between 9,250 and 23,750 patients subsequently died from adverse events that were determined to be preventable (Baker et al., 2004). POLLARA research (2007) reported that 60% of Canadians perceived that they were at risk for serious negative outcomes due to hospital stays. Further alarming is that nurses reported that the likelihood of adverse incidences was even higher at 74% (POLLARA, 2007).

The importance of evaluating nurses' health and QOWL was amplified by research suggesting that nurses' health and QOWL impact the quality of care and health outcomes for patients. Eleven articles were reviewed to identify factors associated to the QOWL of nurses and patient health outcomes (Aiken, Cimiotti, et al., 2011b; Bae & Fabry, 2014; Bae et al., 2014; Duffield et al., 2011; A. Rogers, Hwang, Scott, Aiken, & Dinges, 2004; Shields & Wilkins, 2006a; Stone et al., 2007; Tourangeau, Cranley & Jeffs, 2006; Tourangeau, Doran et al., 2007; Trinkoff, Geiger-Brown, Brady, Lipscomb & Muntaner, 2006; Trinkoff et al., 2011). Several examples of negative health outcomes for patients have been reported that include adverse events such as infections, patient falls, injuries, medical and medication errors, and patient deaths.

### **Adverse Events**

In a systematic review of the literature published between 2000 and 2013, the relationships of the number of hours worked by nurses including overtime was explored by Bae and Fabry (2014) to assess the effects on patient outcomes. The review included 24 articles that reported on 21 studies spanning across nine countries including two studies from Canada. The authors concluded that negative impacts to the health outcomes of nurses were associated with nurses working longer than 12 hours. More research would be needed to determine negative health outcomes to patients based on this review (Bae & Fabry, 2014).

Concerns about the quality of patient care and patient safety have also been linked to nurses' health and the number of hours nurses' work in a shift per week by Trinkoff et al., (2006). One longitudinal research study exploring nurses' QOWL and health was conducted in the United States of America utilizing quantitative surveys through the *Nurses work life and Health Study* that was funded by the National Institute of Occupational Health and Safety. Findings from part of the study from data that was collected from between 2002 and 2003

included a comparison of the number of hours per shift and per week of randomly sampled RNs (n=2,273), from two states located in the United States of America, to the recommended guidelines developed by the Institute of Medicine. The Institute of Medicine suggested that work hours not exceed 12 hours in a day and hours be limited to 60 hours in a one-week period to potentially reduce the occurrence of errors. Findings revealed that 52% of hospital staff nurses worked more than 12 hours in a 24-hour period. Additionally, 36.2% of nurses working in adult critical care areas, and 27% of nurses working in pediatric critical care areas were working more than 12 hours per day. The authors suggested that the findings raised concerns related to the risks to patient safety, and the health of nurses (Trinkoff et al., 2006).

One quantitative cross sectional study of 393 randomly sampled RNs working across the United States of America, explored the staffing and work hours in relation to the incidence of errors (A. Rogers et al. 2004). Data on a total of 5,317 shifts were collected using a questionnaire and logbooks. The findings indicated that there were 199 errors and 213 near misses with 60% of the errors pertaining to medication (A. Rogers et al., 2004). The chances of increased errors were associated with nurses who worked more than 40 hours per week, and who worked overtime (A. Rogers et al., 2004). The odds of errors tripled with working more than 12.5 hours per shift (A. Rogers et al., 2004). The authors recommended administrators consider the findings when scheduling staff (A. Rogers et al., 2004).

In another longitudinal study that was conducted by Duffield et al., (2011), between 2000 and 2006 in Australia patient health outcomes and outcomes potentially sensitive to nursing were examined to identify relationships to nursing workloads, nursing skill mix, and the nursing practice environment. A comprehensive data set was collected that included patient records (n=5,885) from 80 hospitals, the number of days patients stayed in hospital (22,497), nurse

shifts, (n=13,442) and nurse surveys (n=2,278) from 286 units located in 27 hospitals, environmental scales (n=6,839), and 10,963,806 payroll records. The results suggested that negative patient outcomes were associated with decreased staffing levels of RNs and increased RNs' workloads. Increased workloads of RNs were associated with patient falls and medication errors. Increased staffing was reported to positively affect several health outcomes for patients, including decreasing decubitus ulcers, pneumonia, and sepsis. An increase in nursing hours was associated with decreases to six outcomes potentially sensitive to nursing care that included: decubiti ulcers, gastro intestinal bleeding, physiological/metabolic derangement, respiratory failure, sepsis, and shock (Duffield et al., 2011).

### **Injuries and Infections**

In a study involving 35 nursing units from three hospitals located in the United States of America, the associations between nurse staffing characteristics and patient health outcomes were examined (Bae et al., 2014). The researchers reported that the increased use of temporary RN staffing levels were associated with higher levels of patient falls and injuries. Increasing the staffing hours for licensed practical was reported to decrease the rates of patient falls and injuries (Bae et al., 2014).

In the National survey on nurses' health, Shields and Wilkins (2006a) found that although 15.8% of nurses stated there were some improvements in their work environments, 27% of nurses suggested that the quality of the care they provided to patients had deteriorated, and staffing levels were inadequate. Nosocomial infections associated with the work environment were reported by 35.2% of nurses, 31% reported that patients were injured in falls while in their care, and 17.9% reported medication errors occurred either occasionally to frequently (Shields & Wilkins, 2006a).

Stone et al. (2007) explored the patient outcomes of elderly patients (n=15,846) in Intensive Care Units (n=51) with nurses' (n=1,095) working conditions in a cross sectional study located in the United States of America. Increased overtime rates were reported to be associated with urinary tract infections associated with catheters, and increased rates of decubiti ulcers. Increased staffing levels were found to be associated with decreased infection rates pertaining to central line bloodstream infections, ventilator associated pneumonia, and decubiti ulcers. Interestingly, the Magnet Status of the hospital had no independent associations to patient outcomes (Stone et al., 2007).

### **Mortality Rates of Patients**

The association between nurses' work schedules to patient mortality rates was explored in a quantitative cross sectional study of 633 nurses from 71 United States of America hospitals located in two states that included North Carolina, and Illinois (Trinkoff et al., 2011). Findings revealed that the mortality rates for patients with myocardial infarction were significantly related to the number of hours and days nurses worked per week. Additionally, nurses who worked while ill was associated with mortality rates for patients with congestive heart failure. The mortality rates for patients with myocardial infarction were significantly related to the number of hours and days nurses worked per week. Increased mortality rates for patients with congestive heart failure were associated with nurses who worked while ill (Trinkoff et al., 2011).

Increased mortality rates for patients were found to be associated with nurses' QOWL in a systematic review of 15 studies conducted between 1986 and 2004 (Tourangeau, Cranley & Jeffs, 2006). Thirteen studies were related to hospitals located in the United States of America, one Canadian hospital, and one study of a hospital in Thailand that were conducted between 1986 and 2004. Factors associated with nurses' QOWL included: poor communication and

collaboration between nurses and physicians, increased number of hours that nurses worked per day, lower numbers of RNs in the staff mix, and higher nurse patient ratios on units with higher patient acuity such as surgical units (Tourangeau et al., 2006).

Similar findings were reported by Aiken, Clarke, Sloane, Sochalski, and Silber (2002) in a 1998 study exploring factors associated with the 30-day mortality rates of 232,342 surgical patients linked with 10,184 nurse surveys in 168 hospitals located in Pennsylvania, United States of America. Higher mortality rates were found to be associated with higher patient to nurse ratios. Additional associations of increased patient mortality were related to nurse burnout and job dissatisfaction (Aiken et al., 2002).

One retrospective study of the structures and processes impacting nurses (n=3,886) and the 30-day mortality rates of medical patients (n=46,993) from 75 Ontario hospitals were explored by Tourangeau et al., (2007). Patients included in the study had four specific diagnosis that included myocardial infarction, stroke, pneumonia, and septicemia. Findings revealed 17 fewer patients deaths per 1,000 discharges by nurses who reported an increase of 10% of appropriate staffing and resources. A 10% increase in baccalaureate prepared nurses as well as 10% increases in RNs' staff mixes decreased patient deaths 9 per 1000 and 6 per 1,000 respectively (Tourangeau et al., 2007).

Similarly, the education of nurses was also reported to reduce mortality and failure to rescue rates by 4% with an increase of 10% of nurses prepared at the baccalaureate level in one cross-sectional retrospective survey conducted by Aiken, Cimiotti, et al., (2011b). The study examined the impact and associations between nurses' work environments, staffing, and education factors on patient outcomes including 30-day mortality and failure to rescue rates from

665 American hospitals located in California, Pennsylvania, Florida, and New Jersey. The sample also included nurses (n=39,038) and patient records (n=1,262,120) from the American Hospital Association. The findings indicated that poor work environments had nil effect on mortality and failure to rescue rates when the patient to nurse staffing ratio was reduced by one. Hospitals with average work environments had reduced mortality and failure to rescue rates of 4% when the patient to nurse staffing ratio was reduced by one. Hospitals with the best work environments were found to have a 9% reduction in mortality and 10% reduction in failure to rescue rates (Aiken, Cimiotti, et al., 2011b).

### **Quality of Patient Care from the Patients' Perspective**

Ensuring quality healthcare and positive health outcomes for patients are a priority for healthcare providers (Canadian Nurses' Association, 2008a; College of Nurses of Ontario, 2002). However, researchers suggest that definitions and measurements of quality healthcare developed from the perspective of patients are lacking (Brown, 2007; Kooienga & Stewart, 2011; Wong, Watson, Young, & Regan, 2008). A qualitative thematic content analysis of telephone interviews with 30 patients was conducted as part of a larger randomized, experimental design, mixed methods study to explore patients' perspectives on quality healthcare and the meaning of healthcare error (Kooienga & Stewart, 2011). Patients reported that healthcare errors were associated with lack of communication and poor communication skills among healthcare providers. Participants also indicated that healthcare professionals must focus on the needs of patients and improve communication skills (Kooienga & Stewart, 2011). Based on the perceptions of patients, definitions of quality healthcare should focus on the provision of holistic care and responsiveness to patient needs (Wong et al., 2008). These findings suggest that the outcomes of quality healthcare should be expanded beyond traditional morbidity and mortality

rates (Brown, 2007; Wong et al., 2008).

### **Summary of Impacts of Nurses' Quality of Work Life on Patient Health Outcomes**

In summary, negative patient outcomes were associated with nurses' QOWL and work environments (Aiken, Cimiotti, et al., 2011b; Shields & Wilkins, 2006a). Increased infection rates were associated with poor working environments (Shields & Wilkins, 2006a), while decreased infection rates pertaining to central line bloodstream infections, ventilator associated pneumonia, and decubiti ulcers were associated with increased staffing levels (Stone et al., 2007). Increased staffing levels were also associated with decreased pneumonia and sepsis (Duffield et al., 2011). Overtime rates were reported to be associated with urinary tract infections and increased rates of decubiti ulcers. (Stone et al., 2007). A rise in the incidence rates of errors was associated with working more than 40 hours per week (A. Rogers et al., 2004), working overtime (Bae & Fabry, 2014; A. Rogers et al., 2004; Stone et al., 2007), and working more than 12 hours in a single shift (Bae & Fabry, 2014; A. Rogers et al., 2004; Trinkoff et al., 2006; Trinkoff et al., 2011). Increased workloads of RNs were associated with increased patient falls and medication errors (Duffield et al., 2011; Shields & Wilkins, 2006a). Staffing levels (Bae et al., 2014; Duffield et al., 2011; P. W. Stone et al., 2007), the staff mix (Bae et al., 2014; Tourangeau et al., 2007), and nurses' work schedules (Trinkoff et al., 2011) were additional factors associated with negative health outcomes for patients.

Decreases to the 30-day mortality rates of patients were associated with a 10% increase in baccalaureate prepared nurses (Aiken, Cimiotti, et al., 2011b; Tourangeau et al., 2007) as well as 10% increases in RNs staff mixes (Tourangeau et al., 2007), and the quality of the work environment (Aiken, Cimiotti, et al., 2011b). The mortality rates for patients with myocardial infarction were significantly related to the number of hours and days nurses worked per week,

and nurses who worked while sick with patients with congestive heart failure (Trinkoff et al., 2011).

The review of the literature suggests that negative impacts to patient's health outcomes are associated with the QOWL of nurses and their work environments (Aiken et al., 2002; Bae & Fabry, 2014; Bae et al., 2014; A. Rogers et al., 2004; Tourangeau et al., 2006; Tourangeau et al., 2007; Trinkoff et al., 2006; Trinkoff et al., 2011). The perspectives of patients were reviewed to identify factors negatively impacting their health outcomes. Patients suggested that errors occurred related to poor communication skills among healthcare providers (Kooienga & Stewart, 2011), and that quality healthcare needs to focus on meeting and being responsive to the holistic needs of patients, were factors affecting their health outcomes (Wong et al., 2008). The literature suggests that there are several factors and indicators needing to be explored when researching nurses' QOWL and the effect this has on the health outcomes of patients. A few limitations were noted in some studies that included poor reliability of some subscales used (Shields & Wilkins, 2006a), convenience and small sample sizes (Tourangeau et al., 2007), and use of out dated data (Duffield et al., 2011; A. Rogers et al, 2004) thus limiting the generalizability of these findings to nurses working in urban, rural and remote settings located in Northeastern Ontario.

### **Impacts of Nurses' Quality of Work Life on Healthcare System Outcomes**

Researchers have suggested that the quality of nurses' work life and environments can negatively impact the health of nurses and the health outcomes for patients. Adverse events for patients increase costs for the healthcare system. Healthcare work environments are challenged by persistent nursing shortages and the consequences of shortages that include costs associated with high levels of nursing turnover, overtime, and absenteeism (Tomblin Murphy, 2015; Silas, 2015).

## **Economic Costs to the Healthcare system for Adverse Events to Patients, Absenteeism, and Recruitment and Retention of Nurses**

Harmful events can take a significant emotional toll on patients and their families, with enormous economic costs incurred by them as well as the healthcare system. The costs associated with adverse events for patients admitted to acute care hospitals were estimated to be more than \$1,000,000,000 in Canada from 2009 to 2010, with close to \$4,000,000 for preventable adverse events alone (Canadian Patient Safety Institute, 2012). Patients who experienced harmful events in 2014 to 2015 needed to stay an additional 500,000 days in hospital costing approximately \$685 million. This cost did not account for the extra costs patients and families would spend after discharge for recovery at home, rehabilitation or impacts such as lost time or productivity related to their work (Canadian Institute for Health Information Canadian Patient Safety Institute, 2016). The cost associated with preventable patient falls in U.S. hospitals was estimated to be more than \$6,000,000,000 in 2007 (Drenkard, 2010). These reports highlight the relationship between the quality of healthcare and positive patient health outcomes as a global concern (WHO, 2012).

Canadian nurses working full time in 2016 were reported as being absent from work from illness or disability at a higher percentage (9.0%) when compared to all other occupations (5.7%) per week (Jacobson Consulting Inc., 2017). This was approximated to be 28.8 million hours of lost time or the equivalent of 15,900 nurses needing to be replaced. The annual cost related to absenteeism for the healthcare system was approximated to be \$989 million in 2016. This was higher than 2014 where annual costs were \$841 million. Higher rates of absenteeism related to illness and disability were consistent across all Canadian provinces. Absenteeism rates were generally higher for nurses who were 35 years of age and older. In Ontario, the absenteeism rate

was reported to be higher in 2016 (7.6%) when compared to rates in 2014 (7.3%). Absenteeism from illness and disability accounted for 152,800 hours in lost time that cost the healthcare system \$278 million dollars in 2016. In 2016, the costs of paid and unpaid overtime were previously reported to be approximately \$968 million dollars for Canadian nurses and \$258.4 million dollars per year for Ontario nurses in 2016 (Jacobson Consulting Inc., 2017).

The recruitment and retention of nurses is critical to reduce costs and sustain the healthcare system. In a comparative review, the costs related to the turnover rates of nurses from four studies that included: Australia, Canada, New Zealand and the United States of America, were explored by Duffield, Roche, Homer, Buchan and Dimitrelis (2014), using the Nursing Turnover Cost Calculation Methodology. Studies included were conducted prior to 2014 and turnover costs were reported using United States of America currency. The authors reported a wide variation between costs among the four countries. The highest turnover costs were found to be in Australia (\$48,790) that had the lowest turnover rates (15.1%). Turnover costs in the United States of America were found to be almost half (\$20,561) and higher turnover rates (26.8%) when compared to Australia. The Canada costs were higher than the U.S. (\$26,652) with lower (19.9%) turnover rates than Australia and the United States of America. Turnover costs for New Zealand (\$23,711) were lower than the U.S. with the highest turnover rates being 44.3%. The authors suggested that the higher turnover costs in Australia could be related to the high termination rates calculated to account for 25% of the overall costs. Extra monetary benefits that are provided to an employee when terminated in Australia were suggested to account for 25% of the overall turnover costs that may not be provided by other countries (Duffield et al., 2014). Turnover costs were found to be linked with the costs associated with the temporary replacement of nurses.

## Staffing Costs

Several researchers have suggested that inadequate staffing of nurses negatively impacts the health outcomes of patients (Bae et al., 2014; Duffield et al., 2011; P. W. Stone et al., 2007), and that nurses needed organizational supports, resources to do their work (Brooks & Anderson, 2004; Brooks et al., 2007; Chow, 2015; Khani et al., 2008; McGillis Hall, Doran, O'Brien-Pallas, et al., 2006; Pineau Stam et al., 2015). Increased costs and a lack of funds have been the consistent arguments used as the rationale for not increasing the number of nurses on patient care units. Some studies provide support that opposes this perception.

In one longitudinal study conducted in the United States of America, over 18 million discharged hospital patient records were examined in relationship to nurse staffing levels and patient care costs (Martsolf et al., 2014). The authors found that instead of increasing costs, increasing the staffing levels of RNs by 4.2% resulted in a 3.1% decrease in costs associated with patient care. The additional increase of nursing staff was also found to be associated with decreased harmful events and length of stays for patients and did not add additional costs to the healthcare system (Martsolf et al., 2014).

In a research report, *Better Care: An Analysis of Nursing and Healthcare System Outcomes*, conducted by the Canadian Health Services Research Foundation for the Canadian Nurses' Association, Browne, Birch and Thabane (2012) explored the effectiveness of nurse-led models of care. These models were compared to costs associated with the dominant physician-led care models for the healthcare system. The authors found that nurse-led models of care were effective and could reduce costs for the healthcare system. For example, the cost of standardized care for 90,000 diabetic patients with foot ulcers, and 15,000 patients with leg ulcers in Ontario in 2007 was estimated to be \$511 million dollars. Care provided by wound care specialist nurses

for these patients were estimated to save \$338 million dollars. “This would represent a 66% reduction in cost and an estimated further savings of \$24 million in reduced hospitalizations alone due to fewer infections and amputations” (Shannon, 2007, as cited in Browne et al., p. 21). The findings of these studies suggest that new models based on nursing care models may reduce overall costs to the healthcare system (Browne et al.; Martsolf et al., 2014).

Eleven articles were reviewed to explore QOWL factors associated with the absenteeism and the recruitment and retention of nurses. Four articles related to nurses absenteeism rates (Baydoun, Dumit & Daouk-Oyry, 2016; Davey, Cummings, Newburn-Cook, & Lo, 2009; Lamont et al., 2017; Rajbhandary & Basu, 2010) and seven on the recruitment and retention of nurses working in urban, rural and remote geographic locations (Chan et al., 2013; Hayes et al., 2012; Jonatansdottir et al., 2017; Lee et al., 2017; MacLeod et al., 2017a; Stewart et al., 2010; Tourangeau, Cummings, Cranley, Ferron, & Harvey, 2009).

### **Absenteeism**

Absenteeism in the healthcare sector has been consistently higher than other occupations such as the manufacturing sector and problematic as it increases costs for the healthcare system (Damart & Kletz, 2016). Researchers found that the total days lost due to illness and disability for Ontario nurses was 15.3% which was more than double the total industry rate of 7.1% (Shields & Wilkins, 2006b).

In a qualitative study of 20 nurse managers working in a 350-bed hospital in Lebanon, the perspectives of nurses’ absenteeism were explored (Baydoun et al., 2016). Nurse managers suggested that absenteeism was associated with individual, organizational and work factors. Individual factors related to absenteeism included: personal health issues, family obligations, and social plans. Work related factors included: being scheduled for extra shifts, psychological

distress, physical and mental tiredness, leadership, and some nurses working two jobs.

Organizational factors included: organizational structure, and job security has perceived factors for nurses' absenteeism (Baydoun et al., 2016).

Lamont et al., (2017) explored the absenteeism of nurses and midwives (n=5,041) working in New South Wales and Australia with a cross-sectional online survey from 2014-2015 to determine the usage of mental health days for these absences. The authors reported that 54% of the participants indicated taking a mental health day. Some factors that were found to be associated with mental health day absenteeism included: younger age, shift work, experiences of abuse in the work environment with an intention to leave their job, previous hospital admission within the previous year, and participants who smoked. Participants who also reported mental health problems, emotional problems that affected their work, and the use of psychotropic medication indicated taking mental health sick days. Developing supports for nurses' and midwives' well-being was recommended (Lamont et al., 2017).

In a systematic review of the literature from 1986 to 2006, Davey et al., (2009), explored predictor variables associated with short-term absences of nurses who worked in hospitals. A total of 16 articles were included in the review and analyzed using content analysis. Although the authors were unable to find specific predictor variables for absenteeism they indicated that increased absences were associated with job stress and burnout, and decreased absences were associated with the number of an individual nurse's previous absences, "job satisfaction, organizational commitment, work/job involvement, and retention factors" (Davey et al., 2009, p. 312). Excessive stress linked to nurses' work environments was also a factor associated with increased absenteeism rates found by McGillis Hall and Kiesners (2005).

One secondary analysis of data collected from the *National Survey of the Work and*

*Health of Nurses* (2005) explored QOWL predictors of nurses' injuries, illnesses, and absenteeism (Rajbhandary & Basu, 2010). Findings indicated that increased absenteeism rates were associated with RNs and Registered practical nurses working in hospitals, workloads, and a lack of respect for Registered practical nurses ( $p < .01$ ). Working non-day shifts or mixed shifts for RNs, and depression among RNs and Registered practical nurses were additional factors related to absenteeism rates (Rajbhandary & Basu, 2010).

### **Recruitment and Retention of Nurses**

The recruitment and retention of nurses working in urban, rural and remote settings have been associated with the quality of nurses' work life. Addressing the quality of nurses' work life and work environments are crucial to reduce costs to the healthcare system and retaining nurses, especially those who are considered new graduate nurses. Boamah and Laschinger (2016) explored the work life and burnout of new graduate RNs (n=215) working in acute care hospitals across Ontario using data from a larger study. The authors reported that the intention for new graduate RNs to leave were associated with nurses' work environments. Bellefontaine and Eden (2015) reported that within the first year of entering the work force between 35 and 61% of new graduates either change their places of employment or leave the nursing profession all together. Suggested factors contributing to this turnover included poor orientation or training, a lack of support systems, and low job satisfaction (Bellefontaine & Eden, 2015).

In systematic reviews of the literature, several interconnected factors that influenced the recruitment and retention of nurses were identified (Chan et al., 2013; Hayes et al., 2012). Chan et al., (2013) explored 31 articles published from 2001 to 2010 and suggested that there are several work related and personal factors that affect the retention and recruitment of nurses. Organizational factors related to nurses' work environments included: the work culture, nurses'

commitment, demands and supports. Demographic variables, nurses' satisfaction with their job and burnout were considered individual factors impacting the retention of nurses. The authors found that reasons why nurses decide to leave are complex and impacted by both organizational and individual factors (Chan et al., 2013). Hayes et al., (2012) systematically reviewed 68 studies from 2006 and later to identify factors associated with the retention of nurses. Excessive workloads, low job control, lack of team and leadership support, and inadequate resources are a few examples of the factors affecting the retention of nurses that can affect the quality of patient care and have economic impacts for the healthcare system (Hayes et al., 2012).

Lee et al., (2017) explored the quality of nurses' work life to the intention to leave and following through with the intention by actually leaving the nursing profession among Taiwan hospital nurses (n=1,283) using a prospective design. The authors collected data using the Chinese version of the Quality of work life instrument, an intention to leave scale, and demographic questions. Data were gathered one year following the survey to determine how many nurses left who indicated their intention to leave nursing. Over half of the nurses (56.1%) indicated that they intended to leave the nursing profession and 2.5% were found to have left nursing one year after the survey. Factors impacting nurses' intention to leave were respect, autonomy, and the quality of their work life (Lee et al., 2017).

One qualitative descriptive study involving 78 RNs divided into 13 focus groups working on medical, surgical, and critical care areas from two large teaching, two large community, and two rural and remote locations was conducted in the Canadian provinces of Alberta and Ontario (Tourangeau et al., 2009). Factors influencing whether nurses remained employed included: psychosocial factors such as supportive relationships with co-workers and patients, support from managers, and stress and burnout levels. Organizational support was described in relation to

educational opportunities, adequate orientation, and opportunities for involvement and input on organizational committees. Work schedules that allowed nurses to balance work and home life were viewed as influencing the retention of nurses. Having too many patients and time spent on non-nursing tasks were workload factors influencing nurses' decision to leave. Physical aspects of the work environment included having adequate human and material resources, and environments that were clean and safe were identified as determinants for nurses to stay employed. Monetary rewards such as benefits and salary, and having vacations at preferred times were noted to encourage the retention of nurses (Tourangeau et al., 2009).

### **Recruitment and Retention of Rural and Remote Nurses**

The recruitment and retention of nurses especially in rural and remote settings has been an ongoing concern for many years (Jonatansdottir et al., 2017; Kulig, Kilpatrick, Moffitt, & Zimmer, 2015; MacLeod et al., 2017a; Pitblado, Koren, MacLeod, Place, J., Kulig, & Stewart, 2013; Stewart et al., 2010). MacLeod et al., (2017a) reported key reasons why RNs were recruited in rural and remote communities that included the location of the community (55.7%), the practice setting (53.3%), and the salary (45.1%). The reason contributing to why RNs stayed was an interest in the practice setting (59.1%) (MacLeod et al., 2017a). The location of the community (59%), and the practice setting (53%), were similar reasons why Ontario rural and remote RNs were recruited. The support of family or friends (44%) was a key recruitment factor (Jonatansdottir et al., 2017).

One retrospective analysis involving narratives, documentary analysis, and a survey of RNs (n=3,051) working in rural and remote locations across Canada was utilized to identify predictor variables related to the retention of nurses in these practice settings (Stewart et al., 2010). Several work related and personal factors influenced nurses' intention to leave their work

setting that included: gender, age, marital status, education, length of employment, satisfaction with the work schedule and community, level of autonomy, and the level of advanced practice. Specifically, findings suggested that male nurses working in rural and remote locations were more likely to leave their jobs. Other factors influencing nurses' intentions to leave included nurses who were reporting higher perceptions of stress, had higher education levels, were without family, were dissatisfied with the community, and had lower satisfaction levels with work schedules and autonomy (Stewart et al., 2010).

### **Summary of Impacts on Nurses' Quality of Work Life and Healthcare System Outcomes**

In summary, several predictors were identified as negatively impacting outcomes for the healthcare system that included absenteeism and the retention of nurses. Increased rates of absenteeism were associated with nurses' personal and organizational factors (Baydoun et al., 2016). The younger age of a nurse and shift work were factors associated with absenteeism for mental health days (Lamont et al., 2017). Absenteeism was also found to be associated with workloads, working non-day shifts, and depression (Rajbhandary & Basu, 2010). Burnout and job stress were associated with increased absenteeism rates (Davey et al., 2009; McGillis Hall & Kiesners, 2005) and the retention of nurses (Tourangeau et al., 2009).

The recruitment and retention of nurses were influenced by a lack of orientation for new graduates (Bellefontaine & Eden, 2015). The existence of supports (Bellefontaine & Eden, 2015; Chan et al., 2013; Hayes et al., 2012) and job satisfaction were factors associated with the retention of nurses (Bellefontaine & Eden, 2015; Chan et al., 2013; Tourangeau et al., 2009). Additional factors affecting nurses' intention to leave included: supportive relationships with co-workers and patients, support from managers and the organization, educational opportunities, adequate orientation, and opportunities for participation on organizational committees, work-

home life balance, nurse to patient ratios, time spent on non-nursing tasks, adequate staffing and resources, and benefits (Tourangeau et al., 2009).

The recruitment and retention of nurses in rural and remote settings were found to be associated with the location of the community, the practice setting, salary, and supports from family and friends (Jonatansdottir et al., 2017; MacLeod et al., 2017a). Gender, age, marital status, education, length of employment, satisfaction with the work schedule and community, and level of autonomy and level of advanced practice were additional factors influencing the retention of nurses in rural and remote locations (Stewart et al., 2010). These factors impacting nurses' QOWL are known to increase healthcare system costs. A few limitations from these studies were reported that included the inability to identify the most influential determining factors (Tourangeau et al., 2009), and results based on data that was collected between 2001 and 2002 (Stewart et al., 2010). None of the studies explored RNs working in Northeastern Ontario, which limits the generalizability of the findings.

### **Synthesis of the Literature Review and Rationale for Quality of Work Life Study**

The review of the literature revealed a few factors associated with positively impacting nurses' QOWL that included good salary and benefits (Chow, 2015; Khani et al., 2008; Tourangeau et al., 2009; Vagharseyyedin et al., 2011), and greater autonomy for nurses working in rural settings (Baumann et al., 2006; Montour et al., 2009). QOWL factors were associated with individual nurse factors such as resilience and organizational commitment, and job satisfaction (Caricatil et al. 2015; Cummings et al., 2008; Hart et al., 2014; Malloy & Penprase, 2010; Nayak & Sahoo, 2015; Pindek & Spector, 2016; Pineau Stam et al., 2015). A few specific factors were identified as challenges for nurses working in rural locations that involved: lack of full time employment that required nurses to work more than one job, the need of a broad

generalist knowledge base, continuing educational opportunities (Baumann et al., 2006; Hunsberger et al., 2009; Jonatansdottir et al., 2017; MacLeod et al., 2017a; Montour et al., 2009), application of new e-technologies, the changing disease patterns of patients, and the transporting of patients from rural locations (Montour et al., 2009). McGillis et al., (2006a) reported RNs had higher perceptions of autonomy, the nurse-physician role, and organizational support than Registered practical nurses as factors positively impacting RNs' QOWL (McGillis Hall et al., 2006a). The location of the community, the practice setting, salary, and supports from family and friends were factors that affected the recruitment and retention of nurses in rural and remote settings (Jonatansdottir et al., 2017; MacLeod et al., 2017a).

A majority of studies from various countries, including Canada and the United States, suggest that nurses' QOWL significantly impacts nurses' health and the health outcomes of their patients (Aiken, Cimiotti, et al., 2011b; Aiken, Sloane, et al., 2011a; Shields & Wilkins, 2006a; Alison M. Trinkoff et al., 2011; A.M. Trinkoff et al., 2007). Several factors were identified as negatively affecting urban and rural nurses' QOWL that included: increased, heavy or unpredictable workloads (Baumann et al., 2006; Brooks et al., 2007; Brooks & Anderson, 2004; Chow, 2015; Khani et al., 2008; McGillis Hall & Kiesners 2005; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2005; 2009; Wilkins et al., 2007), inadequate staffing levels (Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; Pineau Stam et al., 2015; Tourangeau et al., 2005; 2009), inadequate resources (Baumann et al., 2006; Brooks et al., 2007; Brooks & Anderson, 2004; Chow, 2015; Hunsberger et al., 2009; Pineau Stam et al., 2015; Tourangeau et al., 2005; 2009;), increased stress, (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011; Aiken et al., 2012; Enns et al., 2015; Kelly, McHugh, & Aiken, 2011; Kerr, Spence Laschinger, Severin, Almost, & Shamian, 2005; McGillis Hall & Kiesners, 2005; McGrath, Reid & Boore, 2003;

Rajbhandary & Basu, 2010; Tourangeau et al., 2005), high job strain, and burnout (Aiken et al., 2012; Shields & Wilkins, 2006a; 2006b; Wilkins et al., 2007). The QOWL affected nurses' physical and psychological health (Pindek & Spector, 2016). Researchers also suggested nurses' QOWL was linked to absenteeism and depression (Enns et al., 2015; Rajbhandary & Basu, 2010).

Additional factors related to nurses wanting a greater input and participation in decision-making processes and decision-making latitude (Brooks et al., 2007; Brooks & Anderson, 2004; Chow, 2015; Khani et al., 2008; Tourangeau et al., 2009). Researchers suggested that a lack of respect (Brooks & Anderson, 2004; Lee et al., 2017; Rajbhandary & Basu, 2010; Wilkins et al., 2007), support (Brooks & Anderson, 2004; Chow, 2015; Hunsberger et al., 2009; Tourangeau et al., 2005; 2009; Wilkins et al., 2007), recognition (Brooks & Anderson, 2004), and poor relationships with physicians and colleagues (Brooks & Anderson, 2004; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2009; Wilkins et al., 2007), negatively affected nurses' QOWL. Not being listened to and imbalances with work and home life also affected nurses' resilience (Hart et al., 2014).

Nurses working in urban and rural settings indicated a need for continuing education (Baumann et al., 2006; Brooks & Anderson, 2004; Jonatansdottir et al., 2017; Hunsberger et al., 2009; MacLeod et al., 2017a; Montour et al., 2009; Tourangeau et al., 2009), having a work and home life balance (Brooks & Anderson, 2004; Khani et al., 2008; Tourangeau et al., 2009), having to work non day shifts (Chow, 2015; Khani et al., 2008), and the level of autonomy (Baumann et al., 2006; Khani et al., 2008; McGillis Hall et al., 2006a; Wilkins et al., 2007), as important influences to their QOWL.

The QOWL factors identified in the review of the literature were suggested to be

associated with negative effects on nurses' health, that increase the incidence of illness, injury, disease, overtime and absenteeism rates among urban, rural and remote nurses, and directly impact the health outcomes of patients (Canadian Federation of Nurses Unions, 2009; 2011; Canadian Institute for Health Information, 2006; Montour et al., 2009; Ontario Health Quality Council 2010; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2005). Staffing levels (Bae et al., 2014; Duffield et al., 2011; P. W. Stone et al., 2007), and the staff mix (Bae et al., 2014; Tourangeau et al., 2007) were identified as a key QOWL factor affecting nurse, patient, and system outcomes. Nurses found to work overtime (Bae & Fabry, 2014; A. Rogers et al., 2004; Stone et al., 2007), or who worked more than 12 hours in a single shift had an increase in the incidence rates of errors (Bae & Fabry, 2014; A. Rogers et al., 2004; Trinkoff et al., 2006; Trinkoff et al., 2011). Increased rates of absenteeism were associated with nurses' personal and organizational factors (Baydoun et al., 2016; Lamont et al., 2017).

The negative health outcomes for nurses and patients stemming from the quality of nurses' work life and work environments have added significant costs to the healthcare system. In Canada, between 2014 and 2015, patients stayed 5000,000 extra days in hospital related to adverse incidences that cost approximately \$685 million (Canadian Institute for Health Information –Canadian Patient Safety Institute, 2016). Costs for patient falls in U.S. hospitals alone were estimated to be more than \$6,000,000,000 in 2007 (Drenkard, 2010). In 2016, nurses continued to be the sickest workers in Canada among all other occupations with an absenteeism percentage of 9% compared to all other workers at 5.7% (Jacobson Consulting Inc., 2017). The costs for absenteeism across Canada were reported to be \$989 million in 2016 or the equivalent of 15,900 nurses needing to be replaced (Jacobson Consulting Inc., 2017). The annual cost related to absenteeism for the healthcare system was approximated to be \$989 million in 2016. In

Ontario, the absenteeism rate was reported to be higher in 2016 (7.6%) for illness and disability and accounted for 152,800 hours in lost time, which cost the healthcare system \$278 million dollars in 2016 (Jacobson Consulting Inc., 2017). Paid and unpaid overtime costs in 2016 were calculated to be approximately \$968 million dollars for Canadian nurses and \$258.4 million dollars per year for Ontario nurses in 2016 (Jacobson Consulting Inc., 2017).

Researchers suggest that the retention of nurses is critical to reduce costs for the healthcare system. Turnover rates of nurses in Canada were reported to be 19% with a cost estimated to be \$26,652 per nurse (Duffield et al., 2014). Estimated costs associated with nurse turnover for one RN in the United States were between \$42,000 and \$64,000 (Drenkard, 2010). Improving nurses' QOWL may reduce turnover rates, improve retention (Aiken, Cimiotti, et al., 2011b), and provide substantial savings for the healthcare system (Canadian Institute for Health Information, 2007a; Ontario Health Quality Council, 2010; (Canadian Federation of Nurses' Unions, 2011; Canadian Institute for Health Information, 2007; Canadian Nurses' Association, 2008b; Ontario Health Quality Council, 2010; Quality Worklife Quality Healthcare Collaborative, 2007; Shields & Wilkins, 2006a; 2006b). Appropriate staffing levels for quality patient care in Canada are predicted to be challenging as recent projections estimate that there will be a shortage of 60,000 full time RN equivalents by 2022 (Canadian Federation of Nurses Unions, 2009).

### **Rationale for Evaluating the Quality of Nurses' Work Life Study**

Several factors and indicators were identified that need to be considered when evaluating nurses' QOWL and the effect this has on the health outcomes of nurses, patients and the healthcare system. Several studies explored QOWL variables utilizing a variety of research designs, methods and settings (Vagharseyyedin et al., 2011). Nurses' QOWL were explored

using qualitative designs (Baumann et al., 2006; Montour et al., 2009; Tourangeau et al., 2009; Hunsberger et al., 2009), quantitative designs (Aiken et al., 2012; Aiken et al., 2011a; Aiken, Cimiotti, et al., 2011b; Brooks & Anderson, 2004; Brooks et al., 2007; Khani et al., 2008; Shields & Wilkins, 2006a; 2006b; Tourangeau et al., 2005; Wilkins et al., 2007), with one mixed method design (McGillis Hall et al., 2006a), that were conducted in different geographic locations across several Canadian provinces and countries.

Although several studies from various countries, including Canada and the United States, affirm that nurses' QOWL significantly impacts nurses' health and the health outcomes of patients, comparisons of the findings may be limited due to differences between the healthcare systems in the countries where nurses were located and inconsistency in the instruments used to collect data (Aiken et al., 2012; Kelly et al., 2011). The majority of instruments used to collect data and statistical tests were different in each study. Some commonalities were found among some of the studies reviewed with similar instruments used to collect data. The Brook's Nurses Quality of Work Life instrument was used in some studies (Brooks et al., 2007; Brooks & Anderson, 2004; Chow, 2015; Khani et al., 2008), while others utilized variations of the Practice Environment Scale-Nursing Work Index-Revised instrument (McGillis Hall et al., 2006; Shields & Wilkins, 2006a; 2006b; Tourangeau et al., 2005; Wilkins, McLeod, & Shields, 2007). The Practice Environment Scale-Nursing Work Index-Revised was the only instrument consistently used in several studies (Aiken, Cimiotti, et al., 2011b; Aiken, Sloane, et al., 2011a; S. P. Clarke, 2007; Duffield et al., 2011; Kelly et al., 2011; Shields & Wilkins, 2006a; Tourangeau et al., 2007). The Practice Environment Scale-Nursing Work Index-Revised is considered to be a reliable, stable, and valid instrument with established psychometric properties based on data collected since 1999 from 98,116 staff nurses working in 1,406 hospitals (Aiken,

Sloane, et al., 2011a). Some comparisons can be made from research findings that use consistent measurements, provided the context of each setting is considered in the interpretation and generalization of the findings (Aiken et al., 2012).

The cross sectional design with the exclusive use of self-reported data (Andrews et al., 2005; Chow, 2015; Cummings et al., 2008; McGillis Hall & Kiesners, 2005; McGillis Hall et al., 2006; Tourangeau et al., 2005), convenience sampling approaches as well as small sample sizes (Chow, 2015; Tourangeau et al., 2007), low response rates (Brooks et al., 2007; Brooks & Anderson, 2004), and low to poor reliability scores of subscales were identified as limitations (Brooks & Anderson, 2004; Shields & Wilkins, 2006a; Tourangeau et al., 2005). The findings related to work stress are to be viewed with caution (Shields & Wilkins, 2006a). The time frame when data was collected and potential uncontrolled variables was suggested to be a limitation accounting for the differences observed in the findings (McGillis Hall et al., 2006a) and results are based on data that was collected between 2001 and 2002 (Stewart et al., 2010). Several qualitative studies involved participants from across Canada or nurses in Southern Ontario (Baumann et al., 2006; Hunsberger et al., 2009; Kerr et al., 2005). Only one mixed method study exploring the feasibility of collecting QOWL data was conducted involving participants from across Northern and Southern Ontario. These inconsistencies limit the ability to generalize the findings to RNs working in urban, rural and remote locations in Northeastern Ontario. Given the importance of exploring nurses' QOWL an understanding of the theoretical underpinnings of this concept is essential.

### **Theoretical Underpinnings and Framework for Nurses' Quality of Work Life**

#### **Theoretical Underpinnings for Nurses' Quality of Work Life**

Nurses' QOWL has theoretical underpinnings in sociotechnical systems theory (Brooks et

al., 2007; Brooks & Anderson, 2005; P. N. Clarke & Brooks, 2010). Central tenets of sociotechnical system theory postulate that social and technical sub-systems are interrelated, and that these subsystems can be jointly optimized (Brooks et al., 2007; Brooks & Anderson, 2005; P. N. Clarke & Brooks, 2010; Walker, Stanton, Salmon, & Jenkins, 2008). Social subsystems include: the QOWL (Walker et al., 2008), members in the organization, and the relationships between members and employers (Brooks & Anderson, 2005). Technical subsystems include equipment, procedures, protocols, policies, and the skills and knowledge employees use to complete tasks (Brooks & Anderson, 2005). The joint optimization of these subsystems is theorized to improve employees' psychological needs while attaining the goals of the organization (Brooks & Anderson, 2005). According to Brooks and Anderson (2005), the social and technical subsystems of the organization comprise nurses' s, which can influence the QOWL dimensions of nurses' work context, work design, work and home life, and work world. Knowledge of the theoretical underpinnings of QOWL and the characteristics of nurses' work environments assists in understanding the QOWL factors that can be explored that may impact the health outcomes for nurses and patients.

### **Theoretical Framework for Nurses' Quality of Work Life**

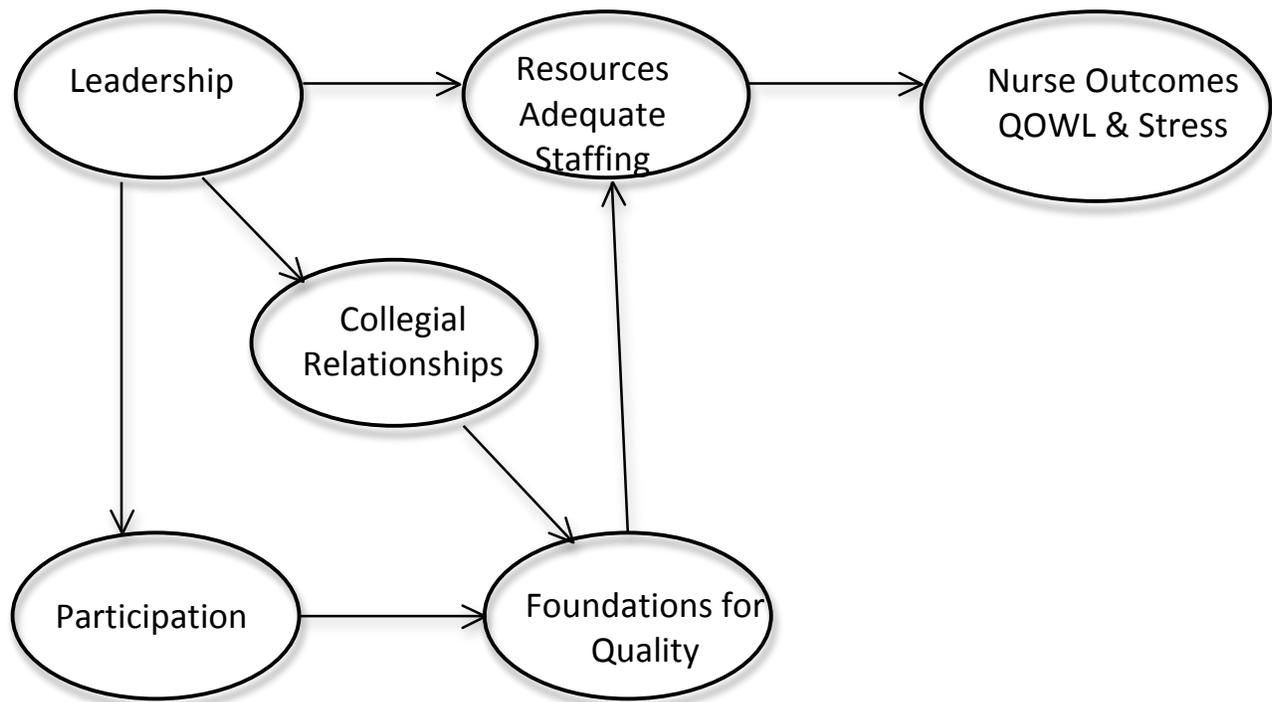
According to Kerlinger (1973), a theory is defined as "a set of interrelated [concepts], definitions, and propositions that present a systematic view of a phenomenon by specifying relations among variables" (as cited in Fawcett, 1978, p. 50), and theoretical models are useful to describe, explain or predict relationships among concepts (Current Nursing a, 2012). The aim of this research was to evaluate the quality of nurses' work life and stress among Northeastern Ontario nurses working in urban, rural and remote hospital settings. It was important to use a framework that was theoretically congruent with the social and technical aspects that comprise

nurses' s that potentially may affect their QOWL. The theoretical framework that guided Phase I of this study was an adapted version of the Nursing Work Life Model. The Nursing Work Life was originally developed by Leiter and Laschinger (2006) and based on Lake's (2002) domains identified through the development of the Scale-Nursing Work Index-Revised (Laschinger & Leiter, 2006).

The Scale-Nursing Work Index-Revised scale measures nurses' perceptions of supportive s for nurses that comprise five domains: 1) leadership, 2) nurses' participation in decision and policy making, 3) collegial relationships between nurses and physicians, 4) foundations for quality care that involves a nursing model of patient care versus a medial model, and 5) resources such as adequate staffing (Laschinger & Leiter, 2006; Leiter & Laschinger, 2006; Manojlovich & Laschinger, 2007; Roche, Laschinger & Duffield, 2015). The five domains in the Nursing Work Life Model L have been widely used to systematically explore and explain nurses' work environments and describe relationships among variables with nursing outcomes such as burnout (Laschinger & Leiter, 2006), burnout and other adverse events (Leiter & Laschinger, 2006), the retention or turnover intentions of nurses (Roche et al., 2015), structural empowerment and job satisfaction (Laschinger 2008; Manojlovich & Laschinger, 2007), and work enjoyment (Ballard, Bott & Boyle, 2013).

Theoretically, according to Leiter and Laschinger (2006), the Nursing Work Life Model, depicted in Figure 1, begins with leadership as a key variable that has a direct relationship to staffing/resource adequacy, nurses' participation in policy, and collegial relationships between nurse's and physicians domains (Laschinger & Leiter, 2006; Leiter & Laschinger, 2006; Roche, Laschinger & Duffield, 2015). Leadership has been connected with nurse outcomes of exhaustion when staffing and resources have been perceived as inadequate (Manojlovich &

Laschinger, 2007). Nurses' participation in policy and collegial relationships is depicted as having an influence on the foundations for quality care based on a nursing model of patient care versus a medical patient care model (Laschinger & Leiter, 2006; Leiter & Laschinger, 2006; *Figure 1* Nursing Work life Model (Adapted from, Laschinger & Leiter, 2006; Leiter & Laschinger, 2006; Roche et al., 2015)



Roche et al., 2015). “Use of a nursing model of care enhances the influence of leadership on staffing/resource adequacy, which in turn, is related to outcomes” (Roche et al., 2015, p. 526).

Leiter and Laschinger (2006) hypothesized that exploring the five domains of the Nursing Work Life Model could identify supportive nursing work environments, and areas for improvements to affect outcomes for nurses and patients (Roche et al., 2015). This study utilized the Nursing Work Life Model explore the relationships between nurses' work environments, and nurse

outcomes of QOWL and stress that is congruent with the theoretical underpinnings of nurses' QOWL.

The strength of the Nursing Work Life Model is that the theorized relationships between the Nursing Work Life Model domains have been empirically validated, replicated, and expanded in several studies conducted with nurses (Roche et al., 2015). Extensive research exploring the presence or absence of organizational characteristics of nurses' work environments in acute care settings, located in several countries, has been conducted utilizing the Scale-Nursing Work Index-Revised instrument (Aiken, Sloane, Clarke, Poghosyan, & Cho, 2011; Cummings, Hayduk, Estabrooks, 2006; Estabrooks et al., 2002; Kelly, McHugh, Aiken, 2011).

A potential limitation of this model stems from a study that conducted a factor analysis on seven studies that used a variety of versions of the Scale-Nursing Work Index-Revised (Aiken & Patrician, 2000; Lake, 2002, Li et al., 2007; Slater, O'Halloran, Connolly, & McCormack, 2010). Inconsistencies of some Scale-Nursing Work Index-Revised versions were noted with one Scale-Nursing Work Index-Revised version having 57 items with six domains, another version having 33 to 36 items with five to six domains, while another had 14 items with three domains. These inconsistencies question the reliability and validity of the previous research findings (Slater et al. 2010). The authors concluded that three of the five domains, "adequate staff and resources, the doctor-nurse relationship, and nurse management" (Slater et al., 2010, p.132), found in the Scale-Nursing Work Index-Revised were consistent among all but one of the studies and demonstrated a relationship to nurses' outcomes that included job satisfaction, and burnout (Slater et al., 2010). The authors recommended that past findings may need to be re-examined with future research exploring the interrelationships of the three nursing work life factors in more depth (Slater et al., 2010).

Another potential limitation to the Nursing Work Life Model also relates to the lack of identifying any personal factors of the individual nurse that may impact nurses' perceptions of their QOWL. QOWL factors were associated with individual nurse factors such as nurses' gender, age (Stewart et al., 2010), resilience, organizational commitment, and job satisfaction (Caricatil et al.2015; Cummings et al., 2008; Hart et al., 2014; Malloy & Penprase, 2010; Nayak & Sahoo, 2015; Pindek & Spector, 2016; Pineau Stam et al., 2015). Additional person factors were identified in the Registered Nurses' Association of Ontario (2008), *Conceptual Model for Healthy Work Environments for Nurses*. This model includes several components that include: physical and policy components, cognitive and psychosocial aspects, and professional components. (Registered Nurses' Association of Ontario, 2008) Each cluster of components has a multitude of factors that can be examined. A few individual factors such as nurses' age, gender and education that may affect the quality of nurses' work life will be incorporated into the theoretical framework, and to augment the Nursing Work Life Model.

### **Summary of Background and Rationale for Research and Research Questions**

Quality patient care is a moral and ethical responsibility of all healthcare providers (Canadian Nurses' Association, 2010; College of Nurses of Ontario, 2002; Rogers, 2012). Nurses have a central role in the provision of quality healthcare and contribute to the achievement of a sustainable quality healthcare system (Ontario Health Quality Council, 2010; Quality Work life Quality Healthcare Collaborative, 2007). Nurses continued to be the sickest workers in Canada among all other occupations (Jacobson Consulting Inc., 2017). The QOWL factors identified in the review of the literature were suggested to be associated with negative affects on nurses' health, which increase the incidence of illness, injury, disease, overtime and absenteeism rates among urban, rural and remote nurses, and directly impact the health outcomes of patients

(Canadian Federation of Nurses Unions, 2009; 2011; Canadian Institute for Health Information, 2006; Montour et al., 2009; Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2005). The paramount role of nurses in patient safety is well established (Kirwan et al., 2013). Reports that nurses' QOWL impacts the quality of care provided to patients and concerns for patient safety have been explored by several authors (Baumann et al., 2001; Canadian Federation of Nurses Unions, 2009, 2011; Canadian Institute for Health Information, 2007b; Canadian Institute for Health Information-Canadian Patient Safety Institute, 2016; Ellis, Priest, MacPhee, & Sanchez, 2006; Ontario Health Quality Council, 2010). Negative outcomes to nurses' and patients' health have added enormous costs to an already financially constrained healthcare system. The sustainability of our Canadian healthcare system to meet the demands of healthcare and healing for clients in urban, rural and remote hospital settings is dependent upon the health of nurses, and the quality of nurses' work environments (Aiken, Cimiotti, et al., 2011b; Aiken, Sloane, et al., 2011a; Clark & Brooks, 2010; Canadian Institute for Health Information, 2007a; Kerr et al., 2005; Ontario Health Quality Council, 2010; Quality Work life Quality Healthcare Collaborative C, 2007; Shields & Wilkins, 2006a; Alison M. Trinkoff et al., 2011; A.M. Trinkoff et al., 2007). As the largest professional group working in the healthcare system, it is imperative to explore and improve nurses' QOWL particularly in view of the predicted crisis related to the recruitment and retention of nurses and shortages related to an aging nursing population (Bae et al., 2014; Canadian Institute for Health Information, 2017; Ellis et al., 2006; Ontario Health Quality Council, 2010; Priest, 2006; World Health Organization, 2014) described by Priest (2006) as a "demographic time bomb" (p. 13), especially in northern, rural and remote locations (MacLeod et al., 2017a; Jonatansdottir et al., 2017

In summary, a plethora of research has been conducted on nurses' QOWL and work environments; however, only one study was identified that explored RNs working in urban, rural and remote locations across Northeastern Ontario that presents a gap in knowledge. It is urgent that research exploring the QOWL of Northeastern urban, rural and remote nurses be conducted given the recent legislative expectations for quality healthcare outlined in *Bill 46* (Ontario Legislative Assembly, 2010). Therefore this study utilized a mixed methods research design to address this gap in knowledge with the following research questions.

### **Research Questions**

The three questions that guided this research were 1) How do RNs and nurse leaders evaluate the QOWL in some Northeastern Ontario rural and remote hospitals, in medical surgical practice areas in some large and small Northeastern Ontario urban hospitals? 2) To identify if QOWL and nursing factors are associated with stress for Northeastern Ontario RNs? 3) What are the similarities and differences of RNs' evaluation of the QOWL in Northeastern Ontario urban, rural and remote hospitals?

## CHAPTER 3: METHODOLOGY AND METHODS

### **Purpose**

The primary purpose of my research was to explore how Northeastern Ontario RNs and nurse leaders evaluate the QOWL of nurses working in urban, rural and remote acute care locations. The aims of my research were to provide an understanding of nurses' QOWL that might assist decision and policy makers to address the QOWL issues that were negatively impacting nurses, and affirm areas that have a positive impact on nurses' QOWL. Results will also provide information to decision makers regarding factors that have a positive effect on nurses' QOWL.

### **Nursing Research and Mixed Methods Research**

The majority of research that has been conducted on the quality of nurses' worklife has been quantitative (Wall, 2010). Yeo (2004) suggests that nursing research activities have been strongly influenced by medicine's dominant culture, theories of health, and positivist approaches (as cited in Wall, 2010). Clarke and Brooks (2010) found that a majority of research exploring the quality of nurses' worklife was underpinned by socio-technical systems theory (STS). The key principles of this theory are to optimize the use of people and technology to improve productivity. Through the adoption of positivist approaches in scientific inquiry, the nursing profession has suppressed its own authentic nature of exploring issues relevant to the discipline utilizing qualitative and interpretivist perspectives congruent with nursing's ethos (Wall, 2010). Utilizing quantitative approaches alone to research QOWL issues for nurses will not elucidate root problems pertaining to gender, power, and knowledge that need to be addressed (Wall, 2010).

Qualitative approaches are needed to understand nurses' experiences and meaning of the quality of their worklife from their own emic knowledge and constructivist perspectives, which can elicit strategies to implement meaningful changes (Wall, 2010). Exploring the complexities and factors involved in the quality of nurses' worklife would be strengthened utilizing both the qualitative and quantitative paradigms to create a more holistic understanding of effects of gendering on nurses' health (Vlassoff & Garcia Moreno, 2002). Research conducted with a feminist perspective would be congruent with values of dignity embedded within the nursing profession and allow exploration of "the social and cultural nature of many of the differences between women and men, particularly the unequal power and status attributed to male and female roles" (Vlassoff & Garcia Moreno, 2002, p. 1718). Therefore, a mixed methods sequential explanatory design was selected to explore the QOWL and stress of nurses working in urban, rural and remote acute care settings to answer these questions (Creswell, 2009).

### **Research Design**

Mixed methods incorporates both the quantitative and qualitative paradigms, and are appropriate to study healthcare environments (Creswell, 2009). The mixed methods sequential explanatory strategy involves two distinct phases of data collection (Creswell, 2009). Phase I involved collecting quantitative data utilizing self-administrated questionnaires offered in print format and through an online option. Following initial quantitative data analysis, Phase II collected qualitative data using semi-structured interviews of key informants to inform quantitative findings (Creswell, 2009).

Interpretive description is a method that is philosophically congruent with the qualitative paradigm and guided the analysis of the Phase II data (Thorne, Con, McGuinness, & Harris, 2004; Thorne, Reimer Kirkham, & MacDonald-Emes, 1997; Thorne, 2008). Interpretive

description allows for multiple sources of data to be collected for interpretation and explores complex phenomena in practice contexts (Thorne et al., 1997; Thorne, Reimer Kirkham, & O’Flynn-Magee, 2004; Thorne, 2008). Interpretive description “acknowledges the constructed and contextual nature of the health-illness experience, yet also allows for shared realities” (Thorne et al., 1997, 172). As a non-categorical qualitative approach, interpretive description uses iterative processes and inductive reasoning to uncover common patterns and themes from subjective experiences (Thorne et al., 1997; Thorne, Reimer Kirkham, O’Flynn-Magee, 2004; 2004; Thorne, 2008). The goal of interpretive description is to provide a conceptual description or thematic summary, which is “believed to characterize the phenomenon that is being studied and also account for the inevitable individual variations within them” (Thorne et al, 2004, p. 3). Data were mixed following the qualitative analysis phase to interpret the overall findings of the study (Creswell, 2009). The key themes emerging from the qualitative analysis provided a thematic summary of the mixed findings. Interpretive descriptive is congruent with pragmatism as the knowledge generated from this method can be applied to make changes to address practice problems (Oliver, 2011; Thorne, Con, McGuinness, & Harris, 2004; Thorne, Reimer Kirkham, & MacDonald-Emes, 1997; Thorne, 2008).

### **Pragmatism Philosophical Foundations**

Pragmatism offers a philosophical foundation to conduct mixed methods research that focuses on discovering practical solutions to research problems and situations (Creswell, 2009; Johnson & Onwuegbuzie, 2004; Wheeldon, 2010). From an ontological perspective, pragmatism “recognizes the existence and importance of the natural or physical world as well as the emergent social and psychological world that includes language, culture, human institutions, and subjective thoughts” (Johnson & Onwuegbuzie, 2004, p. 18). Pragmatic research provides

warranted assertions about phenomenon versus declarations of absolute truths (Johnson & Onwuegbuzie, 2004). “Truth is what works at that time” (Scott & Briggs, 2009, p. 225), is always situated in context, value laden, and continually changing (Creswell, 2009; Johnson & Onwuegbuzie, 2004; Scott & Briggs, 2009).

From an epistemology perspective, pragmatists believe that all humans are capable of creating knowledge (Hartrick & Varcoe, 2005). Knowledge is constructed through the incorporation of multiple realities that are co-created through experiences and interactions with others in everyday situations and contexts (Creswell, 2009; Johnson & Onwuegbuzie, 2004; Rothe, 2000; Scott & Briggs, 2009). Pragmatic research mixes methods for data collection and analysis that is utilized in both quantitative and qualitative paradigms to provide the most complete knowledge to practically address the research problem or situation (Creswell, 2009; Johnson & Onwuegbuzie, 2004; Scott & Briggs, 2009; Wheeldon, 2010). Pragmatism uses abductive reasoning that is an iterative process between deductive and inductive reasoning to interpret and understand the findings (Johnson & Onwuegbuzie, 2004; Morgan, 2007; Wheeldon, 2010). Research findings are not viewed as generalizable or in relation to a specific context. Knowledge generated from pragmatic research may be considered transferable. Transferability occurs when the findings are useful to other situations and contexts (Morgan, 2007; Wheeldon, 2010). The advantage of using a mixed methods approach is that it increases the overall strength of cross sectional design studies (Creswell, 2009).

### **Pragmatism and Nursing**

The philosophical foundations and goals of pragmatism are congruent with the nursing profession. “Nurses are in the business of caring, healing, helping, and bettering the lives of those we serve” (McCready, 2010, p. 192). As a profession, nursing is considered an applied

science that uses abductive reasoning to resolve problems and situations experienced by clients (McCready, 2010). Nurses assess client's situations by gathering and mixing objective and subjective data (Scott & Briggs, 2009). The data are interpreted to define a clinical problem. Nurses then implement evidence based action plans to assist in resolving the client's problem or situation (McCready, 2010; Scott & Briggs, 2009). Knowledge developed from research and practices are considered temporary as situations and contexts are continually evolving, and may be transferrable to other situations and contexts (McCready, 2010).

In summary, the aim of this research was to explore urban, rural and remote RNs' QOWL and stress working in acute care hospitals in Northeastern Ontario. The philosophical foundations of pragmatism are congruent with the focus of this research, the mixed methods sequential explanatory design, and the population being researched.

### **Ethical Considerations**

The Chief Nursing Officers for each of the hospital sites were contacted and asked about their interest in participating in the study prior to the submission of documents to the ethics review boards. An introductory letter explaining the research was sent to each of the Chief Nursing Officers. An example of the letter is provided in Appendix B. Ethics applications were prepared for each site in accordance with the Tri-Council statement for the ethical conduct for research involving humans. Ethical approval for this study was obtained from the Research Ethics Board at Laurentian University in October 2012, and from all ethics review boards and or representatives from each of the four hospitals that agreed to participate in this research (Appendix C a & b). Only two ethics approvals are included in the appendices to provide anonymity of the small urban, rural and remote sites. The time period to receive ethical approvals from each of the hospital sites varied between one and nine months.

## **Definition of Key Concepts**

### **Nurses' Quality of Work Life**

There is a lack of consensus in defining the concept of QOWL (Brooks & Anderson, 2005; P. N. Clarke & Brooks, 2010; Vagharseyyedin et al., 2011). For the purposes of this research, Nurses' QOWL was defined as: "the degree to which registered nurses are able to satisfy important personal needs through their experiences in the work organization, while achieving the organization's goals" (Brooks & Anderson, 2005, p. 323).

### **Nursing Practice Environment**

The nursing practice environment is considered to be part of the organizations' internal work environment that may influence nurses' QOWL. For the purposes of this research the nursing practice environment was defined as "the organizational characteristics of a work setting that facilitate or constrain professional nursing practice" (Lake, 2002, p. 178).

### **Stress**

Stress has been identified to contribute to nurses' illness and absenteeism rates (Statistics Canada, 2004), and has been linked to nurses' QOWL, and work environments (Kerr et al., 2005; Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b). For the purposes of this research, stress was defined: "as an internal cue in the physical, social, or psychological environment that threatens the equilibrium of an individual" (Gray-Toft & Anderson, 1981, p. 12).

### **Northern Ontario Setting**

The setting for my research was Northeastern Ontario in the geographical boundaries governed by the North East Local Health Integrated Networks 13 (2011). North East Local Health Integration Network 13 includes seven out of the ten territorial districts located in

Northern Ontario including: the James and Hudson Bay Coasts, Cochrane, Algoma, Sudbury, Nipissing, Manitoulin, and Parry Sound (North East Local Health Integrated Networks, 2016a). The areas for North East Local Health Integration Network 13 are shown in Appendix D (Bains et al., 2011). Together these districts cover 400,000 square kilometers, which is half of Northern Ontario's 800,000 square kilometers area (North East Local Health Integrated Networks, 2011). The population in North East Local Health Integration Network 13 is approximately 565,000, with 47% of the population located in urban areas and 53% in "small and rural population centres (less than 30,000 people)" (North East Local Health Integrated Networks, 2016b, p.1). Approximately 20% of communities situated in the North East Local Health Integration Network 13 are not accessible by road for several months in a year (North East Local Health Integrated Networks, 2011).

### **Urban, Rural and Remote**

The rural and small town, census metropolitan area, and census agglomeration, with the Metropolitan Influenced Zones (MIZ) definitions recommended by Statistics Canada were used to define the terms urban and rural for this research (DesMeules et al., 2006; Wenghofer, Timony, & Pong, 2011). Census metropolitan areas with a minimum core population of 100,000 or more and census agglomerations with a minimum core population of 10,000 are considered to be urban areas. According to the rural and small town classification, all other areas would be considered rural (DesMeules et al., 2006; Wenghofer et al., 2011). "Remote communities are those without year-round road access, or which rely on a third party (e.g. train, airplane, ferry) for transportation to a larger centre" (Ministry of Health and Long Term Care, 2010, p. 28).

## **Phase I Quantitative Methods**

### **Site Selection**

A total of eight hospitals were approached and asked to consider participating in the research study. Hospital sites were selected based on their willingness to participate, the Rural and Small Town definitions of urban and rural (DesMeules et al., 2006; Wenghofer et al., 2011), and the definition of remote by the Ministry of Health and Long Term Care (2010). The four hospitals that agreed to participate were located in urban, rural and remote locations across Northeastern Ontario, and therefore selected for this study. The feasibility of increasing the number of hospitals in this study was limited based on funding for this research. The small urban, rural and remote site names are not provided to provide anonymity. One large urban hospital with a census metropolitan area of more than 100,000 in Sudbury, one small urban hospital with a census agglomeration of more than 10,000, one rural hospital with a census agglomeration less than 10,000 and one remote hospital located in a remote area were the sites that participated in this research. In addition, hospitals were classified according to the number of beds. Health Sciences North in Sudbury was classified as a group A hospital with over 100 beds, and has a written agreement with universities and the Royal College of Physicians and Surgeons to provide education to medical students and post-graduate education (Ministry of Health and Long Term Care, 2009). Health Sciences North in Sudbury is also the regional referral center that receives clients from several communities across Northeastern Ontario. The small urban site was classified as group B hospital that has more than 100 beds. Both the rural and remote sites were classified as group C hospitals with fewer than 100 beds (Ministry of Health and Long Term Care, 2009). It was hypothesized that there would be similarities and differences between RNs' evaluation of their QOWL related to the hospitals geographical location.

## **Participant Selection**

Research describing RNs' QOWL in acute care settings in Northeastern Ontario was limited (McGillis Hall et al., 2006a). The College of Nurses of Ontario (2009-2010) membership database were contacted to determine that there were 5,202 RNs working in Northeastern Ontario with the majority of RNs (55.4%) employed in acute care hospitals (College of Nurses of Ontario, 2010). English speaking RNs who worked full time, part-time, and casual on medical surgical units in urban sites were eligible to be included in the sample. All RNs working in rural and remote sites were eligible to be included in the sample since rural and remote nurses are more likely to work across multiple areas. Through contact with the hospitals' human resource departments, a total sample frame of 319 was determined based on the number of RNs working full time, part-time, and casual, on medical surgical units at the large and small urban sites, (n=214) and all RNs working in the rural and remote sites (n=105). In discussions with my supervisor and committee members, it was suggested that nurse leaders also be included in Phase II of the study. Nurse leaders would provide information related to the policies affecting nurses' QOWL and stress therefore, the sample for this study included RNs and nurse leaders from four acute care hospitals located in Northeastern Ontario.

## **Sample Size Calculation**

This study explored how nurses evaluated their QOWL and factors that were associated with their QOWL and stress. The mixed methods sequential design began with the collection and analysis of quantitative data. Descriptive statistics, multiple and logistic regression statistical tests were appropriate to answer the research questions and necessitated the size of the sample to be calculated. The sample sizes for Phase I were calculated utilizing two methods to confirm the numbers required to conduct statistical data analyses. The first method utilized G\* Power 3.1

software to conduct a power analysis (Faul, Erdfelder, Buchner, & Lang, 2009, 2011) to determine requirements for a Fisher's exact test and multiple and logistic regression statistical analyses (Endacott & Botti, 2005; Field, 2009). Sample size calculations for all tests, except for logistic regression, used a power of 0.95 and a  $p$ -value of 0.05 (Faul et al., 2011). The lack of a reported effect size in the literature (Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; McGillis Hall & Kiesners, 2005; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2009; Wilkins et al., 2007), necessitated estimating a moderate to large effect size of 0.50 (My Environmental Education Evaluation Resource Assistant, 2011).

The required sample size for a Fisher's exact  $Z$  two tailed test was  $n=47$  (Faul et al., 2011) (Appendix E a). The sample size for linear multiple regression using two predictors was  $n=35$  (Faul et al., 2011) (Appendix E b). The sample size required for a two tailed logistic regression with a odds ratio (OR) of 2.0, with a power of 0.90 and a  $p$ -value of 0.05 was  $n=148$  (Faul et al., 2011) (Appendix E c). The odds ratio of two was selected based on the feasibility of achieving the required sample size. The sample size required for an OR of 1.5 would have been  $n=503$  (Faul et al., 2011) (Appendix E d).

Sample sizes needed for the urban sites ( $n=138$ ) and rural and remote sites ( $n=83$ ) were calculated using the MaCorr sample size calculator with a confidence level of 95% (MaCorr, 2011) (Appendix F). The total number of participants required was calculated to be  $n=221$ . Response rates vary for self-administered surveys completed by nurses working in acute care settings that can range from 49% to 85% (McGillis Hall et al., 2006a; McGillis Hall, Doran, Sidani, & Pink, 2006b; Shields & Wilkins, 2006a; Tourangeau et al., 2005). In anticipation of a potential low response rate, 40 % of the required sample was added to determine a total  $n=318$ . Based on the estimated sample size of  $n=318$  and a target population of  $n=319$ , all RNs working

on the medical and surgical units in urban sites along with all RNs working rural and remote sites were purposively included for this study (Endacott, 2005).

## **Data Collection**

**Recruitment of participants and data collection.** In consultation with the Chief Nursing Officers at each site, a strategy to recruit participants for the study was developed. RNs were recruited with the volunteer assistance of the nurse educators at each of the sites. This individual was viewed not to have an authoritative position over the RNs that would exert undue influence or affect the employment status of any of the potential participants. Recruitment posters were created and placed on the units to advertise the study (Appendix G). The nurse educator provided a brief introduction of the study using a prepared script as a guide (Appendix H). Potential participants who expressed an interest received a prepared envelope package that included an information letter, a consent form, the Phase I questionnaire, a pre-stamped addressed return envelope, and a \$10.00 gift card in appreciation for any inconvenience to the potential participants (Appendix I). Nurses were provided with two options to complete the Phase I questionnaire. A paper copy was provided with a return envelope and an online option was provided with a log in code that allowed participants to provide their consent and access to the questionnaire. Nurses had the option of returning the study package in a sealed envelope to the nurse educator, whether they completed the survey or not, or sending the questionnaire and consent form directly back to the PI in the addressed pre-stamped return envelope. Potential participants were instructed to keep the gift card whether or not they completed the questionnaire. There was no contact with potential participants made by the Principal Investigator or the research team (Dr. Nancy Lightfoot, Dr. Michel Larivière, and Dr. Kristen Jacklin), prior to participants expressing interest in the study.

**Questionnaire.** The Phase I questionnaire was developed for this study and measured various dimensions of nurses' QOWL and nurses' stress. The questionnaire was divided into eight sections (A-H) congruent with the adapted Nursing Work life Model theoretical framework guiding Phase I of this study (Appendix J) (Laschinger & Leiter, 2006; Leiter & Laschinger, 2006; Roche et al., 2015). Sections A to E contained several questions that gathered personal and demographic information. Three quantitative instruments were also included: the Brooks' Quality of Nursing Work life (Brooks & Anderson, 2004) (Section F), the Scale-Nursing Work Index-Revised (Section G) (Lake, 2002) and the Nursing Stress Scale (NSS) (Section H) (Gray-Toft & Anderson, 1981). Each of the three instruments measured different components of nurses' QOWL, and stress. All of the three instruments were Likert type scales with previously reported acceptable reliability ratings of a Cronbach's alpha score greater than 0.70 (Bowling, 2009), and were specifically developed by the authors to examine nurses in acute care settings (Brooks & Anderson, 2004; Gray-Toft & Anderson, 1981; Lake, 2002).

Although the Brook's Quality of Nursing Work Life (Brooks & Anderson, 2004), the (Lake, 2002) and the NSS (Gray-Toft & Anderson, 1981) instruments were accessible through the public domain, written permission to use the Brook's Quality of Nursing Work Life and NSS instruments was obtained from two of the authors (Appendix K a-b). The questions related to participants' personal and demographic information were developed by combining items from other research questionnaires created by Dr. Beth Brooks, Dr. Behdin Nowrouzi, a colleague, and Dr. Ann Tourangeau. The authors granted permission to use their items for my study (Appendix K c-d).

**Demographic questions.** Demographic information collected in Section A had 15 items that asked participants to provide information related to their current job including: geographic

location, work status, work schedule, shift hours, position, patient care unit, educational opportunities, breaks, and overtime hours. Section B had two items that asked participants to describe their previous employment history and the location where nurses have worked the longest (Appendix J). Section C contained six items that gathered participants' information related to: gender, birthplace, marital status, and responsibility of caring for children and dependent adults. Section D had four items related to general health information, experiences of physical and psychological violence in the workplace, and absences from work in the past 12 months. The question in section D-1 was obtained from the public domain developed by Statistics Canada (Shields & Wilkins, 2006a). The questions in section D-4 related to nurses' absenteeism were also from the public domain and adapted from the *National Survey of the Work and Health of Nurses* (2005) (Shields & Wilkins, 2006a). Section E had three items related to nurses' educational background and annual salary. Space for additional comments by participants was provided at the end of the 15-page questionnaire.

### **Instruments**

**Brooks' Quality of Nursing Work Life scale.** The Brooks' Quality of Nursing Work Life survey consists of 42 items that measures nurses' level of agreement or disagreement with statements pertaining to four dimensions of nurses' QOWL that include work and home life, work design, work context, and the work world subscales (Brooks & Anderson, 2004). The instrument is a six point Likert scale with responses ranging from "strongly disagree" to "strongly agree" that can be grouped into the two response categories (Brooks & Anderson, 2004). The total score range for this instrument is 42 to 252. According to the scoring instructions, a total score can be computed by adding the responses of each item. A high score indicates a high QNWL where low scores indicate lower QNWL. Subscales may also be scored

separately (Brooks & Anderson, 2004).

The work and home life dimension explores the interactions nurses have between their work and home life reflected in their roles as a parent, spouse or child caring for elderly relatives (Brooks et al., 2007; Brooks & Anderson, 2004, 2005; Khani et al., 2008). The work design dimension explores aspects of nurses' work environments that include issues related to workload, staffing, and autonomy (Brooks et al., 2007; Brooks & Anderson, 2004, 2005; Khani et al., 2008). The work context dimension examines the and the impact this has on nurses and patients that includes relationships nurses have with supervisors, colleagues, other health professionals, accessible resources for nurses' work, and continuing educational opportunities. The work world dimension examines broader societal influences impacting nurses such as society's image of nurses (Brooks et al., 2007; Brooks & Anderson, 2004, 2005; Khani et al., 2008).

Test-retest analysis, using Statistical Analysis System (SAS) 8 software, resulted in a Cronbach's alpha coefficient of 0.90 for the total scale (Brooks & Anderson, 2004). Validity of the four subscales was derived from factor analysis. The work context subscale demonstrated acceptable reliability score (0.88). However, work life and homelife (0.56), work design (0.58), and work world (0.60) scores were poor (Brooks & Anderson, 2004). In Khani's et al. (2008) study, Cronbach's alpha scores were analyzed using SPSS software, instead of the SAS software used by Brooks (2004), which demonstrated acceptable to good reliability scores with the Brooks Nursing Quality of Work Life (BNQWL) subscales for work life and home life (0.75), work design (0.78), work context (0.90), and the work world (0.83) (Khani et al., 2008). Utilization of the software, instead of SPSS software, has been noted as a possible explanation for items having below 0.80 Cronbach's alpha scores (Shields & Wilkins, 2006a). This instrument was selected

for this research, as it is one of a few instruments exploring nurses' QOWL that had been psychometrically tested (Brooks & Anderson, 2005; Khani et al., 2008; Vagharseyyedin et al., 2011).

**Practice Environment scale of the revised nursing work index.** Extensive research exploring the presence or absence of organizational characteristics of nurses' work environments in acute care settings have been conducted utilizing the Practice Environment Scale-Nursing Work Index-Revised (Aiken, Sloane, et al., 2011a; Cummings, Hayduk, & Estabrooks, 2006; Estabrooks et al., 2002; Kelly et al., 2011; Lake, 2007). Lake (2002) developed the Practice Environment Scale-Nursing Work Index-Revised that contains 31 items (Aiken, Sloane, et al., 2011a; Cummings et al., 2006; Estabrooks et al., 2002; Kelly et al., 2011; Lake, 2007). The directions for scoring for the Practice Environment Scale-Nursing Work Index-Revised included ensuring that the higher numbers in the scale indicate stronger agreement with each of the items prior to calculating subscale scores. For example, the Practice Environment Scale-Nursing Work Index-Revised has a four-point response scale and was formatted in the questionnaire as per the scoring instructions with 1 indicating "strongly disagree" to 4 indicating "strongly agree" (Aiken, Sloane, et al., 2011; Cummings et al., 2006; Estabrooks et al., 2002; Tourangeau et al., 2005). Scoring of the instrument involves calculating individual nurse subscale scores. The means from the subscale can then be compared across all participants. A score for the hospital can be calculated with the item-level means (Lake, 2002).

The five subscales have demonstrated acceptable reliability scores for staffing-resource adequacy (0.80), nurse manager ability and leadership (0.84), nurse-physician relations (0.71), nurse participation in hospital affairs (0.83), and nursing foundations for quality of care (0.80). Cronbach's alpha for the composite scale was 0.82 (Lake, 2002). The Practice Environment

Scale-Nursing Work Index-Revised was selected for this study to provide additional context specific information pertaining to organizational characteristics that may influence nurses' QOWL (Aiken, Sloane, et al., 2011a; Kelly et al., 2011; Lake, 2007). The strength of the Practice Environment Scale-Nursing Work Index-Revised is that it is considered to be a reliable, stable, and valid instrument, with established psychometric properties based on data collected from 98,116 staff nurses working in 1,406 hospitals since 1999 (Aiken, Sloane, et al., 2011a) that included hospitals located in three Canadian provinces: Alberta, British Columbia, and Ontario (Aiken & Patrician, 2000; L. Aiken, Sloane, et al., 2011; Estabrooks et al., 2002; Sochalski, Estabrooks, & Humphrey, 1999).

**Nursing stress scale (NSS).** The NSS scale, developed by Gray-Toft and Anderson (1981), was created from a stress model developed by Appley and Trumbull (1967), and Lazarus (1966), and has been used widely to measure the frequency of nurses' stress experiences in acute care settings (Lee, Holzemer, & Fuacett, J., 2007). The NSS contains 34 items that explore the frequency of nurses' physical, psychological and social environmental stressors through seven subscales (Gray-Toft & Anderson, 1981). The instrument is a four point Likert scale that measures the frequency of stressful situations that nurses may experience and does not measure the intensity of nurses' stress. Responses range from "never" to "very frequently" (Gray-Toft & Anderson, 1981). The total score range for this instrument is 34 to 136. A total score can be computed by adding the responses of each item. A high score indicates a higher frequency of stressful experiences, where low scores indicate a lower frequency of stressful experiences. Subscales may also be scored separately (Gray-Toft & Anderson, 1981).

One subscale relates to physical stressors that include workload. Four subscales explore psychological stressors including: death and dying, inadequate preparation, lack of support, and

uncertainty about treatment. Two social stressors subscales relate to conflict with physicians, and conflict with other nurses (Gray-Toft & Anderson, 1981). Test-retest analysis of the total instrument resulted in a coefficient of 0.81. Internal consistency was measured with four tests including the Spearman-Brown coefficient (0.79), the Guttman split-half coefficient (0.79), a coefficient alpha (0.89) and a standardized item alpha (0.89). Validity of the seven subscales was derived from factor analysis (Gray-Toft & Anderson, 1981).

**Participant comments.** In addition to the quantitative collection of data, a section was included at the end of the questionnaire to provide participants with the option to write down additional comments that could assist in explaining the Phase I quantitative responses (Appendix J). The participants' comments were repeatedly read, sorted, and coded to identify similar ideas, patterns, and themes among the nurse participants according to geographical location (Thorne, 2008). Comments were coded using key themes based to explain findings from the Phase I analyses (Creswell, 2009; Thorne, 2008). The key results from Phase I were used to develop qualitative semi-structured interview questions for Phase II (Creswell, 2009; Thorne, 2008).

#### **Pilot Testing of Questionnaire Include more information about pilot study**

Once ethical approval was received, pilot testing of the questionnaire was conducted to estimate the length of time to complete the survey and to revise any questions requiring clarification. Two RNs working as nurse educators who were not included in the study sample, volunteered to complete the survey and provide feedback. The questionnaire took approximately 30 minutes to complete, both the paper and online survey. Changes were done to the survey questions based on the feedback that included adding lines or space for participants to write down multiple employers versus checking off one site. The online survey required changes to the year of birth, as it was not accurate. For example, the years of birth were from 1980 to 2020

while the survey was conducted in 2013. Also changes were needed to the number of months and years for the age of children on the online version. One participant had a child who was 16 months at the time of the pilot study and could only insert 1.5 years in the survey.

## **Phase I Quantitative Data Analysis**

### **Data Quality Assurance**

A research procedure and codebook was developed prior to data collection to minimize errors in coding data for each site and participant (Hulley, Cummings, Browner, Grady, & Newman, 2007; Patton, 2002). Questionnaires were reviewed for missing data at the time of data entry. A graduate student and the Principal Investigator entered the data from the questionnaires into SPSS separately and then reviewed each others entries to ensure accuracy (IBM SPSS, 2010).

### **Descriptive Statistics**

Initially data from the questionnaires (N=173) were entered in to the computer software program SPSS 19.0 (IBM SPSS, 2010) by the Principal Investigator and a graduate student to generate descriptive statistics and measures of central tendency (Burns & Grove, 2005). The data were analyzed separately for each hospital location. Data were also entered in to the SAS 9.1 computer software program with the assistance of an expert familiar with SAS software (SAS Institute Inc., 2014). Percentages, frequencies, and cross tabulations were calculated using the demographic data. Cross tabulations were conducted on the following variables: gender, age range, employment status (full time, part time, or casual), general health, absenteeism, and geographic location. Additional demographic variables analyzed included: marital status, educational background (diploma prepared, baccalaureate, or graduate level), the community where they graduated, the community where they have worked the majority of their career,

employment history, number of years as an RN, years of employment at the hospital, years working on the unit, the number of hours worked each shift, job title (staff nurse), and stress. Demographic variables that were found to be significant at the 0.05 levels were included for subsequent regression analysis. Fisher's exact two-tailed test was calculated to identify differences among mean scores. Fisher's test is appropriate to observe for differences of nominal data that has two categories, and provides an exact *p*-value for small numbers of observations (Norman & Streiner, 1999).

### **Inferential Statistics**

The objective of conducting research that utilizes quantitative data is to be able to formulate general inferences about data results specific to a population, and make predictions or conclusions about that population based on the data (Motulsky, 2014). Inferential statistical tests that were conducted included multiple and logistic regressions, and used the SAS 9.1 computer software program (SAS Institute Inc., 2014). Two backward stepwise multiple regressions were conducted to determine if age, RN experience, geographic location, employment status, income, ability to take breaks, marital status, general health, exhaustion in the past year, experiences of physical and psychological violence in the workplace, and Practice Environment Scale components were associated with nurses' QOWL and NSS (Loiselle, Profetto-McGrath, Polit, & Beck, 2011). The logistic regression models were calculated to determine if nurses' QOWL and NSS scores were associated with the same demographic variables used in the multiple regressions, and the Practice Environment Scale individual components, total and subscale scores. The two backward stepwise logistic regressions were conducted to estimate the odds ratio at a 95% confidence interval.

## **Assumptions for Inferential Statistics**

There are several assumptions that need to be met to be able to analyze data when using regression analysis (Laerd Statistics, 2015a; 2015b). Most of these assumptions were met. According to Motulsky (2014), most statistical tests are conducted with the assumption that the data was collected from a random sample of the general population. This study did not conduct random sampling when selecting the sample and therefore violated this assumption with a random sampling error.

The multiple regression statistical tests did use continuous independent and dependent variables from the total scores of the QOWL and NSS scales (Laerd, 2015a). Data for the QOWL and NSS total scores were determined to be normally distributed with no significant outliers as demonstrated by the fit diagnostics and residual regressor graphs (Appendix L & Appendix M). Upon visual inspection of the scatterplots a linear relationship was demonstrated (Appendix L & Appendix M). The survey questionnaires were distributed across four locations and were to be completed independently by the participants, meeting the independence of observations assumption. However, it is unknown whether or not a few nurses met to complete the questionnaire together. The assumption of homoscedasticity was met. The residuals by regressors were assessed to be randomly distributed with no evidence of heteroscedasticity as indicated in Appendices L and M (Laerd, 2015a). Independent variables entered into the model were removed through a backward stepwise process to address assumptions related to multicollinearity to ensure that independent variables were not highly correlated with each other. (Laerd, 2015b; Motulsky, 2014)

Statistical tests using logistic regressions have similar assumptions to meet with a few variations from multiple regression tests (Laerd Statistics, 2015b). The dependent variables

QOWL and NSS used in the logistic regression models were ordinal data, and the independent variables were continuous variables (Laerd Statistics, 2015b). Independent variables entered into the model were removed through a backward stepwise process to address assumptions related to multicollinearity, and proportional odds was met with the dependent variables being dichotomized into two categories (Laerd Statistics, 2015b).

### **Process to Select Variables into Regression Models**

Similar modelling processes were utilized to determine the variables to be entered into the QOWL and NSS multiple and logistic regression models. The QOWL and NSS total scores were assessed for normalcy. Cross tabulations were conducted to assess statistically significant associations between demographic variables. A probability level ( $p$ ) of less than 0.05 was used as the criterion of significance (Loiselle et al., 2011). Only variables with a  $p < 0.05$  significance level were included in each of the final models.

The multiple and logistic regression QOWL models used variables from the Practice Environment Scale and subscales. A backward removal of Practice Environment Scale components and subscales was conducted to identify a subset of items. After the subscale scores were added to remaining Practice Environment Scale subset of components, a second backward removal procedure was done. A third backward removal was conducted of the Practice Environment Scale total score and components. This process identified the components to be included in the final backward removal process to determine the Practice Environment Scale variables associated with nurses' QOWL. Only the demographic variables and Practice Environment Scale components found to be significant at the  $p < 0.05$  level were entered for the final backwards removal model. The final multiple and logistic regression models for NSS used the same process with the exception that it included both the QOWL and Practice Environment

Scale components and subscales.

The logistic regression models required dichotomizing the dependent variables into two categories. The QOWL and NSS total scores were dichotomized into high and low scores (Shields & Wilkins, 2006a). The *Median* scores for each scale were used to divide the total scores in half. High scores for NSS of greater than or equal to 78 indicated a higher frequency of stressful situations with NSS scores less than or equal to 77 indicating a lower frequency of NSS scores. Scores greater than or equal to 163 indicated a high QOWL while scores less than or equal to 162 indicated a low QOWL. Cross tabulations were conducted using Fisher's exact test to provide an exact significance level to select statistically significant variables at  $p < 0.05$  (Laerd, 2016).

### **Missing Data**

As expected, some questions in the surveys were either partially completed or not completed. Data were assessed to determine if the missing data would bias the findings. No patterns in the missing data were identified, and no evidence was found. Listwise deletion was conducted and all cases with missing data were removed from the analysis (Sauro, 2015; Soley-Bori, 2013). For example, in the NSS multiple regression model, there were a total of 173 cases. The analysis was based on 131 cases, as 42 were lost due to missing data. There was no difference between findings of data analyzed with and without missing cases (Sauro, 2015; Soley-Bori, 2013).

## **Phase II Qualitative Methods**

### **Sample Selection**

Registered Nurses (RNs) who completed the Phase I quantitative survey and nurse leaders from each of the four sites were purposively selected for qualitative interviews in Phase

II of the study (Endacott, 2005). RNs can be considered a cultural group with similar educational experiences, beliefs, values, practices, and professional membership who work in an acute care setting (Germain, 2001; Roper & Shapira, 2000; Thorne, 2008). RNs and nurse leaders were considered key informants viewed as experts who were able to provide an emic perspective on nurses' QOWL in the urban, rural and remote contexts (O'Byrne, 2007; Thorne, 2008; Wagner, Rau, & Lindemann, 2010). The emic perspective allowed for a deeper understanding of the unique organizational contexts impacting nurses' QOWL (Morse & Richards, 2002; Roper & Shapira, 2000; Rothe, 2000; Thorne, 2008) to explain preliminary findings of the quantitative data (Creswell, 2009).

### **Data Collection**

**Recruitment of participants.** All RN participants who completed the Phase I quantitative surveys were eligible for the Phase II one-on-one interviews. The recruitment of potential participants for Phase II began with the inclusion of an invitation at the end of the Phase I questionnaire for RNs to indicate potential interest (Appendix J). The invitation informed potential participants that Phase II involved a one-on-one interview that may take approximately one hour. Potential participants interested in participating for Phase II were asked to indicate a yes response on the form and provide an email address for future contact. Following Phase I analysis, the Principal Investigator contacted the RNs who indicated interest in Phase II and to confirm interest and arrange a date and time for the qualitative interviews that were convenient for the participants. The participants were asked what the best location was to meet. All participants were comfortable meeting in a private room that was booked at their hospital sites. Nurse leaders from each of the hospital sites were also contacted by the Principal Investigator and asked of their interest to participate in being interviewed for Phase II. Both the nurses and

nurse leaders who consented to the qualitative interviews were provided with an information package that included a cover letter, explanation of the interview protocols, a consent form, and a \$20.00 gift certificate in appreciation for any inconvenience (N a-c).

**Semi-structured questions.** Phase II data collection involved developing semi-structured questions that guided the qualitative interviews process for RNs and nurse leaders. This allowed for a deeper understanding of the unique organizational contexts impacting nurses' QOWL and stress in the urban, rural and remote contexts (Creswell, 2009). The semi-structured questions for RNs and nurse leaders were created based on a review of the literature, Phase I findings, and discussions with my supervisor and committee members (Appendix O a-b). The Principal Investigator traveled to each hospital site to conduct the one-on-one interviews in the winter and spring of 2014. A private room was reserved at each of the hospital sites to conduct the interviews. The rooms were not located near the participants' units where they worked. Prior to conducting the interviews, I reviewed the research protocol, obtained consent, and collected a short demographic questionnaire from the participants (Appendix P). As the participants shared their responses, I would ask questions to clarify the information being shared and promote continuing dialogue related to the questions. The length of time of the interviews ranged from 30 minutes to 120 minutes. One participant was interviewed via telephone. All interviews were digitally audiotaped and transcribed by *Capital Transcription Services* following intelligent verbatim techniques. The Principal Investigator reviewed each of the transcripts with the audiotapes for each participant to ensure the accuracy and completeness of the interview data using transcription conventions adapted from Hill Bailey (2002) for consistency (Appendix Q) (Hill Bailey, 2002). All transcripts were printed and entered into NVivo9 (QRS International Pty Ltd., 2010) software to facilitate analysis.

## **Phase II Qualitative Data Analysis**

### **Interpretive Description**

Interpretive description was the approach that guided the analysis of the qualitative interview data of RNs and nurse leaders. Transcripts were imported into Nvivo 9 (QRS International Pty Ltd., 2010), a computer software program, to manage the texts. I read and re-read the data to facilitate immersion and the coding of data (Thorne et al., 1997; Thorne, Reimer Kirkham, et al., 2004; Thorne, 2008). Initial coding was done by assigning broad descriptive labels to sections of data to manage and facilitate the sorting of the enormous amount of data generated from the transcripts to discover what was here (Thorne, 2008). For example, data that was grouped and coded with the descriptive label ‘supports’ were identified from nurses’ accounts. Some key in situ words and phrases such as “non-nursing support”, “lack of support”, and “adequate support” initially facilitated grouping and sorting of some of the data. A codebook was developed with broad descriptions for each descriptive label with examples of excerpts from the participants that was shared and discussed with my supervisor and committee members.

Throughout this iterative qualitative analysis process, I purposely questioned the data to discover: What the RNs and nurse leaders were sharing about their QOWL and stress in each of the four sites? and What were the similarities and or differences of RNs’ QOWL and stress and experiences related to their practice environments and the geographical locations of each hospital?” The initial sections that were coded with the descriptive labels were reviewed and revised to facilitate further abstraction of recurring patterns within and across the participant’s accounts, to elucidate what is happening here (Oliffe & Thorne, 2007; Thorne et al., 1997; Thorne, 2008). For example, it was evident that all of the participants across all four sites discussed the need to have supports to do their work. The descriptive label support became a larger

recurring pattern of “Supporting Nurses’ Work”.

Additionally, I sorted the groups of data according to geographic location such as large urban, small urban, rural and remote to identify commonalities and differences within and across participants’ accounts. This facilitated abstracting patterns and themes with similar content and meaning (Marshall & Rossman, 1995; Thorne, Reimer Kirkham, et al., 2004; Thorne, 2008). For example, the recurring pattern ‘Supporting Nurses’ Work’ was identified through nurses and nurse leaders articulation of the variety of different types of supports and resources that were needed to facilitate the healing processes of clients. The key theme ‘Facilitating Healing at the Bedside’ emerged as the shared reality of nurses’ description that enabled them to provide quality holistic care to their patients. The synthesis of the mixed findings revealed the overall thematic summary ‘Supporting the Healing of Clients and Nurse Healers’ that was derived from the shared accounts of the participants (Thorne, 2008). Interpretation in mixed methods of the overall findings was aided by abductive reasoning processes that are congruent with pragmatism (Johnson & Onwuegbuzie, 2004; Morgan, 2007; Wheeldon, 2010). This mixed methods sequential analysis generated in-depth contextual knowledge to interpret and understand the urban, rural and remote Northern Ontario nurses’ QOWL and stress working in four acute care settings.

### **Methodological Rigor**

Rigor related to the quantitative analysis was enhanced through the utilization of valid and reliable instruments and strict attention to detail while progressing through each step of the study (Burns & Grove, 2005). Qualitative findings are not considered to be generalizable as findings from quantitative study designs (Morse & Richards, 2002; Thorne, Reimer Kirkham, et al., 2004; Thorne, 2008). Rigor of qualitative analysis was guided by dependability, auditability,

and transferability or fittingness principles to ensure confirmability (Endacott, 2005; Rothe, 2000; Streubert & Carpenter, 1999; Thorne et al., 1997; Thorne, 2008). Each step taken during the data collection, analysis, and decision-making process was recorded and dated to provide an audit trail (Oliffe & Thorne, 2007; Thorne, Reimer Kirkham, et al., 2004; Thorne, 2008). The locations of excerpts used to formulate findings were documented and saved in Nvivo9 (QRS International Pty Ltd., 2010). Data excerpts were used to support qualitative findings (Morse & Richards, 2002; Thorne, Reimer Kirkham, et al., 2004; Thorne, 2008). Observations concerning data, questions raised, and personal reflections were recorded in a journal to augment the audibility and transferability of findings (Roper & Shapira, 2000). Confirmability refers to findings passing “what has been referred to as the ‘thoughtful clinician test,’ in which those who have expert knowledge of the phenomenon in a particular way find that the claims are plausible and confirmatory” (Thorne, Reimer Kirkham, et al., 2004, p. 18). Preliminary results were presented in an oral presentation at a conference to nurses working in acute care locations to meet the transferability and confirmability criteria (Thorne, Reimer Kirkham, et al., 2004; Thorne, 2008).

### **Reflexivity**

Rigor in qualitative research is enhanced through the use of reflexivity (Buckner, 2005; Thorne, Reimer Kirkham, et al., 2004). Reflexivity involves the process of critical self-reflection to examine and declare my personal biases (Patton, 2002; Schwandt, 2001). The continuous posing of reflexive questions assisted me in exploring my biases stemming from my: philosophical, political, cultural, social, educational, gender, and family origins (Patton, 2002). Some examples of questions that I asked myself included: “What do I know? How do I know

what I know? What shapes and has shaped my perspective? With what voice do I share my perspective? and What do I do with what I found?" (Patton, 2002, p. 66).

As a researcher, and an RN, I am cognizant that the research process is influenced by my own values and beliefs that may affect the interpretation of data and the rigor of the study (Buckner, 2005; Savin-Baden, 2004; Thorne, Reimer Kirkham, et al., 2004). My personal values are closely aligned with the professional values espoused by the ethical nursing practice standards of the College of Nurses of Ontario (2009), and the Canadian Nurses' Association (2008a) in the provision of care to clients that includes: the well-being of the client, safe, competent and ethical care, treating clients with respect and dignity, respecting choices made by clients, privacy and confidentiality, truthfulness, fairness, and accountability ( Canadian Nurses' Association, 2008a; College of Nurses of Ontario, 2009). I have also had the experience of working in Northeastern Ontario for the majority of my nursing career, over 30 years. Early in my career, I had the opportunity to work in Ethiopia, East Africa as volunteer nurse for two years. This experience opened my eyes to different healthcare systems that were not Canadian, and what healthcare services and resources were available for developing nations. In preparation for my work in Ethiopia, I took an International Health Diploma program in Toronto, and was placed in a remote fly-in community as part of the clinical practicum of the course. This experience allowed me to see differences between the healthcare services and resources offered to Canadian residences living in Northern Ontario. The variety of these experiences is integral to my understanding of the findings of this study.

The nurses and nurse leaders were treated with respect and dignity throughout the research process ( Canadian Nurses' Association, 2008a). My motivation to conduct research exploring nurses' QOWL and stress emanates from my belief that the well-being of clients, and

the ability of nurses to provide safe, competent, and ethical care is affected by the quality of nurses' work environment and work life ( Canadian Nurses' Association, 2008a; College of Nurses of Ontario, 2009). My commitment to advocate for improvement for the QOWL of Northeastern Ontario nurses has been heightened by continued reports that nurses remain the sickest workers in Ontario among all occupations as well as my personal experience as a nurse in clinical practice, the shared experiences of my colleagues, as a health services policy researcher, and as a nurse educator. Although I maintained a professional relationship with participants as I was not employed by any of the hospital sites, I was cognizant of my desire to improve the quality of nurses' work life to improve the health outcomes of nurses and patients in Northeastern Ontario. I engaged in reflexivity processes throughout this research to document and challenge my biases based on my personal and professional desires.

The findings of this study were reported in an accurate manner that reflects participants' views to demonstrate transparency and accountability enhanced through the reflexivity process (Canadian Nurses' Association, 2008a; College of Nurses of Ontario, 2009). Reflexivity also was assisted with the use of a research diary and field notes (Buckner, 2005; Roper & Shapira, 2000). Field notes included a description of the participants' specific setting and context (Buckner, 2005; Schwandt, 2001). The reasons for decisions made during data collection, analysis and interpretations were documented (Buckner, 2005; Schwandt, 2001). My sensitivity, insights, and interpretation of the nurses' perceptions were understood within my own professional nursing experiences of working in acute care, community, Northern, rural and remote health settings. Understanding Canada's healthcare policies in relation to other healthcare systems was assisted from the personal and professional experiences I acquired when I worked

as an RN in a rural hospital for two years in Ethiopia, East Africa from 1981 to 1983 during a time when the country was experiencing famine and civil war.

### **Summary**

In summary, the primary purpose and aims of my research study were to evaluate Northeastern Ontario nurses' QOWL in urban, rural and remote hospital locations that could assist decision and policy makers to address the QOWL issues negatively impacting nurses and affirm areas that had a positive impact on nurses' QOWL. Based on the three research questions: 1) How do Northeastern Ontario nurses and nurse leaders evaluate the QOWL in rural and remote hospitals, and the QOWL in medical surgical practice areas in large and small urban hospitals? 2) What are the similarities and differences of RNs' evaluation of the QOWL in urban, rural and remote hospitals? 3) What QOWL and nursing practice environment factors are associated with stress for Northeastern Ontario RNs?; the selection of a mixed methods sequential explanatory design was appropriate to answer these questions (Creswell, 2009). The ontological and epistemological foundations of Pragmatism associated with mixed methods designs are compatible with foundations of the nursing profession (McCready, 2010; Scott & Briggs, 2009). The methods and strategies utilized for the selection of the sample, quantitative and qualitative data collection, (Creswell, 2009) and abductive reasoning processes used to interpret and understand the findings are congruent with the methodology and methods that guided this research (Johnson & Onwuegbuzie, 2004; McCready, 2010; Morgan, 2007; Wheeldon, 2010).

## CHAPTER 4 PHASE I RESULTS

This research explored how registered nurses (RNs) in urban, rural and remote Northeastern Ontario hospitals evaluated their QOWL. A mixed methods sequential explanatory design was conducted to explore the following three research questions (Creswell, 2009):

- 1) How do RNs and nurse leaders evaluate the QOWL in some rural and remote ONTARIO hospitals, in medical surgical practice areas in some large and small Northeastern Ontario urban hospitals?
- 2) To identify if QOWL and nursing practice environment factors are associated with stress for Northeastern Ontario RNs?
- 3) What are the similarities and differences of RNs' evaluation of the QOWL in urban, rural and remote Northeastern Ontario hospitals?

The results are presented in the sequential order that data were collected and analyzed (Creswell, 2009). Chapter 4 begins by presenting the results of the Phase I quantitative descriptive and statistical data analysis. The results from Phase I were further explained through comments provided by participants on the questionnaire (Appendix J). Chapter 5 will present Phase II qualitative results and the overall mixing and interpretation of the findings of this research.

### **Demographic Characteristics of Participants**

#### **Participants and Response Rates**

Sites were selected based on their willingness to participate and geographic location previously outlined in Chapter 3. Four acute care hospitals located in urban, rural and remote locations across Northeastern Ontario agreed to participate in this study. Both of the urban hospitals were classified as having greater than 100 beds, while the rural and remote sites had less than 100 beds (Ministry of Health and Long Term Care, 2009). A total of 319 Phase I

research packages were distributed to registered nurses between April and November of 2013. Packages were given to the staff liaison at each site who agreed to distribute the packages to RNs. RNs had the option of returning the completed questionnaire in a sealed envelope to the liaison or mail the questionnaire directly back to me in a pre-stamped envelope. Packages that were collected by the liaison were sent back to me via courier. One hundred and seventy three questionnaires were returned, which yielded an overall 54.23% response rate. The majority of participant responses (n=173) were from nurses working on medical or surgical units in the large and small urban areas (n=133), with the remaining (n=40) participant responses coming from nurses working in the rural and remote locations. Only three nurses completed the questionnaire utilizing the online option.

### **Description of Participants**

The majority of nurse participants were born (68.8%) and completed their nursing education (80.9%) in Northeastern Ontario. The majority of nurses had spouses or significant others who were also born in Northeastern Ontario (65.9%). As Table 3 depicts, the majority of nurses were female (93.1%), were married (67.6%), and had obtained a baccalaureate degree in nursing education (60.1%). The largest proportion of participants (40.4%) ranged in age between 20 to 29 years (*mean* = 35.9, *s.d.* 11.0). Some of the descriptive data of RNs contained less than 10 participants. This data was not reported to protect their anonymity.

### **Continuing Educational Experience, Opportunities and Reimbursement**

Some nurses had completed certificates in specialty areas (28.5%) and included areas such as oncology, critical care, and advanced cardiac life support. None of the participants indicated that they had completed a nurse practitioner program. Almost half of the participants

did attend conferences (48.6%) at least once in a year. Employers did reimburse 34.7% of participants for conference expenses ( $n=154$ ); however, 19.1% of participants were not reimbursed for time off to attend the conference ( $n=150$ ).

Table 3

*Demographic Characteristics of Nurses (n=173)*

Demographic Characteristics		Frequency n	Percentage %	n
Gender	Female	161	93.1	171
	Male	10	5.8	
Age	20-29	65	39.4	165
	30-39	35	21.2	
	40-49	43	26.1	
	50-65	22	13.3	
Marital Status	Single/never married	41	23.7	171
	Married/Common-law	117	67.6	
	Divorced/Separated/ Widowed	13	7.5	
Education	Nursing Diploma	71	41.0	172
	Nursing Baccalaureate	104	60.1	171
	Not currently enrolled in a program leading to a formal degree	169	97.7	173

**Work Related Characteristics of Participants**

Although the largest percentages of participants with years of work experience as an RN (60.1%) were between 1 and 9 years ( $mean = 10.3, s.d. 10.2$ ), 37.5% had only worked between 1 and 4 years as an RN (see Table 4). Similarly, the majority of participants worked in Northeastern Ontario (62.0%), between 1 and 9 years ( $mean = 9.8, s.d. 10.2$ ), and 38% indicated they had worked in Northeastern Ontario between 1 and 4 years. A large percentage of nurses

Table 4

*Number of Years as RN, Work Related Characteristics of Nurses, and Salary (N=173)*

Number of Years as RN & Work Related Characteristics		Frequency n	Percentage %	n
Number of Years as RN	* < 1 – 9	101	60.1	168
	10-19	30	17.9	
	20-29	31	18.4	
	>30	6	3.6	
Number of Years as RN in Northeastern Ontario	** < 1 – 9	101	62.0	163
	10-19	28	17.1	
	20-29	28	17.2	
	>30	6	3.7	
Years Worked on Current Unit	*** < 1 – 9	131	76.9	170
	10-19	28	16.2	
	20 >30	11	5.1	
Current Job Status	Full Time 30 >30	129	74.5	172
	Part Time < 30hrs	34	19.7	
	**** Other	9	5.2	
Current Position	Staff Nurse	149	86.1	173
	Team Leader/ Charge Nurse/ Unit Manager	10	5.8	
	Other	12	6.9	
Salary Before Taxes	\$30,000-49,999	14	8.0	169
	50,000-69,999	68	39.4	
	70,000->80,000	87	50.3	

\* Majority were <1-4 n=63 (37.5%);

\*\* Majority were <1-4 n=62 (38.0%);

\*\*\* Majority were <1-4 n=101 (58.4%);

\*\*\*\* Current Job Status: Other included: 40 hours per week, full time plus overtime, Job share, New Graduate Guarantee program, Part time status >36 hours per week, and temporary full time

had experience working on the same unit between 1 and 9 years (76.9%) with the majority between 1 and 4 years (58.4%). Approximately 20% of nurses worked on other units on a regular basis. The majority of participants worked full time (74.5%), as a staff nurse (86.1%), had seniority in their jobs (79.8%), worked mandatory rotating shifts (71.1%) (day, evening and night shifts), and worked either 8 hours (12.1%) or 12 hours (85.0%) shifts.

The number of nurse to patient ratios each nurse cared for varied with different shift rotations. On average, nurses reported taking care between 4 and 5 patients on a day shift (97.1%), 5 and 6 patients on evening shifts (95.9%), and 6 and 7 patients on night shifts (94.8%). Participants received compensation for working rotating shifts (64.2%), with the majority indicating shift premiums were determined based on union collective agreement negotiations with the Ontario Nurses' Association's (ONAs) for nurses who belonged to a union (95.4%), with nurses receiving occasional compensation while in the charge nurse position (54.9%). The annual salary reported was between \$70,000 and \$80,000 (50.3%) for approximately half of the participants.

Some nurses participated in Interprofessional rounds (30.6%), and multi-disciplinary care meetings (28.9%). Although a large percentage of nurses indicated they were able to take their scheduled days off (86.7%), more than half of the participants reported not being able to take their regularly scheduled breaks at work (51.4%). The majority of nurses indicated they worked overtime (82.7%), that was paid (72.8%).

### **Physical and Psychological Violence in the Workplace**

Participants were asked about their experiences of physical or psychological violence in the workplace as defined in the *Framework Guidelines for Addressing Workplace Violence in the Health Sector* (2002), developed by the International Labour Office, International Council of

Nurses, World Health Organization, and Public Services International, joint program on workplace violence. Physical Violence was defined as: “the use of physical force against another person or group, that results in physical, sexual or psychological harm. It includes among others, beating, kicking, slapping, stabbing, shooting, pushing, biting and pinching” (International Labour Office, p.3). Psychological Violence was defined as the: “intentional use of power, including threat of physical force, against another person or group, that can result in harm to physical, mental, spiritual, moral or social development. It includes verbal abuse, bullying/mobbing, harassment and threats” (International Labour Office, p. 4). As Table 5 depicts, a majority of nurses reported experiencing physical (70.5%), and psychological (68.8%), violence in the workplace from patients, patient family members, or co-workers. A large percentage of physical violence came from patients (69.9%), while the majority of psychological violence was experienced from patients (56.1%) and co-workers (30.1%).

### **General Health, Absenteeism, and Employee Assistance Program Usage of Nurses**

Nurses were asked to self-report about their current general health status and to indicate specific health issues they experienced in the previous 12 months to completing the questionnaire. Generally, nurses reported their health to be good (37.6%) to very good (32.4%), with a few reporting their health to be excellent (16.8%), fair (9.8%), or poor (0.6%). The majority of nurses indicated they experienced back pain (59.5%), while a few had a back injury (11.6%), and some had muscular strains or sprains (34.1%). A small percentage reported being injured with a contaminated sharp object (4.0%). A few RNs reported being absent related to having an infectious disease (4.6%). Almost half of the participants (45.1%) stated that they experienced exhaustion, while a few reported being clinically diagnosed with depression

(10.4%). A few nurses reported being clinically diagnosed with an anxiety panic disorder (11.0%).

Table 5

*Nurses Experiences of Physical and Psychological Violence in the Workplace (N=173)*

Experiences of Physical & Psychological Violence		Frequency n	Percentage %	n
Physical Violence	Yes	122	70.5	170
	No	48	27.7	
Physical Violence from: Patient	Yes	121	69.9	169
	No	48	27.7	
Patient's Family	Yes	1	0.6	168
	No	168	97.1	
Co-worker	Yes	1	0.6	169
	No	168	97.1	
Psychological Violence	Yes	119	68.8	170
	No	51	29.5	
Psychological Violence from: Patient	Yes	97	56.1	167
	No	51	40.5	
Patient's Family	Yes	35	20.2	168
	No	133	76.9	
Co-worker	Yes	52	30.1	168
	No	116	67.1	

When asked about the reasons why nurses were absent from work in the preceding 12 months, the majority of participants reported physical illness that did not include injuries as the main reason for missing work (65.3%). A small percentage of participants stated they were absent due to a work related accident or injury (13.3%), with some participants receiving

workers compensation (6.9%). Some participants were absent because of an accident or injury that did not occur at work (13.9%). Mental health illnesses were reported by some nurses as reasons for not going to work (12.7%). Nurses also indicated that some absenteeism was attributed to caring for family members such as a sick child (16.2%) or an elderly parent (2.9%). Most nurses were aware that their employer had Employee Assistance Programs (EAP) (80.9%); however, a small percentage reported utilizing this program (5.8%).

### **Statistical Analysis**

Statistical analyses were conducted on the data collected with the three Likert scales that included: the Brooks' Quality of Nursing Work life (Brooks & Anderson, 2004), the Practice Environment Scale-Nursing Work Index-Revised (Lake, 2002) and the Nursing Stress Scale (NSS) (Gray-Toft & Anderson, 1981), to determine which variables were associated with nurses' QOWL and stress. The sample size required to conduct the linear multiple regression was 35, while 148 was needed to conduct the logistic regression (Appendix E b & E c). This study had enough participants to meet the sample size requirements for these tests (n=173).

Cronbach's alpha coefficients were calculated for all three scales, both total and subscales, and individual items to determine measures of reliability. A Cronbach's alpha score of 0.70 is considered a minimally acceptable measure of reliability (Bowling, 2009). The overall standardized Cronbach's alpha coefficients ranges for the total scale were good to very good for all three instruments and included: the QOWL (0.86), the (0.93), and the NSS (0.89). As depicted in Table 6, the total Cronbach's alpha coefficients for the total subscales were also acceptable for the QOWL (0.70), Practice Environment Scale-Nursing Work Index-Revised (0.77), and NSS (0.81).

Although all of the total scores of the scales had acceptable measures of Cronbach's

alpha coefficients, three subscales in the QOWL and three subscales in the NSS instruments had

Table 6

*Cronbach's Alpha Coefficients for QOWL, Practice Environment Scale-Nursing Work Index-Revised, (PES-NWI-R) and NSS Scales and Subscales*

Cronbach's Alpha Coefficients for QOWL, PES-NWI-R, & NSS Total Scales, Total Subscales, and Subscales					
QOWL 42-items	Alpha	PES-NWI-R 31-items	Alpha	NSS 34-items	Alpha $\alpha$
Total Scale	0.86	Total Scale	0.93	Total Scale	0.89
Total for 4 Subscales	0.70	Total for 5 Subscales	0.77	Total 7 Subscales	0.81
Work context	0.85	Nurse manager ability & leadership	0.83	Physical Stressors: Workload	0.73
Work design	* 0.52	Nurse participation in hospital affairs	0.87	Psychological Stressors: Death & dying	0.73
Work world	* 0.49	Staffing-resource adequacy	0.81	Inadequate preparation	0.77
Work/Homelife	* 0.36	Collegial Nurse-physician relations	0.80	Lack of support	* 0.66
		Nursing foundations for quality of care	0.75	Uncertainty about treatment	0.70
				Social Stressors: Conflict with physicians	* 0.67
				Conflict with other nurses	* 0.65

\* Indicates below minimally acceptable Cronbach's alpha reliability scores

scores less than 0.70. Results from the QOWL subscales indicated that the work design (0.52), work world, (0.49), and work/homelife (0.36), had below acceptable alpha coefficients. Brooks and Anderson (2004) reported low Cronbach's alphas for the same three subscales: work design 0.58, work world 0.60, and work/homelife 0.56, while Khani et al., (2008) reported acceptable Cronbach's alpha scores for the total scale 0.93, and all four subscales work design: 0.78, work world 0.83, work life/home life 0.75, work context 0.90 (Khani et al., 2008). The alpha coefficients for three NSS subscales were also low and included: Lack of support (0.66), Conflict with physicians (0.67), and Conflict With Other Nurses (0.65). Reported test-retest reliability scores for three subscales developed by Gray-Toft and Anderson (1981) were below 0.70 and included: Inadequate Preparation (0.42), Lack of Staff Support (0.65), and Uncertainty Concerning Treatment (0.68). Lee, Holzemer, and Faucett (2007) translated the NSS to be used among Chinese nurses and reported coefficient alpha scores greater than 0.70 for five out of seven subscales including two subscales: Conflict With Other Nurses, ( $\alpha = 0.68$ ), and Uncertainty Concerning Treatment, ( $\alpha = 0.67$ ). Based on the reported Cronbach's alpha scores findings from the QOWL and NSS subscales used in this study, below 0.70 scores are to be viewed with caution.

## **Regression Analysis**

### **Multiple Regression Analysis**

Two backward stepwise multiple regressions were conducted to determine the demographic and Practice Environment Scale components associated with nurses' QOWL, and the demographic, QOWL, and Practice Environment Scale variables associated with nurses' stress scale (NSS) scores. In addition, the multiple regression models were calculated to determine if nurses' QOWL and NSS scores were associated with age, RN experience;

geographic location, employment status, income; ability to take breaks, marital status, general health; exhaustion in the past year, experiences of physical and psychological violence in the workplace, and the Practice Environment Scale individual components, total and subscale scores. Each individual component in the subscales and demographic variables were entered in the backward removal to eliminate non-significant variables. Only variables with a  $p < 0.05$  significance level were included in each of the final models. The processes utilized to identify variables to be included in the final models were previously described in Chapter 3.

### **Multiple Regression Factors Associated with Nurses' Quality of Work Life**

The first multiple regression analysis was conducted to determine which demographic variables and Practice Environment Scale components were associated with nurses' QOWL. Two demographic characteristics, general health and exhaustion, were found with a  $p < 0.05$  significant level (see Table 7). The final QOWL multiple regression model included three factors: general health, exhaustion, and four items from the Practice Environment Scale Practice Environment Scale staffing subscale as factors associated with nurses QOWL (see Table 8). These three key factors explained 35% of the variance ( $R^2 0.353$ ) and were significant at a  $p$ -value of 0.05.

Findings suggested that as nurses' general health increased, nurses' QOWL also increased ( $F(3,126)=12.16, p=0.0007$ ). A very strong association was found between nurses' who reported decreased exhaustion and nurses' increased QOWL ( $F(3,126) = 6.15, p=0.0145$ ). A large relationship was found between the Practice Environment Scale staffing subscale items and nurses' QOWL. Nurses' QOWL increased as the four items in the Practice Environment Scale staffing subscale increased ( $F(3,126)= 42.98, p=0.0001$ ). No other variables met the  $p < 0.05$  significance level for entry into the final model (see Table 8).

Table 7

*Associations of Demographic Characteristics with QOWL Total Scores*

Associations of Demographic characteristics with QOWL Total Scores			
Demographic Characteristics	Association with QOWL Total Score		
	<i>r</i>	<i>R</i> <sup>2</sup>	<i>P</i> value
Age	-0.132	0.17	0.123
RN Experience	-0.089	0.008	0.298
Geographic Location	-0.088	0.008	0.293
Employment	-0.144	0.020	0.086
Income	-0.105	0.011	0.217
Able to take breaks	0.268	0.072	0.002
Marital Status	-0.134	0.018	0.111
General Health	0.287	0.082	* <0.001
Exhaustion in past year	-0.266	0.071	* 0.002
Experiences of:			
Physical Violence in workplace	-0.203	0.041	0.015
Psychological violence in workplace	-0.147	0.022	0.080

\* Indicates significant level  $p < 0.05$

**Multiple Regression Factors Associated with Nurses' Stress Scale**

The second backwards stepwise multiple regression analysis was calculated to determine if nurses' stress scale (NSS) scores were associated with age, RN experience; geographic location, employment status, income; ability to take breaks, marital status, general health; exhaustion in the past year, experiences of physical and psychological violence in the workplace, the QOWL and Practice Environment Scale individual components, total and subscale scores. Three demographic variables were found with a  $p < 0.05$  significant level that included: the ability to take breaks, exhaustion in the past year, and experiences of physical violence in the workplace (see Table 9).

Table 8

*Factors Associated with Nurses' QOWL Final Multiple Regression Model*

Factors Associated with Nurses' QOWL Final Multiple Regression Model			
Description of Variable	Coefficient (beta) $\beta$	Se	P value
General Health	5.48	1.57	<0.001
Exhaustion in the past year	-7.22	2.91	0.015
PES Staffing Subscale (4 items)	15.19	2.32	<0.001
Adequate support services; Enough time to discuss Enough RNs for quality care Enough staff			
Model $R^2=0.353$			

Table 9

*Associations of Demographic Characteristics with NSS Total Scores*

Associations of Demographic Characteristics with NSS Total Scores			
Demographic Characteristics	Association with NSS Total Score		
	<i>r</i>	$R^2$	P value
Age	-0.115	0.013	0.170
RN Experience	-0.127	0.016	0.129
Geographic Location	0.021	0.00045	0.797
Employment	-0.030	0.00089	0.720
Income	0.028	0.00077	0.740
Able to take breaks	-0.374	0.140	* <0.001
Marital Status	-0.072	0.005	0.384
General Health	0.018	0.00034	0.826
Exhaustion in past year	0.330	0.109	* <0.001
Experience of:			
Physical Violence in workplace	0.267	0.071	* 0.001
Psychological violence in workplace	0.100	0.010	0.231

\* Indicates significant level  $p < 0.05$

The final NSS model included four key factors that included two items from the QOWL scale, one item from the Practice Environment Scale staffing subscale, and the Practice Environment Scale nursing ability subscale with five items associated with nurses NSS (see Table 10). Four key factors were included in the final NSS model that explained 42% of the variance ( $R^2$  0.423) and were significant at a  $p$ -value of 0.05.

Table 10

*Factors Associated with Nurses NSS Final Multiple Regression Model*

Factors Associated with Nurses' NSS Final Multiple Regression Model			
Description of Variable	Coefficient (beta) $\beta$	Se	P value
QOWL: My workload is too heavy	1.98	0.73	0.002
QOWL: I am able to balance work with my family needs	-1.58	0.73	0.031
PES: Adequate support services allow me to spend time with my patients.	-5.38	1.27	<0.001
PES: Nursing Ability Subscale (5 items)		1.52	0.020
Supportive supervisory staff	-3.69		
Supervisors use mistakes as learning opportunities, not criticism			
Nurse manager/good manager & leader			
Praise & recognition for job well done			
Nurse manager who backs up the nursing staff in decision-making even if the conflict is with a physician			
Model $R^2=0.423$			

Findings indicated that as nurses' workload increased, the NSS score increased ( $F(4,130)=10.47, p=0.0016$ ). As nurses' work homelife balance decreased, the NSS scores increased ( $F(4,130)=4.75, p=0.0311$ ). As adequate support services allowing RNs to spend time with patients decreased, the NSS scores increased ( $F(4,130)=17.94, p <0.0001$ ). As the five

items in the nursing ability Practice Environment Scale subscale decreased, nurses' NSS scores increased ( $F(4,130)=5.59, p < 0.0195$ ). No other variable met the  $p < 0.05$  significance level for entry into the model.

### **Logistic Regression Analysis**

Two backward stepwise logistic regressions models were calculated to determine factors associated with nurses' QOWL and NSS scores. The same demographic variables used in the multiple regression models were used in the two logistic regressions and included: age, RN experience; geographic location, employment status, income; ability to take breaks, marital status, general health; exhaustion in the past year, experiences of physical and psychological violence in the workplace, and the Practice Environment Scale individual components, total and subscale scores. Each individual component in each subscale, the scales and demographic variables were entered in the backward removal to eliminate non-significant variables. Variables meeting the  $p < 0.05$  significance level were entered in the final model. The processes utilized to identify variables to be included in the final models were previously described in Chapter 3.

### **Quality of Work Life Logistic Regression Model**

The QOWL logistic regression analysis was conducted to estimate the odds ratio with a 95% confidence interval. The QOWL scores were dichotomized into two dependent variables as high and low scores using the *Median* as the dividing point. QOWL scores greater than and equal to ( $\geq$ ) 164 indicated high QOWL scores while less than and equal to ( $\leq$ ) 163 were considered low QOWL scores. No demographic variables were found to be significant level  $p < 0.05$  (see Appendix R Table 11.1). The specific details related to the steps taken in the determination of the QOWL and Practice Environment Scale components to be considered for the QOWL final logistic regression model previously discussed are included in a table format in

Appendix S (see Table 11.2). Results of the factors in the final QOWL logistic regression model included: the presence of supportive supervisory staff, 10 items in the Practice Environment

Table 11

*QOWL Logistic Regression Model*

QOWL Logistic Regression Model (121 Observations used) QOWL score $\leq 163$			
Description of Variable	OR	95% CI	P value
PES: Supervisory staff supportive of nurses	3.28	(1.59, 6.76)	0.001
PES: Nursing Quality Subscale: 10 items	12.39	(2.58, 59.64)	0.002
Active staff development or continuing education programs for nurses			
High standards of nursing care are expected by the administration			
A clear philosophy of nursing that pervades the patient care environment			
Working with nurses who are clinically competent			
An active quality assurance program			
A preceptor program for newly hired RNs			
Nursing care is based on a nursing, rather than a medical model			
Written, up-to-date nursing care plans for all patients			
Patient care assignments that foster continuity of care (the same nurse cares for the patient from one day to the next)			
Use of nursing diagnoses			
PES: Collegial Subscale: 3 items	5.35	(1.75, 16.39)	0.003
Physicians & nurses have good working relationships			
A lot of team work between nurses & physicians			
Collaboration (joint practice) between nurses & physicians			

C=0.85 (area under the curve). Hosmer-Lemeshow Goodness of fit  $X_g^2=4.654$ ,  $p=0.794$

Scale Nursing Quality subscale, and three items in the Practice Environment Scale Collegial subscale (Table 11).

Nurses who reported a decreased presence of supportive supervisory staff were 3.28 (95% CI: 1.59 - 6.76) times more likely to have lower QOWL scores ( $\leq 163$ ) than those who indicated that they had supportive supervisory staff, adjusting for the Nursing Quality and Collegial subscales. Nurses who reported a decreased presence of the 10 factors associated in the Practice Environment Scale-Nursing Quality subscale were 12.39 (95% CI: 2.58- 59.64) times as likely to have lower QOWL scores ( $\leq 163$ ) than those who indicated an increased presence of the 10 Practice Environment Scale Nursing Quality subscale factors, adjusting for nursing care is based on a supervisory staff that is supportive of the nurses, and the Collegial subscale. Nurses who reported a decreased presence of three Practice Environment Scale Collegial subscale factors were 5.35 (95% CI: 1.75- 16.39) times as likely to have lower QOWL scores ( $\leq 163$ ) than those who indicated a greater presence of these factors, adjusting for a supervisory staff that is supportive of the nurses, and the Nursing Quality subscale.

### **Nursing Stress Scale Logistic Regression Model**

The NSS logistic regression analysis was conducted to estimate the odds ratio with a 95% confidence interval. The NSS scores were dichotomized into two dependent variables as high and low scores using the *Median* as the dividing point. QOWL scores greater than and equal to ( $\geq$ ) 78 indicated high NSS scores while less than and equal to ( $\leq$ ) 77 were considered as a low NSS. Two demographic variables: the ability to take breaks, and exhaustion in the last year, were found with a  $p < 0.05$  significance level (see Table 12.1, Appendix T). The specific steps in the determination of the QOWL and Practice Environment Scale components to be considered for

the NSS final logistic regression model were previously discussed and included as a table format in Appendix U (see Table 12.2).

Key factors associated with the NSS logistic regression model included: nurses age, exhaustion, adequate support, and sufficient staffing (see Table 12). Nurses who were under 34 years of age were 2.92 (95% CI: 1.20-7.14) times as likely to report higher stress scores ( $\geq 78$ ) than those greater than 34 years of age, adjusting for exhaustion, support services, and sufficient staff. Nurses who indicated they experienced exhaustion were 3.34 (95% CI: 1.42, 7.84) times as likely to report higher stress scores ( $\geq 78$ ) than those without exhaustion, adjusting for age, support services, and sufficient staff. Those who did not have adequate support services that allowed nurses to spend time with patients were 3.56 (95% CI: 1.78, 7.10) times as likely to report higher stress scores ( $\geq 78$ ) than those with Practice Environment Scale Adequate support services, adjusting for age, exhaustion, and sufficient staff. Nurses were indicated that there was Practice Environment Scale Not enough staff to get the work done were 2.11 (95% CI: 1.14, 3.92) times as likely to report higher stress scores ( $\geq 78$ ) than those with enough staff, adjusting for age, exhaustion, and support services.

Table 12

*NSS Logistic Regression Model*

NSS Logistic Regression Model (129 Observations used) NSS score $\geq 78$			
Description of Variable	OR	95% CI	P value
Age	2.92	(1.20, 7.14)	0.019
Exhaustion	3.34	(1.42, 7.84)	0.006
PES: Support Services	3.56	(1.78, 7.10)	<0.0001
PES: Sufficient Staff	2.11	(1.14, 3.92)	0.018

C=0.82 (area under the curve). Hosmer-Lemeshow Goodness of fit  $X_g^2=10.042$ , p=0.262

## Summary of Regression Analysis

Several factors were identified in the multiple and logistic regression models as associated with nurses' QOWL and stress. The multiple regression model findings suggest factors associated with nurses high or increased QOWL scores included: increased general health, decreased exhaustion and increased components in the Practice Environment Scale staffing subscale that provided nurses with adequate support services, time to discuss patient care problems with other nurses, enough RNs to provide quality patient care; and enough staff to get the work done. Findings suggested that factors associated with nurses' increased NSS scores included: increased workload, decreased work-home life balance, decreased support services that allow nurses to spend time with patients, and decreased Nursing Ability subscale factors that includes five items: 1) supervisory staff that is supportive of the nurses, 2) supervisors use mistakes as learning opportunities, not criticism, 3) a nurse manager who is a good manager and leader, 4) praise and recognition for a job well done, and 5) a nurse manager who backs up the nursing staff in decision- making, even if the conflict is with a physician.

Exhaustion was associated with nurses' QOWL in the multiple regression model and in the NSS logistic regression model. Some components from the Practice Environment Scale were found to be included in the multiple and logistic regression models. Adequate support services allow me to spend time with my patients, under the staffing subscale, was associated with both the QOWL and NSS multiple regression models, and the NSS logistic regression model. Supervisory staff that are supportive of the nurses was associated with nurses NSS in the multiple regression model and in the QOWL logistic regression model. Enough staff to get the work done was associated with nurses' QOWL in the multiple regression model and in the NSS logistic regression model. In summary, several factors were identified in the Phase I data analysis

as impacting nurses' QOWL and stress. Participants provided additional explanations through written comments that described some of these factors in greater detail to assist in understanding these factors.

### **Phase I Participant Comments**

At the end of the Phase I questionnaire, a section was included that provided participants with the option to write down any comments. Thirty-two percent of the participants (n=53) wrote comments that ranged in length from one line to a paragraph, with a few participants writing full pages. The comments were analyzed to provide a preliminary explanation of the key Phase I findings that impacted nurses' QOWL, stress and health.

The participant comments were repeatedly read, sorted, and coded to identify similar ideas, patterns, and themes among the nurse participants. *Facilitating Healing at the Bedside* was a key theme that was revealed supported by sub-themes that included: *Enough Time and Resources to do the Job, Supportive Leaders who Listen; Supports for Professional Growth Opportunities, and Therapeutic Relationships with Colleagues*. Additional themes identified included *Geographical Differences, and General Changes to Nursing Over Time*. Together, these themes provided a beginning understanding and a preliminary explanation of some factors associated with their QOWL and stress.

The key theme *Facilitating Healing at the Bedside* describes the supports and resources required by nurses from all geographical locations that are needed to provide quality holistic patient care. *Enough Time and Resources to do the Job* was described by nurses as inadequate time to provide holistic quality patient care, heavy workloads, having to do non-nursing tasks, inadequate equipment, supplies, inadequate nursing and non nursing staff, the work experience of nurses, work-homelife balance, and adequate financial resources, as being key factors

associated with their QOWL and stress. *Supportive Leaders who Listen* highlighted nurses' need for supportive supervisors who understand the work that is done by them, and who were able to listen to their concerns. *Supports for Professional Growth Opportunities* were shared by all nurses as necessary for nurses to remain up to date in clinical knowledge, in alignment with their professional values and standards to maintain competencies. This included opportunities for continuing educational programs, and supporting new graduate nurses through adequate orientation and preceptorship programs. *Therapeutic Relationships with Colleagues* describes the importance of having good working relationships with physicians, colleagues and allied healthcare professions that at times were challenging. Further, nurses commented on some *Geographical Differences* that they observed between urban, rural and remote work environments, especially rural and remote nurses needing to be a "jack of all trades". A few nurses shared some *General Changes to Nursing Over Time*, involving computer charting that impacted the amount of time nurses spent with patients at the bedside, and changes to models used to provide patient care that had occurred over time.

### **Facilitating Healing at the Bedside**

#### **Enough Time and Resources to do the Job**

The majority of nurse's comments conveyed concerns about their ability to provide quality holistic patient care. Enough time to provide quality holistic patient care was a key concern for nurses. Inadequate time and resources that allowed nurses to spend time with patients, and inadequate staff to get the work done enough staff were reoccurring sub-themes associated with nurses' QOWL and stress. Participants identified: increased patient acuity, workload factors, increased expectations and responsibility for nurses to assume non nursing tasks, unpredictable staffing and or working short staffed, a lack of non-nursing support

personnel, not having functioning equipment and a lack of supplies that contributed to a lack of time to provide quality holistic patient care, as factors that impacted nurses' QOWL and stress.

**Enough Time for Holistic Patient Care.** Nurses in small and large urban settings described inadequate time to holistically care for patients. Enough time to care was influenced by the acuity of patients, type of patients, and a variety of workload factors.

SU RN 71: I love being a nurse; I love to see my patients happy and comfortable. I am frustrated when I can't give the time I want towards my patients' care whether its emotional, mental or physical. There is just so little time, but I work hard each day to day and give the best care to my patients...

**Increased Workload.** Participants suggested that the acuity of patients, unsafe staffing levels, time constraints, and the lack of resources affected nurses' QOWL, and stress. Nurses indicated they felt frustrated and stressed with concerns related to the safety of patients as demonstrated in the following excerpts from nurses working in a small urban location.

SU RN 53: As a new grad, I find the most stressful part of my work is: continuously working short staffed and feeling a great deal of stress because I cannot provide and give my patients the attention/care they need/deserve because of increased workload, the number of patients and patient acuity. I often feel that the workload is very unsafe for both the patient's and the staff...

Participants from small urban settings also noted that changes in the type of patient being admitted to the unit added to nurses' workloads and stress. Some of these changes stemmed from the shortage of available hospital beds to admit patients.

SU RN 65: I also feel that the "bed crunch" we are always experiencing has caused stress to many nurses. With an overflow of patients and not enough beds, nurses are expected to care for types of patients they normally would not -i.e on my surgical floor, we are often overwhelmed with medical patients. This causes stress on nurses if they do not feel comfortable being forced to care for patients with unfamiliar diagnoses.

**Increased Non-nursing tasks.** The workload of nurses was affected by the increase in non-nursing tasks and duties assigned to nurses as described by participants working in small and large urban locations.

SU RN 50: Seems like more and more often, tasks are being given to the nurses -non nursing related-, but no tasks are taken away. This takes time away from our nursing duties and most importantly our patients...

**Enough equipment and supplies.** Participants from large urban settings commented on needing supplies, functioning equipment, more non-nursing support staff, and having manageable workloads, to deal with increasing patient acuity care demands, as factors associated with impacting their QOWL and stress.

LU RN 27: The most significant aspect that compromises my QOWL is the uncertainty of whether or not I'm going to have a manageable assignment and functioning equipment and adequate non-nursing support on my next shift...

**Enough nursing staffing.** Participants excerpts from all sites suggested that there was simply not enough staff to get the work done. One RN working in a remote area stated that staffing levels on the units were "unpredictable" (RE RN 177). Some participants were concerned with working short staff related to a lack of staff and nurses who were absent due to illness.

SU RN 47: Biggest concern on my unit is not enough staff, a lot of sick calls, teamwork, and modified workers...

Nurses described the lack of adequate staff as creating an unsafe environment for patients that were risky for nurses as demonstrated in the following excerpt.

RU RN 86: I am also concerned that due to budget restraints that staffing levels are in jeopardy i.e. not replacing with properly trained staff. We often work with untrained staff...

**Work experience of nurses.** Nurses working in remote and small urban settings also identified the length of work experience of nurses as a key factor to consider when evaluating whether or not there were enough staff to get the work done. Participants from the rural, small and large urban settings suggested that more experienced nurses were needed to provide quality and safe patient care as described in the following excerpt.

RU RN 86: I am also concerned that due to budget restraints that staffing levels are in jeopardy i.e. not replacing with properly train staff. We often work with untrained staff...

Staffing levels were linked to the turnover rates of nurses. One participant working in a small urban location and linked the turnover of senior nurses to staffing shortages as demonstrated with this excerpt “A lot of senior staff leave to work on other units because of shortages” (SU RN 47). Clinical competency of nurses was described by some participants as nurses who did not have a lot of work experience such as new graduates. New graduates were suggested to need support such as having a preceptor, and adequate orientation programs. New graduate nurses or nurses new to a setting were referred to as junior nurses described as “green on green”, which added to nurses’ stress according to one nurse working in a remote setting.

RE RN 177: 1/2 RN staffing hired in last 3 months ++ Junior/new grads. Green on Green...\*

(\* nurses use the plus symbol + to indicate a lot of something when charting on patients such as a lot of pain ++)

Nurses who were new graduates were concerned about the amount of responsibility they had been given as junior nurses that created anxiety and affected their ability to sleep.

SU RN 41: As a new graduate nurse many of us take responsibility for very critical patients with whom we don't feel comfortable with and lack of support because of the shortage of experienced nurses on the floor. After 6 months of being on the unit you are expected to take charge nurse responsibilities. I've experienced a lot of anxiety and sleepless nights...

Enough staff to get the work done was described by one nurse in a small urban setting as difference between the scope of practice between Registered practical nurses and RNs.

Registered practical nurses scope of practice was limited by policies that required RNs to do this work for the Registered practical nurses that increased RNs workload and impacting their QOWL.

SU RN 44: Increased role of RPN, but policies lagging at (name) in regards to what they can and cannot do...So each time the patient requires something, the RPN cannot do we

the RNs have to step in to facilitate. So on a daily basis we are breaking the circle of care for pts. My unit handles nurse and nurse complex patients. I don't feel the division of RN's to RPN's is proper. I know it's "a money thing" wages?...

**Work homelife balance.** Nurses described challenges associated with adequate staffing and working different shifts, weekends, and holidays and the desire to balance work and home life to attend family events.

RU RN 86: "We have inadequate coverage of staff for holidays and are often "threatened" with it i.e. from upper management/supervisors. I and some or most other nurses get very frustrated by what I call the 9-5 er's. Yes we work weekends, but all social and family events also happen on weekends.

**Enough non-nursing support staff.** Rural participants described a lack of support staff and an expectation that nurses would not get their scheduled breaks on day shift, or have adequate coverage for holidays.

RU RN 86: ...No ward clerk - no reception, we do it all. Usually no problems however, not getting to breaks can be expected esp. on day shifts. We have inadequate coverage of staff for holidays and are often "threatened" with it i.e. from upper management /supervisors...

One nurse from a rural setting noted differences in support services during the week and on weekends.

RU RN 109: We are down to 1/2 staff on weekends with no clerical assistance and only 2 RN's compared to 3 RN's and a ward clerk throughout the week...

One participant in a large urban setting suggested more personal support workers to provide basic patient care could help reduce the stress for nurses and improve their QOWL.

LU RN 06: Personal support workers are very important in providing basic care to our patients. Our floor would a safer place and nurses would be less stressed, as we are responsible for treatments, medication and overall care. Assigning more personal support workers on a day shift would benefit the nurses...

**Enough financial resources.** Nurses working in small urban, and rural locations suggested that budget constraints prevented nurses from receiving the staff and supports they

need to provide quality patient care. “It’s all about the money” was described as impacting nurses’ QOWL, stress, and patient safety.

SU RN 56: It is all about the money. As soon as things get better they make more cuts and take any help we may have had away leaving us with less time to quality patient care and safety...

SU RN 44: My unit handles nurse and nurse complex patients. I don’t feel the division of RN’s to RPN’s is proper. I know it’s “a money thing” wages?...

One nurse working in a small urban hospital questioned the authenticity of a motto that is supposed to be patient centred care when budget concerns appeared to take priority.

SU RN 71: It bothers me that management does not listen to us, It always comes down to money when they say their motto is patient focused care, is it really?...

These participant excerpts assisted in beginning to explain and understand some of the key findings of nurses indicating they do not having adequate support services that allow them to spend time with patients, and not having enough staff to get the work done that are associated with nurses’ QOWL and stress.

### **Supportive Leaders who Listen**

Nurses from all sites commented about the invisibility or decreased presence of supervisory staff. One participant in a rural setting recognized some of the challenges that faced managers, and suggested that nurses’ QOWL was influenced by the need and ability of managers to be supportive, and have a true understanding of nurses’ jobs.

RU RN 93: I am aware of the challenge the managers have of balancing budgets, number of patients and staff personalities with all the day to day of the hospital and I appreciate their true presence. I have been on units prior to these that had poor management in which the managers were not nurses and had no true understanding of the nurses' jobs or the flow of the unit. These managers truly make a difference in quality of work life. To this point I am unaware of the role our chief officer of nursing plays or how it affect staff nurses. She is not visible and her role has not been defined to Staff RNs or Registered Practical Nurses. To my knowledge her presence does not affect my quality of work life...

Participants from small urban, rural and remote locations identified factors related to the importance of having good managers and leaders who are supportive and listen to nurses. Nurses from rural, small and large urban locations indicated that supervisors and administration personnel were unavailable. A few participants were aware that nurse managers wore more than one hat and that the increased workload of the nurse manager affected nurses' ability to approach the manager and feel that their concerns were being heard.

RU RN 86: If I feel like my Chief Nursing Officer is "unavailable" it is because she is taking care of two facilities and in-charge of too many other departments, same goes for direct leaders. They all wear more than one hat...

SU RN 40: When concerns are voiced no one listens. The hospital makes sure they are covered by developing policies, but it is not possible to meet the expectations...

Genuine praise and a lack of recognition for a job well done was viewed as important by one nurse working in a rural setting who stated that nurses are the ones who are responsible for "holding down the fort".

RU RN 86: ...Yes nurses as a whole are the bigger part of hospital budget, but we are the ones "holding down the fort" from 4pm-8am Monday - Friday and all through weekends and holidays. ... Are we praised for a job well done? Superficially maybe. It never seems genuine. There is not sense of belonging when you are treated like second-class citizens. My job I like, I love working with the patients...

These nurses' excerpts assisted in beginning to understand some of the key findings of nurses' ability and leadership factors associated with nurses' QOWL and stress.

### **Supports for Professional Growth Opportunities**

Some nurses provided some descriptions that assisted in understanding general findings related to *Supports for Professional Growth Opportunities* that nurses needed. Participants described expectations, educational supports needed as a "jack of all trades", and dealing with limited services as impacting their QOWL and stress. One nurse suggested that expectations of

nurses from administration and management were unrealistic and unattainable as described in the following excerpt.

SU RN 40: Expectations of nurses from management and most patients are very high and it is not possible to do the job and meet all standards, this leaves nurses in a very risky position...

Participants recognized that a wide range of skills are required to work in small urban hospitals to provide patient focused care while having less supports available for nurses to provide quality care. A few nurses described being a 'jack-of-all-trades' as stressful.

SU RN 45: I know as a nurse in this community we do not get to take care of patients with only specific issues: We get everything, that means we have to have a very wide range of skills...

Adequate orientations, continuing education, and skills training were identified as needed to maintain quality patient care and were a concern for some participants. Participants from remote and small urban locations described the need for adequate preceptor and orientation programs for nurses to be able to provide a foundation for quality patient care.

RE RN 171: One of my major problems that I face here is orientation, there's no proper orientation program even no trained staff to know how to orient new staffs, which bring stress and disappointment...

One nurse commented on challenges related to time and expenses associated with attending continuing education programs for nurses living in rural settings, as well as balancing work and home life commitments.

RU RN 86: Some of us also want to learn other skills etc. and are often turned down for conferences and courses, often because of where we live, travel / hotel /time is a concern.

A nurse from a rural setting stated that limited services were a disadvantage in providing nursing care; however, working in a rural setting enhanced the quality of care provided.

RU RN 80: Working in a rural remote areas has its disadvantages such as limited services but living and working in a small community definitely enhances care I provide to my patients because I know them!...

## **Therapeutic Relationships with Colleagues**

*Therapeutic Relationships with Colleagues* described the importance of having good working relationships with physicians, colleagues, and allied healthcare professionals. At times, these relationships were challenging. A nurse in the rural setting described unrealistic expectations from visiting physicians, the lack of the physical presence of physicians in the building, and lack of diagnostic equipment located in larger urban hospitals.

RU RN 86: We work with locums only. Visiting doctors that really have nothing invested in the community. They are often from Toronto or Ottawa, big hospitals etc. We have no CT Scan. Expectations can be very unrealistic with no regard for our budgets. ... We are often left with no doctor for up to 10 hrs. at a time! ... And no management onsite in the building...

## **Geographical Differences**

The Phase I questionnaire did not ask specific questions about similarities or differences between hospitals located in different geographical areas of the province. Nurses located in rural and small urban sites provided some insights pertaining to a few differences between these sites, stemming from their geographical locations. One participant in a rural setting recognized differences between hospitals located in different geographical locations and suggested that the standards imposed for hospitals need to consider the uniqueness of each setting.

RU RN 85: Smaller hospitals function very differently from larger centres and this is often not considered when meeting standards imposed.

One nurse in a small urban setting commented on differences between Southern and Northern Ontario settings; however, specific differences were not provided.

SU RN 67: As I have experienced hospitals in southern ON during my education I see how there is a difference in the quality of life of nurses...

As mentioned previously, nurses working in a small urban setting identified that they require a wide range of skills, and feel stress related to being “a jack of all trades”.

SU RN 45: I know as a nurse in this community we do not get to take care of patients with only specific issues: We get everything, that means we have to have a very wide range of skills...

One nurse working in a rural setting identified the disadvantages of limited services and advantages of a smaller community.

RURN 80: working in a rural remote area has its disadvantages such as limited services but living and working in a small community definitely enhances care I provide to my patients because I know them!...

Another participant in a rural setting described the need to expand access to quality food services to staff working 27/7 as a difference between smaller and larger hospitals.

RU RN 86: As a small hospital, the carpet rolls up at 4 p.m. No consideration given to the staff that are present 24/7. No cafeteria after 1 p.m. (9-1 Mon-Fri only). Vending machines with poor selections - junk food only - when they work...

### **General Changes to Nursing Over Time**

A few participants in small urban, and rural settings described general changes to nursing observed over the years. Differences included the change in types of models utilized to provide nursing care, the introduction of computers that change documentation processes, the amount of time spent at the bedside of patients, and changes to the motivation of individuals wanting to become a nurse.

SU RN 44: I have seen and done many things in regards to nursing. My biggest concern today is the primary nursing model we now use, and the use of computers for charting, computer charting is time consuming and I find we just don't have enough time to spend with the patients.

RU RN 84: because I have been nursing so long I've seen a lot of change from team nursing to individual patient care from different types of written charting (narrative to soap i.e. to computer) and the advancement of more computer-generated tasks. The computer has taken us away from bedside and patient care to struggling to get everything into the proper spots in the computer. Nurses over the years have changed as well before you did it for the love of the job/caring/compassion and now it is changed so being a profession to make good money for some...

## Summary

In summary, the comments provided by nurses' working in remote, rural, small and large urban hospital settings, provided a beginning understanding of some of the key Phase I findings of factors associated with nurses' QOWL and stress. *Facilitating Healing at the Bedside* was a central theme supported by sub-themes that included: *Enough Time and Resources to do the Job*, *Supportive Leaders who Listen*; *Supports for Professional Growth Opportunities*, and *Therapeutic Relationships with Colleagues*. Additional themes identified included *Geographical Differences*, and *General Changes to Nursing Over Time*. *Enough Time to do the Job* meant nurses needed the time to provide holistic patient care, and was dependent upon the supports and resources nurses had at the bedside that included: nursing staff, educational and financial resources, and services for manageable workloads that could reduce nurses' stress and increase their QOWL. Nurses recognized the fiscal and staffing challenges nurse leaders dealt with on a daily basis; however, nurses shared that they needed *Supportive Leaders who Listen* and were able to effect needed changes to address nurses' concern for patient safety, and working short staffed. Nurses were frustrated with ongoing budget constraints that limited nurse leaders' ability to alleviate some of the stressful situations described by the participants. *Therapeutic Relationships with Colleagues* and visiting physicians were identified as being a challenge especially in smaller hospitals settings with limited diagnostic capabilities. Additional themes and factors identified by participants included the recognition of unique *Geographical Differences* between Northern, rural, remote, and urban hospitals. One participant suggested that policies tend to be applied equally across all sites and need to be adapted to reflect the specific needs of each geographical location. General changes to nursing observed over the years were factors commented upon by a few participants that included: changes in types of models utilized

to provide nursing care, the introduction of computers that change documentation processes, the amount of time spent at the bedside of patients, and changes to the motivation of individuals wanting to become a nurse.

Although participants provided comments to assist in explaining the key findings from Phase I, an in-depth understanding of the unique factors associated with nurses' QOWL and stress based on the geographical location of their work environment was not adequately described to fully answer the research questions. Some nurses who were working in rural and remote locations during the time of the study had briefly commented that they had previously worked in an urban setting and indicated some differences between the geographic locations. Unfortunately, I had not included questions in the Phase I questionnaire that allowed nurses to elaborate on differences they noted from their previous employment located in urban locations.

Findings from the QOWL multiple regression model indicated that as nurses' general health increased, nurses' QOWL also increased, and a very strong association was found between nurses who indicated decreased exhaustion with an increased QOWL. The participants made no comments about these two factors. Nurses who were aged less than 34 years were associated with higher stress scores in the Phase I findings. Although comments did not specifically refer to age, some comments described stress associated among junior or new graduate nurses. Some participants did comment that nurses' voices were not being listened to or not being heard by managers and senior administrators. None of the comments made by the participants conveyed nurses' ability to influence or change the stressful situations they described to provide holistic quality patient care, suggesting that nurses' participation in decision-making processes might be limited. Chapter 5 presents the findings from the analysis of Phase II qualitative one on one interviews with nurses that provided a deeper understanding from

the emic perspective of nurses working in large and small urban, rural and remote locations across Northeastern Ontario.

## CHAPTER 5 SEQUENTIAL EXPLANATORY FINDINGS

This chapter presents the overall findings of the data analysis of Phase I and Phase II following the sequential explanatory design methodology. This chapter begins with a description of the recruitment of the Phase II nurses and response rates. The presentation of results from the mixing of the quantitative and qualitative results composes the majority of this chapter. The main overarching theme *Supporting Holistic Client Healing and Nurse Healers* along with the key supporting themes are described that provides an understanding of how Northeastern Ontario nurses and nurse leaders evaluated urban, rural and remote nurses' QOWL and stress.

### **Phase II Participants and Response Rates**

As previously discussed in Chapter 3, participants were recruited through a section at the end of the Phase I questionnaire asking participants if they would like to be a potential participant in Phase II (Appendix J). Potential Phase II participants checked off yes to indicate that they wanted to participate and included an email address or phone number that gave consent to be contacted directly by the Principal Investigator. A total of 173 questionnaires were returned with a 54.23% response rate. Thirty-four participants from large and small urban acute care settings consented to being contacted for Phase II from the 133 questionnaires returned that yielded a 25.5% response rate. A total of 13 participants provided consent to be contacted from the 40 Phase I questionnaires returned from rural and remote locations that yielded a 32.5% response rate. Overall a low response rate of 27.2% was yielded from the Phase I recruitment strategy.

Potential participants for Phase II were contacted via email and or telephone until a minimum of three nurses and one nurse leader from each site consented to be interviewed

(N=17). Dates, times, and locations for the interviews were arranged prior to the Principal Investigator's travel to each acute care location. The majority of one-on-one interviews were conducted face-to-face (n=16) between February and May of 2014, with one participant requiring to be interviewed via telephone. All participants were provided with an information package that included a cover letter, explanation of the interview protocols, a consent form, and a \$20.00 gift certificate as appreciation (Appendix N a-c). I met with the participants in a private location at each of the acute care locations where they were asked semi-structured questions as outlined in Appendix O a and b. Participants also completed a short demographic questionnaire (Appendix O).

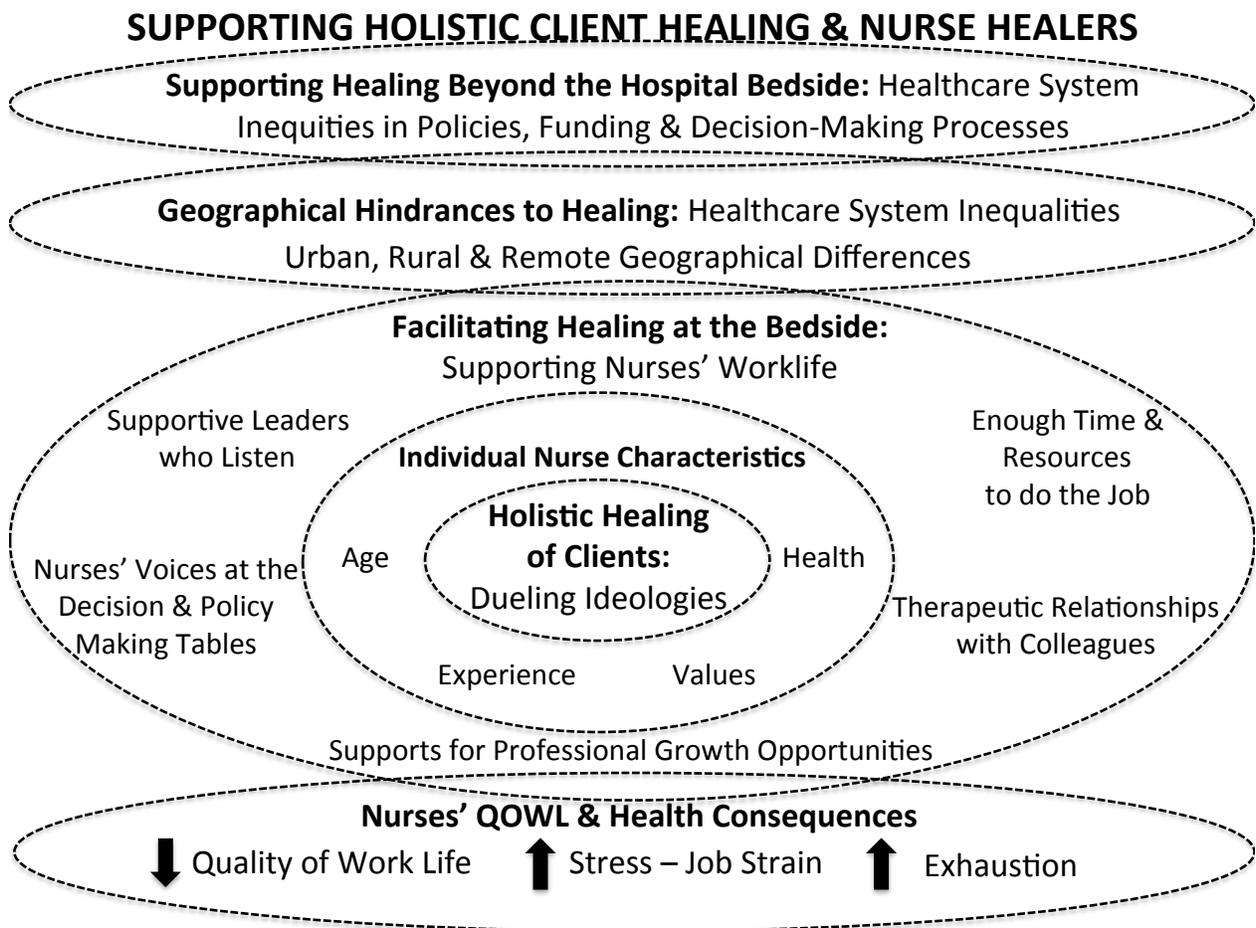
The majority of participants were staff nurses with a few nurse leaders. All of the nurse leaders were nurses and will only be identified as nurse leaders without identifying the specific geographic location to protect their anonymity in any of the excerpts included in these findings. Excerpts from nurses working in large urban settings will be identified as LU RN, and small urban as SU RN. A small number of nurses were interviewed from the rural and remote settings; therefore, participants' excerpts were combined and will be identified as Rural and Remote RN instead of two distinct geographical areas to protect the participants' anonymity.

### **Supporting Holistic Client Healing and Nurse Healers**

The overarching theme summarizing the findings was revealed to be *Supporting Holistic Client Healing and Nurse Healers* that described large and small urban, rural and remote registered nurses and nurse leaders' (N=17) evaluation of Northeastern Ontario nurses' QOWL and stress. As depicted in Figure 2, this central theme is supported by five key themes and five sub-themes: Theme 1) *Holistic Healing of Clients: Dueling Ideologies*, Theme 2) *Facilitating*

*Healing at the Bedside: Supporting Nurses Work Life* that includes five sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses’ Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*; Theme 3) *Geographical Hindrances to Healing: Healthcare System Inequalities*, Theme 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequalities in Policies, Funding and Decision-Making Processes* that together, provided an understanding of nurses’ and nurse leaders’ description of Theme 5)

Figure 2: *Supporting Holistic Client Healing and Nurse Healers Model*



*Nurses' QOWL and Health Consequences*. The oval dashed shape versus a solid line, encompassing each of the key themes, denotes the fluidity and interconnectedness of the themes. Several authors have identified that individual factors such as age, gender, education, and work and life experiences can affect nurses' perceptions of their QOWL and work environment (RNAO, 2008). Although Figure 2 depicts *Individual Nurse Characteristics* as intermingling between Theme 1 and 2, the individual personal factors and demographic characteristics of each nurse such as their age, health, education, and experience are central factors that are ubiquitous throughout each theme, and need to be considered. These key personal and demographic factors of the participants were previously presented in Chapter 4.

Theme 1) *Holistic Healing of Clients: Dueling Ideologies* is central and demonstrates how clients interact with nurses in the health care system, and speaks to nurses' concern, professional and ethical responsibilities, and challenges to provide quality holistic patient care. Theme 2) *Facilitating Healing at the Bedside: Supporting Nurses' Work Life* includes five sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses' Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*. The five sub-themes describe the supports shared by nurses as required to allow them to provide quality holistic patient care congruent with nurses' professional standards and ethical values. Theme 3) *Geographical Hindrances to Healing: Healthcare System Inequalities*, describes inequalities in the healthcare system that consider some of the geographical differences associated with large and small urban, rural, and remote Northeastern Ontario acute care hospital settings. Theme 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding and Decision-Making Processes* conveys some of the healthcare system policies,

funding decisions, and decision-making processes that impact the quality of holistic care that nurses are able to provide at the bedside. These themes combined assist in understanding Theme 5 that depicts urban, rural, and remote *Nurses' QOWL and Health Consequences*.

### **Theme 1: Holistic Healing of Clients: Dueling Ideologies**

Several nurses clearly spoke to the need to provide holistic quality patient care based on humanistic ideologies espoused by the nursing profession; however, nurses had difficulty reconciling this ideology with neo-liberal cost effectiveness and cost efficient ideologies dominant within the hospital environment. Nurses' suggested cost cutting and reduced budgets impacted nurse leaders ability to provide adequate supports and resources nurses needed to alleviate their heavy workloads that prevented nurses from being able to spend quality time with patients to address the holistic needs of the individual. One nurse in a large urban location found this situation to create stress for them as described in the following excerpt.

LU RN 27: So, we get the sickest of the sick. There are many competing demands. I wish I could be in four places at once, but I can't. So, when I have to prioritize, that's very stressful because this patient needs as much attention as this patient; they are both equally sick, but I have to attend to patient. ... Then, there's just issues and issues and issues arising from that because I'm either not able to provide timely care just in terms of physical tasks or sometimes it's emotional and psychological needs that sort of fall on the lowest priority because I just cannot manage all of the physical tasks. It's unfortunate, you know, as individuals, we are holistic beings and we have more than just our physical needs to us. I find that's hard to meet, the psychological well-being. I'm not even talking about spiritual needs... you feel like I really didn't spend enough time with this person. We had a really good rapport and I feel that I had more to offer, but two of my other bells were ringing all day long and that's what I was busy doing. That person died two days later and I feel that I didn't do something that I should have done. That, I think, is most traumatizing...

This same nurse spoke about being able to practice nursing congruent with her ideals and how important the therapeutic relationship is in the holistic healing of patients instead of attending only to the physical concerns. This was confirmed for her "When you go into the room and you

say two sentences and the patient's response is, 'you love your job', you know that you're practicing nursing the way you were taught with the ideals in your mind" (LU RN 27)

Nurses working in rural and remote locations indicated several non-nursing tasks prevented them from spending time with patients and described, "you're not there for your patient" (Rural and Remote RN 177). Nurses questioned the quality of care that could be provided when working short staffed. Concerns for patients not receiving the care they need and potential negative outcomes for patients contributed to "a lot of sleepless nights" (SU RN 53) for one nurse working in a small urban setting. Nurses recognized adequate staffing would not only allow for quality holistic patient care, it could prevent negative health outcomes for nurses that included injuries, stress and burnout.

SU RN 53: when you're staffed, there's less likelihood that you're going to get hurt. ...whereas, if you're understaffed, you kind of feel torn because you're prioritizing your time toward your sickest patients. While your other patients are okay, they are not getting what they need or deserve....

Nurses felt frustrated with the inability to complete necessary patient care duties. Nurse alerts were one way nurses could address workload concerns and obtain support and assistance in completing patient care activities. One small urban nurse also recognized the need for adequate staffing to avoid negative patient health outcomes or death, and the fact that nurses are legally bound to provide competent and safe care with their "licence that's on the line".

SU RN 33: ... I said to my manager, 'What happens if somebody dies because of the shortness on the floor?', and he goes, 'they are dead anyway so press the code blue button'. You know, that's my licence that's on the line! like I should not have to worry about something happening and then brought to court because we were so short staffed that I can't keep track of stuff...

Nurses shared that nurses who got ill related to the nature of nurses' work that involves being exposed to patients who are ill. Sick time for nurses was perceived as unavoidable and that increased the workload of nurses who were left working on the unit. The lack of replacing nursing

staff by administration, when nurses called in sick, meant nurses worked short staffed. This was perceived as a cost saving strategy that created heavier workloads, missing break times, and interfered with their ability to provide quality holistic care. The cost effectiveness and cost efficiency strategies that hospitals needed to implement conflicted with nurses' focus on the provision of quality holistic care, as described in the following excerpt of a nurse in a small urban setting

SU RN 65: Currently they are trying to avoid overtime at all costs...if we get a sick call we are not allowed to staff it without management's permission. ...I find that we are working short more often. Then, that's stressful because you're taking on a heavier load and miss your breaks. ...it's happening more often lately because it's just recently that they've started not staffing the sick calls.

In summary, nurses' focus on the holistic care for the healing of their clients was evident in their accounts across all sites. Nurses described a variety of factors that impacted their ability to take time to provide quality holistic patient care, which created stress for most nurses.

## **Theme 2: Facilitating Healing at the Bedside: Nursing Work Life Supports**

The key theme, *Facilitating Healing at the Bedside: Supporting Nurses' Work Life* includes five sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses' Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*. Nurses overwhelmingly spoke to the need to have a supportive working environment that provided nurses' with the ability to maintain their professional and ethical standards, and to ensure that their clients received competent, safe, quality holistic care to facilitate the clients' healing process.

**Sub-Theme 2.a: Enough Time and Resources to do the Job.** Nurses from all sites clearly indicated *Enough Time and Resources to do the Job*, as a key sub-theme that included:

nursing and non-nursing staffing, access to diagnostic services, and access to functioning equipment as necessary to support nurses' work of facilitating clients healing at the bedside.

Nurses described experiencing stress when there was a lack of senior nursing staff working on the same shift as the go to person for guidance, as demonstrated in the following excerpt of a nurse working in a small urban setting.

SU RN 65: I've been working for about three years, but my confidence is still building, so I've still got a lot of questions or things that often come up that I don't know the answer to, so it might take me longer to deal with a certain situation. That kind of stresses me out especially if there isn't enough staff on the floor or if there's just not enough senior staff because we have several newer staff, as well.

Negative consequences such as burnout and horizontal violence for nurses who were attributed to constantly working short-staffed as suggested by one nurse from a large urban setting where "You see nurses get stressed and reach that point where they attack each other" (LU RN 224).

Nurses working at all sites shared similar experiences of staffing issues that increased their workloads. One nurse in a large urban setting suggested non-nursing staffing could alleviate some of the nurses' workload such as having ward clerks available to work on the night shifts.

Nurses working in rural and remote locations shared challenges related to the lack of support staff to do some of the non-nursing tasks that affected the amount of time nurses could spend with their patients.

Several nurses working in the small urban, rural and remote locations shared challenges related to the lack of diagnostic equipment, like MRI and CT scanners, and services that necessitated the frequent transportation of patients to larger urban centres for treatment. These transfers required patients to be accompanied by an RN, which left the hospital site short staffed. Unforeseen circumstances, such as poor weather conditions, could delay the transportation of

patients out of an area for urgent care, and could also prevent nurses from being able to return back to the hospital to work their next shift, as demonstrated in the following excerpt.

Rural and Remote RN 166: We also have a lot of sort of what they call treat and returns. We don't have a CT scanner on site here, so we do a lot of our imaging through (name of hospital) and often Ornge will require one of our RNs to accompany a patient. But, sometimes, because of transportation issues, flight delays, weather, what have you, a patient may be stuck in (name of location) for 36 hours or more with that same nurse providing care during the entire duration of time they're gone, so you'll have sometimes where people are out 30-40 hours providing care for one person, come back, get eight hours of sleep and then come back in for a shift. So, you know, these situations are substantial causes of burnout.

Nurses working in rural and remote settings also implied that a lot of knowledge was required to work in these types of settings. Not having adequate resources and supports were viewed as potentially putting the nurses' "licence in jeopardy" (Rural & Remote RN 166).

Nurses expressed challenges related to not having adequate supplies and functioning equipment at the bedside in urban locations. This meant that nurses were spending time searching for the equipment or supplies they needed to do their work, which affected the amount of time nurses could spend with their patients, as suggested by one nurse working in a large urban setting.

LU RN 27: Having the tools we need to work with would be incredibly helpful. Just going into the room and knowing that my thermometer and blood pressure cuff are there and I don't need to go through seven different rooms to find a vitals cart would be reassuring.

**Sub-Theme 2.b: Supportive Leaders who Listen.** The sub-theme Supportive Leaders who Listen speaks to nurse perceptions of nurse leaders as being supportive, and their ability to listen to nurses' concerns. Nurses shared mixed perceptions related to leaders. Nurses discussed the importance of leaders being open and able to address nurses' concerns. One nurse working in a small urban setting thought her "manager is very open and she's awesome....She doesn't just hear your issues, but she actually addresses them (SU RN 53). Nurse leaders emphasized the need for leaders to care, provide support and guidance for nurses who may not have a lot of experience.

Managing a unit involved ensuring nurses were able to function to provide care to their patients, as described in the following excerpt.

NL RN 02: I think you sit in the role of being a registered nurse and the expectation is that you're going to function. Well, you know what, sometimes you just need somebody behind you that is supporting you.

The majority of nurses across all sites found leaders to have heavy workloads that prevented them from being available to listen or address nurses' concerns. Nurse leaders across all sites had a large span of control being responsible for several areas. Nurse leaders in small urban, rural and remote locations typically managed more than two departments that could include being responsible for "nursing, pharmacy, occupational therapy, physio, pastoral care, OTN, oncology, dialysis, diagnostic imaging, so it's all the clinical services (NL RN 04).

Some nurses perceived the inability of leaders to address nurses' concerns, or pay for overtime as a lack of support or respect of the work nurses do ,as one nurse depicted "They say they respect our opinions and stuff, but they never actually listen to anything. We are short staffed all the time and make our complaints, but now they are refusing to pay any overtime" (SU RN 33) Other nurses observed a range of discrepancies of what nurses working on the frontline stated they needed versus what the leaders perceived was necessary. One nurse working in a large urban centre suggested there were discrepancies "between management and frontline. The further up the hierarchy you get, in most cases, the higher the discrepancy" (LU RN 224). One example included a time when a senior administrator met with senior nurses and suggested to senior nurses who had "bled for the hospital for years" that they did not need extra staff or resources (LU RN 224).

**Sub-Theme 2.c: Nurses' Voices at the Decision and Policy Making Tables.** Nurses and nurse leaders shared their perceptions related to the opportunities that nurses' have for participation and involvement in the organizations' decision-making processes. Nurse leaders

identified several committees and processes where frontline nurses could and did participate in discussing organizational and practice concerns.

NL RN 01...I think they have more influence than they know or appreciate. That sounds like something typical from an administrative point of view, but most of the policies that are directly impacting nurses at the unit level are pretty much developed in collaboration with their unit managers, patient care teams and those things go to a program-level account, so they are not decided on at a high level. So, they would have the opportunity to make conscious decisions there...

Nurses and nurse leaders discussed specific directives and guidelines that were required by the Local Health Integration Network to be implemented within the hospital. Nurses were consulted and asked to assist in the planning for the implementation of the Local Health Integrated Networks required programs and evaluations. Nurses from all sites expressed a desire to participate on committees. Challenges arose when meetings were held on days when nurses had their scheduled days off. Meetings were also scheduled during times that were convenient for managers and inconvenient for those who had work rotation shifts such as the night shift. One nurse stated that nurses are not paid when attending meetings on their days off and suggested that managers might consider scheduling meetings on weekends instead of business days and hours of Monday to Friday from 9 am to 5 pm.

LU RN 224: Any time you ask a nurse to come in on their time off, they're going to be hesitant. They are going to be grumbling and groaning and because we work when we're at work. It's not like we're sitting around twiddling our thumbs...

Some nurses did not believe that participation in committees was effective and choose to not be involved since recommendations from these committees were not perceived to be considered in the final decision-making processes, as suggested by one nurse working in a rural and remote setting.

Rural and Remote RN 166: So, I don't participate in committees. They have a committee for pretty much anything that you can think of and if you want to get on and revive the committee in order to do something the decision ultimately ends up on the desk of (name)

or someone in senior management and they say, 'well, we're not in favour of this'. So, the committees' recommendations are never really taken into account...

**Sub-Theme 2.d: Supports for Professional Growth Opportunities.** This sub-theme relates to nurses' need for continuing educational opportunities to maintain competency and additional skills for those working in rural and remote locations. Access to educational opportunities and resources were needed to support nurses and new graduate nurses in their practice, and to help in the retention of nurses. This sub-theme also speaks to the necessity of working with experienced nurses who are able to cope with the expectations of the work. Nurses and nurse leaders across all sites recognized the need for nurses to have access to continuing educational opportunities. Some of the challenges related to funding and budget restrictions, as conveyed in the following excerpt.

Rural and Remote RN 89: Well, I think the biggest thing is the concern over the budget often is what makes decisions--like, we used to be able to have a lot more teaching, but that's been cut down because when there's not enough money there are certain things that have to get cut and that's one of them. So, I mean, you can still take courses if you want, but they're not going to finance them sort of thing where they used to before.

Some nurses identified additional challenges of limited access to educational programs based on the distances away from larger urban centres that offered a variety of educational opportunities. One nurse leader recognized the challenges in participating in continuing educational opportunities or online courses with sporadic Internet access in rural and remote locations. This was suggested to impact nurses' stress and the retention of nurses outside of urban centres.

NL RN 05: Because we are so far north, internet access can be sporadic. It's high speed, but it's high speed-low speed and so people will get frustrated if you're trying to work on a course and it's not always reliable. Those just add to people's stress levels, so there's a number of reasons why people come and go...

A majority of nurses across all sites spoke about the increased workload with constant demands of educating, training, or mentoring new graduate nurses, and undergraduate nursing and medical

students while working their shifts. High staffing turnover rates, impacted experienced nurses' workloads with the responsibility of educating inexperienced nurses falling on their "shoulders" (Rural and Remote RN 166).

SU RN 53: Well, they haven't, but I think it all comes down to the issues of recruitment and retention because you educate these nurses to work on this floor and if the turnover rate is high, then you're constantly having to train new nurses and sometimes if your senior nurses are leaving, then the younger ones are having to train and they don't have that kind of experience to go and train for even just the simple things like all the code drills. We may not have seen some of them...

Nurses and nurse leaders suggested that some nurses working in rural and remote settings might require additional supports, like time and additional training that senior nurses may not be able to provide while they are doing their work.

**Sub-Theme 2.e: Therapeutic Relationships with Colleagues.** This sub-theme addresses relationships between nurses and physicians, and between nurses and other nurses, and allied healthcare professionals. Nurses from all sites shared about supportive relationships they experienced with physicians and colleagues. One nurse in a large urban location noted that younger doctors in training were respecting nurses as an integral part of the interdisciplinary team. Some Nurses working in remote areas described close relationships, having good team work with physicians, and feeling valued. Some nurses had negative experiences dealing with some physicians, which created stressful situations for them, as described in the excerpt from a nurse in a small urban setting.

SU RN 65: There are a few that if you call them when they don't want to be disturbed you're looking at getting into trouble. Like, not getting into trouble, but just kind of getting an ear full...

A few nurses described supportive relationships with the nurses they worked with; however, they knew of situations where colleagues on other units did not experience similar collegial relationships. Nurse leaders also recognized that conflicts could affect the relationships of nurses

with other nurses and other professionals, creating stress. Several nurses across all sites recognized that difficulties with relationships could be attributed to a variety of factors where “nurses eat their young” that included: nurses not taking their scheduled breaks, increased pressures to transfer patients from the Emergency Department (ED) to units, and the formation of cliques could make working difficult, as described in the following excerpt.

LU RN 224: When morale starts to get low like that; when you start not getting your breaks and start getting physically tired, you start being emotionally tired, nurses eat their young. So, you’ll see the older nurses start taking it out on the younger ones or the stronger nurses will start taking it out on the—I’m putting this in parentheses with my hands, “weaker” nurses.

A nurse working in a small urban location decided to transfer to a different unit to avoid the conflict and anxiety associated in having to work with a particular nurse.

In summary, nurses from across all sites spoke to the need to have supports in place for nurses to provide quality holistic care to facilitate their patients’ healing at the bedside. Inadequate resources and staff, leaders who were not able to listen and address nurses’ concerns, having limited access to educational opportunities, having barriers associated with the ability to participate on committees that decide financial issues affecting nurses’ practice, such as staffing levels, and experiences of conflicts in working relationships all impacted nurses’ QOWL and stress.

### **Theme 3: Geographical Hindrances to Healing: Healthcare System Inequalities, Urban, Rural and Remote Geographical Differences**

The key theme *Geographical Hindrances to Healing: Healthcare System Inequalities, Urban, Rural and Remote Geographical Differences* describes the geographical differences and unequal access to resources, healthcare services, and supports for northern, rural and remote populations, nurses, and allied healthcare professionals necessary for healing. Nurses and nurse

leaders from all sites suggested that unequal access had negative consequences for the health outcomes of Northern rural and remote patients, and nurses, as described by one nurse working in a large urban location.

LU RN 27: We all know that there's geography, there's weather, there's a chronic shortage of healthcare providers, so people tend to stay home until they are incredibly sick. When they get to the hospital, they are borderline dying and they need to be flown or emergently transferred—and we're the hub for the north. So, we see all of these incredibly sick patients from all over Northern Ontario and it breaks my heart to see these patients in blast crisis because he's been to the hospital in his community three times and they turned him away each time without even having done any simple blood work. Then, when his wife raised fuss saying, 'can you just do a CBC?' they did it and then they are like, 'you're going to see Dr. So-and-so in Sudbury tomorrow!' So, it just goes to say how complex their care needs can be when they are that ill and they just need their bone marrow, PIC line, chemotherapy all in one day STAT because they're going to die otherwise...

Nurses and nurse leaders from all sites articulated the types of access they had that supported or hindered the healing processes for patients. Compared with large urban centres the lack of access to resources, and diagnostic services, such as 'Computerized Axial Tomography' (CAT) scanners, effected the time patients received treatment for those living in small urban, rural and remote locations. Nurse leaders described the need for having access to CAT or Magnetic Resonance Imaging (MRI) scanners on site as these diagnostic tools have "become the standard of care" as described in the following excerpt.

NL RN 04: Everything is transferred out...what I have been trying and our surgeon has been trying to do is fight for a CAT scan. It's become the standard of care and we don't have it, so practically every patient that is admitted, our hospitalists and locums, they want everybody going for a CAT scan. It has become the standard of care...

The lack of specialized diagnostic equipment and specialists meant that patients needed to be transported out to larger centres. The transferring of patients out to larger centres to access healthcare services or speciality care areas, was described as challenging, occurring frequently, with lengthy delays that created frustration, and was costly with "tons of transfers" (Rural and Remote RN 86).

Nurses working in rural and remote locations described challenges related to transferring a patient for urgent treatment. Before patients could be transferred out, a doctor was needed to accept a patient in the larger urban centre. Nurses utilized the service Criti-Call to help find a bed and a doctor to accept transfers from rural and remote locations. This process took time and created delays for the patient to receive treatment that could hinder the healing process. Nurses working in Northern, rural and remote areas suggested that they needed to be a “Jack-of-all-trades” to care for a variety of unstable patients awaiting transfer out, versus nurses working in urban locations who “tend to be more specialized” (NL RN 04). Nurses were usually needed to accompany a patient when being transferred out, which affected the staffing levels and workload of the other nurses.

Rural and Remote RN 85: especially if your patient is pretty sick and unstable. Then, you know, you want them gone to a centre where they can provide other services and interventions that we can't because we are limited. We don't do cardiac surgery or cardiac—like, we have a lot of cardiac patients, but we don't do catheters and stuff. So, sometimes they need to go. No catheters. Like, angio cath, when you inject a dye or check for blockages. ...And sometimes they need that or need anything that we can't provide here...

Stark contrasts in the ability to access urgent treatments and physicians were perceived by nurses and nurse leaders to be dependant upon the geographical location of the hospital. Nurses in large urban centres felt supported when caring for unstable patients and having the knowledge that a critical care response team could be called and respond to an emergency situation by being at the patients' bedside in minutes. Nurses in rural and remote settings did not have physicians physically present in the hospitals 24 hours a day 7 days a week. Nurses and nurse leaders also described disruptions to the continuity of care for patients living in rural and remote areas as the shortage of physicians necessitated the utilization of visiting doctors doing locums. Visiting doctors were suggested to have or may not have the experience needed to address some of the urgent care issues for rural and remote patients, and be unaware of the limitations and lack of

access to some resources when working in a Northern, rural and remote location, as depicted in the following excerpts.

NL RN 04: ...even the docs when they come are locums. We have a lot of locums both in (name) and (name). They find it just a very different way of doing medicine because they are on their own...

NL RN 05: Right now physicians just rotate through and they're not necessarily—they don't visit the same community all the time. So, it creates some disjointed care...

Nurses and nurse leaders described several examples of unequal access to allied healthcare providers across all sites that could hinder healing processes. The geographical differences between what large urban nurses had access to versus rural and remote nurses were evident when discussing access to pharmacists, physiotherapists, respiratory therapists, and other nursing staff. Nurses working in large urban settings spoke about the positive impact of having a pharmacist available on the unit that reduced nurses' workloads.

LU RN 314: We have a pharmacist. So, that's actually been a huge workload issue that's been relieved with having a pharmacist that's at our ready-disposal. It's so awesome.

Nurses working in small urban, rural and remote locations spoke of the challenges associated with not having the same access to a pharmacist as in the urban settings.

Rural and Remote RN 166: We have a number of other issues with not having an on-site pharmacy, ...all the pharmacists are off site. ...

Similar unequal access situations were discussed by nurses related to access to physiotherapists. Nurses working in large urban centres had greater access to allied healthcare professionals than nurses working outside of the large urban centres. One urban nurse suggested access to allied healthcare professionals on weekends was needed; however, funding of these positions were limited based on budget restrictions.

LU RN 224: From a hindering perspective, like we discussed, any big issue tends to be above that manager's head. ... She's limited in her budget.

Challenges to the availability of allied healthcare professionals were compounded in rural and remote areas in the event that one individual was off sick and could not be replaced easily.

Nurse leaders described nurses working in large urban settings as having an advantage in terms of access to: support from colleagues, experts working in specialized areas, and a larger staffing pool compared to rural and remote settings. The overall demands placed on large urban healthcare centres were described as increasing the workload demands of frontline nurses. One leader described the benefits for nurses working in a large urban setting versus the disadvantages as a “double-edged sword”.

NL RN 01: ...On a cost-for-patient basis...as you compare cost of care in a large urban centre versus cost for care in some of your rural centres—I mean, at the extreme (name) and (name) any—I mean you would see that the cost per patient day is probably significantly higher in those communities than it is here. So, one of the disadvantages is, of course, if you are a nurse on the frontlines, you have that you know idea of productivity mantra that we push. I mean, we are pushing our nursing staff very heavily to be very efficient; whereas in other communities, it's like you have to be here today anyway, so whether you have one patient or five patients it just doesn't matter today. So, whereas every day when you come into a large urban centre, you know that every bed is full, you're going to have a heavy workload and you're going to be managing a churn a significant churn and monitoring that very closely. So, that's both a double-edged sword for nurses within an organization. Yeah, you got the expertise, you get the benefits of the support in the community, but also the recognition that in a large urban centre like this, because of the demands on it, we're marking your—you know, we talk about minutes in terms of getting people out in hours, making the difference in our performance so not days.

Nurses and nurse leaders from all sites articulated the importance of having access to community supports and resources for patients being discharged from the hospital. Healing is an ongoing process and without community supports patients could end up returning to the hospital to receive the care they needed. Differences between access to community services and resources varied depending upon the geographic location of the hospital. Nurse leaders described how community services that were “cut” meant increased demands on the hospital system.

One nurse leader spoke of the need to address mental health service issues in the community to prevent patients from “falling through the cracks” (NL RN 05). The importance of having mental health services to support clients when they need them, was integral in the healing journey, as described in the following excerpt.

NL RN 05 ...the patients are still falling through the cracks. One of the initiatives or part of the process that we’re developing in suicide prevention includes a hand-over process between providers. ...And, with our turnover, you see a lot of dropping of the ball as people are coming and going and we can’t have that... it’s an ongoing—healing is an ongoing journey. So, they may need clinic support and then it’ll shift to more counselling through mental health, but then they have a crisis and they have to come back into the clinic setting, so how do we help that patient move through the different stages and get the services that they need when they need it...

In summary, nurses and nurse leaders across all sites spoke of the need to access a variety of resources, healthcare services, and healthcare professionals to support the ongoing healing journey. Unequal access to these resources, services, allied professionals, and supports were attributed to the geographic location of the hospitals across Northeastern Ontario. The lack of resources and supports were viewed as interfering or hindering the healing processes of patients.

#### **Theme 4: Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding and Decision-Making Processes**

The key theme *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding, and Decision-Making Processes* conveys nurses’ and nurse leaders’ accounts of how the governmental healthcare system policies, legislation, funding decisions, and decision-making processes made beyond each hospital setting impacted nurses’ ability to provide quality holistic care to patients at the bedside. Nurse leaders from all sites clearly stated that the provincial Ministry of Health made the funding decisions for healthcare, and that the Local Health Integrated Networks were regarded as the transfer agencies.

NL RN 01: ...The Minister of Health, the government. The Local Health Integrated Networks are only transfer payment agencies. ...The Local Health Integrated Networks is told how much money to give to the hospitals. The Local Health Integrated Networks doesn't independently make a decision about how much funding they are going to give us. ...then what they do is they give it to the Local Health Integrated Networks and say, 'here, you go fund the hospitals and for (name) make sure you develop an accountability agreement and these are the performance metrics you have to hold them to, but you've got to give them this much money. You can't decide not to give them that much money...

Performance based funding models, benchmarking targets, funding freezes, and Local Health Integrated Networks targets were described as being applied equally to all hospitals across Ontario regardless of their geographic location. Nurse leaders discussed the "huge fiscal pressures" that Northern, rural and remote hospitals and community services have when expected to do more with less funds and resources (NL RN 01). Nurses and nurse leaders articulated that hospitals in the North had unique challenges versus hospitals located in Southern Ontario, and that funding formulas and decisions for Northern, rural and remote hospitals needed to consider a variety of factors including access to scarce resources and community supports, as suggested by one nurse working in a rural and remote location.

Rural and Remote RN 86: I understand the Local Health Integrated Networks idea, but the Local Health Integrated Networks idea may work for southern Ontario, not so much up here. You don't want to double up on services, but you have to realize that people from (name) cannot deliver a baby here. They have to go to (name), an hour down the road. I don't know if you've ever travelled that road in the middle of the winter, it's no fun...

Nurses suggested that the government needed to ensure that community supports for patients were in place prior to reducing or cutting other services. A new approach to address the frequent delays to transfer patients to larger centres for non-urgent care was piloted by one hospital. Although the pilot project was viewed as "wonderful" and addressed the patient care needs, it was not fiscally viable. The hospital was not able to pay for the ambulance service from their budget.

Nurses recognized and understood the fiscal pressures that nurse leaders were dealing with, and the need to be accountable for their budgets. However, nurses still needed to have their

concerns addressed, as depicted by one nurse working in a large urban centre.

LU RN 27: Because he's given a budget and the province has said your budget is not going to be increased... but on the other hand, we still have all these issues and they need to be addressed...

A common perception among nurses was how budget restrictions impacted nurses' quality of work life with less staff available to do the work. "If there's a sick call they won't replace it... well, that's not fair" (SU RN 33). Nurse leaders described the expectations placed on them by nurses to address their concerns while having to justify the funds that were spent and why targets were not met. Nurse leaders suggested that the healthcare system needed to adjust to the reality of not having increased funding and money to hire more nurses. One nurse leader suggested the design of the healthcare system could be reviewed and the role of nurses needed to be explored and potentially changed to allow for improvements.

NL RN 01: As we think about nursing and think about improving quality of work life, we have to say; what is a nursing task?, what is essential to nursing?, how are we going to re-use that limited resource better? because there isn't going to be more nurses. There is no money for more nurses. The reality of the health system is, from a policy perspective, it's not going to happen. So, as you start to talk about this whole issue, you start to delve into system design.... And how does the system design around hospitals ...have to change to enable improvements and quality of work life within the hospital? That sounds so counter-intuitive, but yet it's absolutely essential because what happens out there really impacts what happens in here...

Nurse leaders described the value of working together to address patient care issues with limited resources that could be cost effective and efficient for the healthcare system. One nurse in a large urban setting suggested new creative approaches were need to address issues as "hiring more nurses" might not resolve the underlying issues (LU RN 27).

In summary, nurses and nurse leaders described challenges associated with providing quality holistic patient care at the bedside with the funding and resource allocation decisions made beyond each hospital's geographical location. A shared perception among nurses

and nurse leaders was the need for unique policies to be developed based on the needs of each community to address the unique health challenges and needs of Northern, rural and remote populations.

### **Theme 5: Nurses' Quality of Work Life and Health Consequences**

The overarching theme of *Supporting Holistic Client Healing and Nurse Healers*, encompasses the key theme of *Nurses' QOWL, and Health Consequences*. Several factors that were identified from Phase I analysis related to nurses' health, stress and QOWL were further explained during the Phase II analysis of nurses' and nurse leader's one-on-one interviews.

#### **Nurses' Stress**

Nurses and nurse leaders spoke about the different types of working conditions that created stress for nurses working across all sites. Nurses in small urban, rural and remote locations needed experience and additional skills to deal with the acuity levels of patients in smaller hospital settings. Extra educational opportunities were needed and provided for nurses to maintain competences involving urgent patient care situations that do not occur daily as in larger urban centres. One nurse leader compared nurses working in a small hospital was similar to "working in a nursing station".

NL RN 04: I think it's like working in a nursing station up in the north, but you have a lot more access. I think our nurses have to be more generalists and the other thing too is that I think in urban settings nurses are exposed to more because of the volume. So, I mean, cardiac arrest, for instance, they happen daily at (name) I'm sure; whereas, in (name) or (name) they do not happen daily...

Nurse leaders recognized the immense pressure placed on nurses who do not have a lot of experience especially for new graduate nurses in all geographic locations; however, it was described to be "a hell of a lot of responsibility" and more challenging for new graduate nurses working in rural and remote areas (NL RN 05). Nurses across all sites described stress being

created for nurses who did not have a lot of experience. Senior nurses suggested that their workloads were increased when working with junior staff. The number of years that a nurse working in an urban centre to be considered experienced or senior was suggested to be five to six years, while a nurse working in a small urban setting for two or more years was considered a senior nurse. Being able to access the support of senior nurses for advice during a night shift was an important factor to reduce stress for nurses. These differences were attributed to high turnover rates in the smaller settings, as described in the following excerpt.

SU RN 53: I think that the difference is that because we have a high turnover rate, I find that when you go to work in Thunder Bay, you're working with very experienced nurses because when you start on you are a junior and novice nurse for quite a long time. Like, often for five to six years you are a junior nurse and then once you kind of hit that five to six year mark you are considered more a senior nurse. If you work here for one or two years you are a junior nurse.

Enough nursing staff was the predominant concern affecting all nurses. The lack of staff was perceived to increase nurses' workloads, stress, and negatively affected their health. Nurses needed to stay and worked overtime to complete the required nursing tasks. Nurses stated that their workloads were overwhelming at times. Colleagues were just as busy and unable to help or support other nurses, which left some nurses crying while at work, as demonstrated by the following excerpts.

LU RN 27: "because the work environment is just insane. People go home crying, people go home at 8:30, an hour past their shift, because they just couldn't get everything done. .... Usually it's when your assignment is hell and everybody's assignment is hell...It happened to me where I left at 9:30 in tears because I felt like I was the worst person on Earth and nobody there was no support. ...They tried to help; I did get a little bit of help, but I couldn't expect them to help me more because they were swamped themselves. It was an incredibly heavy day...

Inadequate staffing levels were compounded by the lack of critical care beds to transfer patients off the unit. This situation necessitated one nurse to stay with a critical patient while the other patients

assigned to this nurse had to wait for care. The ability to get extra staffing was described as limited related to budget restrictions that needed to be justified.

Some situations beyond nurses' control were described as increasing their workload and stress that stemmed from patients being admitted to a unit without any of the doctor's orders being processed prior to the transfer. Transferring patients to X-ray or other departments was challenging when having to rely on porters. Nurses were described as being blamed for the delays and left to explain these delays to physicians who are "losing their mind".

LU RN 314: If a test is not done, if results don't come back on time, it always feels like the nurse is the one that is left standing there ...you are left holding the bag and it's not like you can even really blame anybody for it. ...The portering is run through a central—so, you call in to the switchboard and then the switchboard calls out the porters, but depending on how many porters are on, they can be backed up and depending on what else is going on in the hospital... We don't have ready access on our floor to things like wheelchairs that we could just throw the patient in a wheelchair and send them off. We don't really have the staffing to be able to do that on our floor, too, especially on night shift when we only have five nurses for twenty-five patients and it takes two nurses to push a bed down to the OR. We really just don't have the staffing for that. ...It does create stress, for sure...

It is important to note that not all patient units have the same level of workload demands as others.

An example of this is described by one nurse working in a large urban setting who compared her workload to that of a colleague working on a psychiatric unit. The workloads on the two different units were perceived as "night and day" and "unfair".

LU RN 27: My friend is a psychiatric nurse and the way she describes her work is night and day to what my workplace is like. She says, 'at two in the afternoon we have a lul and all the nurses are at their nursing station catching up on their charting'. I'm like, 'oh my God, don't even tell me because this is so unfair' [chuckling]. We don't have that at all. Like, you just run your butt off. It's very common for me to go twelve hours or even more than that. Like, I rarely leave at 7:30. It's 7:45 or 8:00 that I leave. I can go for thirteen hours without using the bathroom once—problematic, but I love what I do. It's just the workplace that's intense. Something has to give somewhere ...

Nurses across all sites found it difficult to attend educational opportunities related to workload and staffing issues. One nurse in a rural and remote setting found not having adequate

staffing increased their workloads, necessitated overtime, and prevented nurses from taking advantage of the Ontario Telemedicine Network educational opportunities. A combination of challenges that included professional and personal isolation related to the geographic location of the hospital, inadequate staffing, increased workloads, and a lack of training, and educational opportunities were described by nurses working in a rural and remote setting as contributing to nurses' stress levels.

Rural and Remote RN 166: There are a lot of work life balance issues, that affect I think that every facility and every RN that are present here, short staffing, increased patient load, issues around inadequate training, education, you know, those all contribute to stress and difficulty....The isolation, the transportation issues, getting in and out of this place. You know, for four months of the year you can only get off the island by helicopter, which is a challenge...

### **Nurses' Exhaustion**

A common experience among all nurses was the feeling of exhaustion from work. Nurses and nurse leaders described several factors that could be related to nurses' exhaustion stemming from the physical, mental, and emotional demands of the nursing profession, the acuity level of patients, and the ability for nurses' to take their regularly scheduled breaks while working 12-hour shifts. The experience of nurses' exhaustion was suggested by one nurse leader to be from a combination of factors that included the nursing profession itself being "hard work" and the number of hours worked in one shift. Addressing nurses' fatigue and exhaustion levels are imperative as this could negatively impact the safety and health outcomes of patients.

NL RN 01: They work 12-hour shifts, in which you wouldn't have energy after working a 12-hour shift. ... I mean, nursing work is hard work. I often say to frontline nurses, I can do things to improve your work, but I can never remove the fact that nursing is hard work. Now, the question is, are nurses so fatigued that they are dangerous to patients? I don't know that I can give you that and I don't know that we have the research on that. We know that nurse fatigue is a huge issue and a patient safety issue. I go back to, I think part of it is the nursing schedule: you know shift work, long shifts, heavy workloads, demanding work in terms of both physically demanding and demanding in terms of knowledge and having the capacity to knowledge, and then the gravity of the work they do always needs to play

on nurses because that gravity of that work does create stress. I mean, people do not want to create errors. They are making quick decisions often under stressful circumstances, so that does create fatigue, I do believe, and exhaustion...

Nurses spoke about being exhausted from dealing with patients who are very ill and some who had died. The emotional and physical demands of the job leave some nurses wanting “to go home and cry” (LU RN 224). Although there are some days that are more difficult, there were more good days than bad. One nurse working in a large urban setting felt exhausted after a shift stemming from the physical demands of “running up and down the hall” along with of the emotional and mental demands of patient care (LU RN 314). Nurses shared the physical tolls that nurse’s work takes on them that included the risks of being injured.

The majority of nurses suggested that the inability to take scheduled breaks stemming from heavy workloads, inadequate staffing, and patient acuity were linked with their experiences of exhaustion. Nurses also highlighted the need to eat healthy meals while working and needing to have time to eat and rest. Nurses stated at times they ate quickly so they could get back to work.

Rural and Remote RN 86: Eating healthy is difficult to do when you’re limited. You have to bring everything with you and whatever, right. Healthy eating includes restful eating not, you know...Gorge everything because I don’t have time and I’ve got to go ...

Several nurses spoke about challenges associated with recruiting and retaining nurses on their units or in their geographical area. This situation was perceived as compounding the inability to staff units adequately. Working short staffed impacted and increased the workload of nurses. Consequentially this was perceived to affect nurses’ stress and exhaustion as described by one nurse working in a large urban setting.

LU RN 27: The other issue is people are leaving. Very often they go through their training, get their certification and then they’re gone within a year because they can’t handle the stress anymore and they go find employment elsewhere. The staff turnover is quite high...

The ability to alleviate short staffing issues that impacted nurses' exhaustion was linked to the high turnover rates and one of the key challenges that influenced the recruitment and retention of nurses. One nurse working in a rural and remote location suggested that nurses did not stay longer than a year, and recommended that more emphasis to recruit nurses versus physicians.

Rural and Remote RN 166: All of our nurses that we have on staff here are required to do obstetrics, emergency, in-patient and some of them also do dialysis and Operating Room (OR). So, it also makes it very difficult because of the mandatory training, so obstetrics has been another major road block to recruitment and retention, primarily retention... They've put a major emphasis on attracting physicians because they are having a difficult time, but nursing doesn't seem to be paramount as far as keeping people here for a longer period of time. Typically, the average life span of an employee from the outside is one year...

Constant or high turnover rates of nurses on units meant that the senior nurses needed to spend time training the younger inexperienced nurses. This added to nurses' workloads, as they also needed to manage their own patient workload assignments. Nurses also described how exhaustion affected their work life balance when they got home after working a shift. One nurse shared after work wanting to "be left alone" (LU RN 27), while a few wanted to just sit on the couch as demonstrated in the following excerpt.

LU RN 27: "I just want to relax'. I sit on the couch and I can't get my butt off the couch because I'm just so tired. My feet are throbbing and I barely have any energy to make my lunch for the next day. (LU RN 27).

Although nurse's accounts of the stressful and exhausting situations they experienced seemed overwhelming, nurses provided additional understandings of some positive benefits of their QOWL, how they coped with stress and exhaustion, and why they continued to work in the nursing profession in the different geographical locations.

### **Nurses' Quality of Work Life: Coping Strategies to Deal with Stress**

Several nurses provided insights related to the coping strategies they utilized to offset some of the work related stress and exhaustion to maintain a work-home life balance, and to improve the

quality of their work life. Support from colleagues was a common coping mechanism by nurses at all sites. Talking with colleagues helped one nurse from a small urban setting to cope with stressors, while another nurse working in a large urban setting described feeling supported by colleagues who had also “been through hell”, and the importance of teamwork (LU RN 224).

SU RN 65: Talking with co-workers, I guess. Just expressing our frustrations together is a way to vent and a way to cope...

LU RN 224: Having good unit cohesion and good teamwork really pays off because even if you're all having really bad days, if you can still joke together and laugh and sort of even cry together it helps...

Other nurses working in large and small urban settings described a combination of coping strategies that included receiving support from their spouses, talking with colleagues, engaging in physical exercise, and getting a puppy that helped them to cope with stress. A few nurses shared coping strategies they utilized that involved the need to physically and mentally separate oneself from the work environment. Being able to leave work at work was important otherwise it could “kill” them as demonstrated in the following excerpt from a nurse working in large urban settings.

LU RN 224: Outside of work you just kind of have to separate work from life like they always taught in nursing school. You kind of have to leave work at work sort of idea otherwise it just kills you. If you spend your entire night thinking about your 22-year-old that passed away, that kills you. But, at work, for me, it's a couple of deep breaths. I don't get stressed very easily, but other nurses do...

### **Why Work Here?**

Nurses and nurse leaders were asked: Why do nurses want to work at their hospital? Nurses and nurse leaders across all geographic locations shared the positive aspects of working in the nursing profession. Nurses described the satisfaction of seeing their patients discharged home or assisting them in a meaningful death as some reasons to stay a nurse.

Nurses working outside of the large urban centres shared a common perception that they liked working in a smaller hospital. They described having a sense of community, knowing the patients,

and having good relationships with their co-workers and physicians as suggested by one nurse in a small urban setting.

SU RN 53: I like working here because I find it's a smaller hospital. I find there's just a general sense of community here. Like, all the nurses pretty much know each other and all of the doctors kind of know each other and then the physicians who come in and work on this floor, they are actually GP physicians in the community...

The majority of nurses grew up and lived in the communities, and completed their nursing education in Northern Ontario. They felt they were able to do more in a smaller hospital setting versus what they could do in a larger urban centre. The importance of a schedule that allowed one nurse to spend time with a young child was a reason to stay working in her job. Having extended family members in the community who could provide childcare support was also an important factor for nurses across all sites. Nurses shared the enjoyment they experienced by living close to the wilderness and being able to participate in outdoor activities as a motivation to stay living and working in the north. Nurses working outside of urban centres described a variety of educational opportunities, travel, and monetary benefits they received from their employers for living and working in rural and remote locations, along with "just the community itself" (Rural and Remote RN 177).

Nurse leaders described a broad range of educational and professional opportunities as advantages and reasons for nurses remaining to stay working in the urban settings.

NL RN 01: They are excited about the scope of services that we provide. I think those would be the positive aspects. There are many opportunities for them to pursue as nurses because of the broad scope of services that are available. So, if they would like a change or if they want to pursue a passion that they might have, there is that opportunity for them to be enabled to do that. You know, I do think that for those people who like to be challenged with continuing knowledge growth, there is that opportunity as well. So, those are, I think, some of the exciting things and advantages of working in a large urban centre...

In summary, nurses and nurse leaders provided in-depth explanations related to the Phase I findings that described factors that impacted nurses' health, stress, exhaustion and QOWL. The

majority of nurses across all sites described: not having enough nursing and non-nursing staff, heavy workloads, not enough time to provide quality holistic patient care, the inability to take scheduled breaks, and a lack of supports and resources as linked with increasing nurses' stress, and exhaustion, and decreasing the quality of their work life. Nurses and nurse leaders also provided insight into some of the coping strategies utilized by nurses to offset the stressful and exhausting experiences related to the physical, mental, and emotional demands of work done by nurses.

### **Suggestions to Improve Nurses' QOWL**

Nurses and nurse leaders provided suggestions and recommendations to improve the quality of nurses' work life. Nurses suggested that nurse leaders and administrations need to listen to nurses' concerns, be receptive, supportive, respectful, empathetic and compassionate even if the problems cannot be fixed. Strategies to improve workload conditions included: increasing staff, lowering the number of patients nurses have in their work assignments, reviewing the roles of RNs and scope of practice for Registered Practical Nurses. Nurses desired greater involvement in the decisions made that directly affect their ability to provide quality holistic patient care

Nurses across all sites clearly articulated a perception that leaders were not listening to nurse's concerns. Nurses equated listening to their concerns as demonstrating support and caring by leaders. Leaders who showed empathy and compassion were viewed as supporting nurses' concerns, as one nurse from a large urban location suggested.

LU RN 224: I guess at the end of the day what most nurses would say is listen. Just try and listen to your frontline. I know you might not be able to anything about it, but just hearing management and directors acknowledge that yes you work your butts off and yes you are understaffed most of the time, yes you need more support in X, Y and Z realms, it goes a long way just to acknowledge it. ...Just recognition and listening to your nurses....

Support from leaders was described as necessary to affirm and acknowledge nurses' complaints as valid concerns that needed to be addressed and not "just complaining about being short" (SU RN 33). Nurses and nurse leaders conveyed the perception that leaders needed to do more than just listen to nurses' complaints. Leaders needed to actively seek solutions that addressed the "root" causes behind nurses' concerns to effect changes. Nurses also highlighted that their work is more than doing a job where you punch a time clock, as depicted by one nurse working in a large urban location.

LU RN 27: Nursing is not a job, it's a career, it's a profession. It's not a punch in-punch out type of environment. We're here because we care, so it's sort of an 'I don't care' attitude that is dangerous because if you care less or don't care enough, could that impact the care you provide? I'm afraid to say it can. So, yeah, they just need to be receptive to us and work with us to address the issues we bring up.

Nurses from all sites shared about the heavy workloads they experienced and suggested that these were linked to a lack of nursing, and non-nursing support staff. Providing non-nursing staffing support was described as one strategy that would reduce or eliminate non-nursing tasks, and lighten nurses' workload. Any assistance to lift the burden off nurses' shoulders would be welcomed. A nurse leader suggested the "easiest quick fix" to improve the quality of nurses' work life would be to lower the patient to nurse ratio with improved nursing staff levels (NL RN 02). Having a "reasonable" patient assignment with a lower patient to nurse ratio was described by several nurses as an ideal. One nurse explained that a lower patient to nurse ratio would allow her to provide quality holistic patient care, meet her own physical and personal needs while achieving the goals of the organization. Nurses suggested that they could support each other when faced with situations that could potentially jeopardize patient safety or create unsafe working conditions by completing unsafe working condition forms. These forms document unsafe conditions that would legally protect nurses from liability issues.

SU RN 33: I think just kind of stand together and keep trying to make our voice heard and do the best that we can. Cover our butts for legality wise and I encourage the new staff to fill out the workplace grievance forms for when we're short because according to #, if something happens and these forms aren't filled out, it's not identifying we were short staffed.

Some nurse leaders and nurses discussed the importance of understanding and identifying the essential roles and work of nurses in the ever-changing acute care healthcare setting. Changes to the role of nursing itself might help reduce the heavy workload of nurses. A creative suggestion involved removing transaction type duties from nurses' roles that take a lot of time, such as administration of medications to patients. One nurse leader described the focus of nursing as working with and teaching patients and not necessarily giving medication and acknowledged resistance would be met by some people when challenging and changing long-standing traditions.

NL RN 01: If I could do one thing for nurses within the context of the current work environment, is to remove from them the tasks that really don't have to be allocated to nursing. So, when I look at the essential functions of nursing around their clinical expertise, ...it's about the teaching of patients. It's about the working with the patients to plan for their transition to the next phase of their care...Removing from the accountability of things like medication administration. Why do nurses have to deliver drugs? Drugs are just a transaction. The impact of all of those drugs, nurses have to be clearly accountable for, but not to deliver every drug....

Similarly, identifying the roles of RPN's and ensuring they are able to practice at their full scope was viewed as another strategy that could reduce the workload of RNs and improve nurses' QOWL.

Nurse leaders described the necessity to be able to identify specific concerns of nurses, versus vague issues, that would enable problems to be resolved. Leaders recognized they had a responsibility to provide the necessary resources and supports for nurses that would assist in solving problems; however, nurse leaders wanted nurses to be actively involved in resolving issues by being engaged, empowered to take action, and working together.

Nurses expressed their desire to want to actively participate in the decision-making processes. Nurses often perceived that leaders made decisions affecting their ability to provide quality holistic patient care without prior consultation with frontline nurses. Nurses recommended that leaders ask them about whether or not to call in extra staff or leave nurses working short prior to making a decision of not calling in staff. One nurse recommended that the implementation of Magnet Hospital practices could potentially resolve problems that would help to improve the quality of nurses' work life such as ensuring nurses have enough equipment and resources to do their job.

LU RN 27: Research on Magnet Hospital actually shows that they ask nurses, 'what do you need?' and nurses told them, 'we need more equipment'. They got them more equipment and the quality of work life went up, so they need to be receptive to our feedback.

Nurses and nurse leaders in rural and remote locations recognized the challenges involved with geographical distances from family. One suggestion to improve the QOWL for nurses in rural and remote locations was to follow examples from the mining industry that scheduled workers on site for two weeks then off site for two weeks to provide a complete break from the working environment.

NLRN 05: And, you know, just for people's mental wellbeing, they really need opportunities to come in and out. We have isolated post allowances, so there's money that's provided to support flights out twice a year, but that's not enough for people....

Improving nurses' QOWL also involved maintaining a healthy work-life balance. Nurses and nurse leaders discussed the importance of becoming active and integrated in the community. One nurse described a strategy to improve their QOWL was to simply not work any overtime shifts. This provided more time for the nurse to focus on maintaining a work-life balance and limit potential negative outcomes for patients when the nurse is experiencing burnout.

## Summary

This chapter described the overarching theme *Supporting Holistic Client Healing and Nurse Healers* that described large and small urban, rural and remote registered nurses' and nurse leaders' (N=17) evaluation of Northeastern Ontario nurses' QOWL and stress. This central theme was supported by five key themes and five sub-themes that describe nurses' central focus on the: Theme 1) *Holistic Healing of Clients: Dueling Ideologies*, Theme 2) *Facilitating Healing at the Bedside: Supporting Nurses' Work Life* that includes five sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses' Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*; Theme 3) *Geographical Hindrances to Healing: Healthcare System Inequalities*, Theme 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding and Decision-Making Processes* that together provided an understanding of nurses' and nurse leaders' description of Theme 5) *Nurses' QOWL and Health Consequences*.

Several factors were described as impacting nurses' ability to provide quality holistic patient care that created stress. Having enough time, adequate resources and staff, access to continuing educational opportunities, participating in decision-making processes affecting nurses' work, and therapeutic relationships supported nurses' work at the bedside, to facilitate clients healing, were supports needed by nurses. Nurses working outside of urban centres conveyed many concerns with inequalities related to access to healthcare services, transportation delays of patients to urgent care centres, a lack of nursing staff, and allied healthcare professionals as hindering the healing processes of patients. Nurses and nurse leaders shared the need for equitable funding formulas, policies, and performance measurements that determine

allocation of resources, consider the unique needs of each community to address the health challenges, and support the healing processes of Northern, rural and remote populations, versus a one size fits all approach. All nurses across all sites shared why they choose to remain in nursing, and a variety of coping strategies they utilized to balance the physical, mental, emotional, demands that affected their QOWL, and increased their stress that left nurses exhausted. Nurses and nurse leaders suggested several strategies to improve the quality of their work life. A key recommended involved the need for leaders to listen to nurses' valid and credible concerns. Innovative and creative approaches were suggested to be needed to help resolve the numerous workload and staffing issues that all nurses experienced across all geographic locations.

## CHAPTER 6: DISCUSSION

The primary purpose of this mixed methods sequential explanatory study was to explore how RNs and nurse leaders evaluated urban, rural and remote RNs' QOWL, and stress in four Northeastern Ontario acute care locations. In this study, quantitative and qualitative data were collected sequentially in two separate phases. Phase I collected cross sectional data using a self-report questionnaire. Following data analysis of the quantitative data, Phase II was initiated that involved conducting one-on-one interviews with RNs and Nurse leaders (n=17). The mixing and interpretation with findings from the qualitative data analysis allowed for an in-depth understanding of the Phase I results to answer the following research questions: 1) How do RNs and nurse leaders evaluate the QOWL in some rural and remote Northeastern Ontario hospitals in medical surgical practice areas in some large and small Northeastern Ontario urban hospitals? 2) To identify if QOWL and nursing practice environment factors are associated with stress for Northeastern Ontario RNs? 3) What are the similarities and differences of RNs' evaluation of the QOWL in urban, rural and remote Northeastern Ontario hospitals?

Phase I of this study was initially guided by the Nursing Work life Model as a framework to assist in the exploration of potential factors relevant to nurses' work environments. This model was developed by Leiter and Laschinger (2006) and is based on the five domains in the Nursing Work Index-Revised (Lake, 2002). The intent of this study was not to test the direction or relationship of the domains in the Nursing Work Life Model to nurses' QOWL or health outcomes. The Nursing Work Life Model focused on the presence of supports for nurses in their immediate practice environments. During the course of this study, and the mixing of Phase II qualitative data, a new *Supporting Holistic Client Healing and Nurse Healers Model* emerged

that explicated similarities and differences impacting nurses' work environments beyond each of the hospital setting that consider their unique geographic locations, and provincial healthcare system policies and decision-making processes.

In this chapter, the findings relevant to the research questions will be discussed. The complexity of the healthcare system and the several factors that are interconnected cannot be underestimated. The formidable challenge has been to provide clarity in this discussion of the key findings while acknowledging the synergistic associations among several factors to present a holistic understanding of the factors that may impact Northeastern Ontario urban, rural and remote RNs' QOWL and stress. Therefore, this chapter has been divided into three major sections that first discuss the Phase I findings, and secondly address the overall Phase I and Phase II findings. An overview of the first two sections is provided to act as a guide through the quagmire. The final section discusses potential implications and recommendations for healthcare policy and decision-makers, nursing practice and nurse leaders, nurse educators, nurse researchers, and for future research. The limitations and strengths of this study are presented prior to the final conclusion of this dissertation.

### **Overview of the Discussion of Phase I Findings**

The first section discusses findings related to the quantitative findings that include: the descriptive findings of the sample, the response rate, and the final multiple and logistic regression models. The first section also includes a discussion of the preliminary themes stemming from the comments provided by some participants that began to explain the key findings from Phase I analysis. Preliminary themes of some similarities among urban, rural and remote RNs' evaluation of their QOWL and stress discussed include: *Enough Time and Resources to do the Job, Supportive Leaders who Listen, Exhaustion and Fatigue Among Nurses,*

and the *Holistic Healing of Clients*. Preliminary themes of the differences among urban, rural and remote nurses evaluation of their QOWL stemming from the comments include: *Nurses General Health, Physical and Psychological Violence in the Workplace, Therapeutic Relationships with Colleagues, and Supports for Professional Growth Opportunities*. A few other factors describing differences among urban, rural and remote nurses' evaluation of stress is discussed pertaining to nurses' *Work-Home Life Balance*, and *Age*. *Geographical Differences Between Northern, Urban, Rural and Remote Hospitals*, and *Healthcare System Policies* were two additional topics that were shared by the participants.

### **Overview of Phase I and Phase II Findings: Supporting Holistic Client Healing and Nurse Healers Model**

The second section presents a discussion of the overarching theme of the mixing and interpretation of the overall Phase I and Phase II findings of this study. The overarching theme, *Supporting Holistic Client Healing and Nurse Healers* is supported by several key themes. The key themes include: Theme 1) *Holistic Healing of Clients: Dueling Ideologies*, Theme 2) *Facilitating Healing at the Bedside: Supporting Nurses' Work Life* that includes five sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses' Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*; Theme 3) *Geographical Hindrances to Healing: Healthcare System Inequalities*, Theme 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding and Decision-Making Processes* that affect Theme 5) *Nurses' QOWL and Health Consequences*. Health consequences related to nurses' exhaustion was previously discussed; therefore nurses' stress and job strain, and recruitment and retention concerns are presented in this section. Four of the five sub-themes

in theme 2) *Facilitating Healing at the Bedside* were previously discussed in this chapter; therefore, only sub-theme 2.c) *Nurses Voices at the Decision and Policy Making Tables* are presented in this section. The overarching theme: *Supporting Holistic Client Healing and Nurse Healers*, is discussed relevant to the quality of nurses' practice environments, principles of the strengths-based nursing leadership, and nursing that can support nurse healers.

## **Discussion of Phase I Findings**

### **Descriptive Findings**

Phase I data collection occurred over a six-month period between April to September of 2013. At the time of this study, there were 6,104 RN employment positions in the North East Local Health Integration Network with hospitals being identified as the major employer of RNs (55.7%) (College of Nurses of Ontario-Local Health Integration Network Region Summary, 2014). The majority of RNs in this study were female (93.1%). This finding was representative as the percentage of female RNs in the North East Local Health Integration Network during 2013 was also 93.1% (College of Nurses of Ontario-Local Health Integration Network Region Summary, 2014). This is not surprising as the majority of nurses in the nursing profession have been female for several decades.

The largest proportion of the urban, rural and remote RNs in this study ranged in age between 20 to 29 years (40.4 %). This percentage is higher when compared with the age range reported for the North East Local Health Integration Network at 16% (n=5,444). The majority of RNs in this study reported working full time (74.5%). This also was higher than for the North East Local Health Integration Network (59.1%) (College of Nurses of Ontario-Local Health Integration Network Region Summary, 2014). The higher percentages for age and working status could reflect efforts to offer full time jobs to recruit and retain younger nurses to work in

Northern Ontario. This finding could also reflect hospital employers being able to access government funds to support salaries for six months, under the new graduate nurses program. These ideas are speculative, as this study did not focus on a specific age range or newly graduated nurses.

The percentages of the age ranges and employment status specific to nurses working in rural and remote Northeastern Ontario locations were not calculated in this study. At the time of data analysis it was not considered to be a key factor for the overall key findings. In a recent follow up survey, related to *Nursing Practice in Rural and Remote Canada*, researchers reported that 7.3% of Ontario nurses' work in rural and remote areas, the majority being female with 2.5% male rural nurses below the national percentages; 42% are 55 years of age and over who will likely be retiring in the next five years, and generally have less levels of education than rural nurses across Canada (Jonatansdottir, Koren, Olynick, Mix, Garraway, & MacLeod, 2017). These finding have implications for the nursing profession and educators as there is an urgent need to prepare nurses with these predicted shortages of experienced rural and remote nurses for Northern Ontario (Jonatansdottir, et al., 2017).

### **Response Rate**

The overall response rate to the Phase I questionnaire was 54.23%. According to Dillman (1991), a response rate of 50% is considered to be high for surveys. Participants were recruited through flyers posted on their clinical units advertising the study. Survey packages were distributed to RNs through a staff person acting as a research liaison at each site. Each RN was given a \$10 gift card whether they completed the survey or not in appreciation for any inconvenience potential participants may have incurred. These strategies may have contributed to

yielding the acceptable response rate; however, selection bias may be present as data was not available for the RNs who did not choose to participate.

There were a total of 173 surveys that were returned and sufficient to conduct the multiple and logical regression statistical analysis. The majority of the participants were from large and small urban locations (n=133) with a smaller representation from rural and remote locations (n=40). It is conceivable that the lower response rates in the rural and remote locations could have been increased if additional recruitment strategies were initiated such as follow up reminders about the study using post cards or email communications (Dillman, 1991). Another possibility may relate to the return of 10 gift cards to the Laurentian University ethics office two years after data collection was completed. It is unknown whether or not the surveys were given to the RNs. This may have affected the response rates from some rural and remote nurses.

### **Nurses' Evaluation of Quality of Work Life and Stress**

Findings from the final multiple and logistic regression models revealed that a few key factors were associated with how RNs evaluated both their QOWL and stress. There were also some differences that were identified between factors found to be significant in each of the QOWL and NSS final regression models. Explanations for some of the similarities and differences were revealed through themes identified from the analysis of the written comments that some of the RNs (n=53) included at the end of the Phase I questionnaire (Appendix J).

### **Similarities of Nurses' Evaluation of Quality of Work Life and Stress**

Similar factors were found to overlap in the nurses' QOWL and stress final regression models. The analysis of the nurses' comments revealed that *Enough Time and Resources to do the Job*, *Supportive Leaders Who Listen*, and *Exhaustion* were common themes impacting

nurses' QOWL and stress. *Holistic Healing of Clients* was identified as a common theme in the Phase I qualitative comments findings.

### **Enough Time and Resources to do the Job**

The theme of not having *Enough Time and Resources to do the Job* was described in terms of the types of supports needed by nurses to do their jobs that were congruent with the nursing professions standards and expectations. In this study, enough resources and adequate supports included enough nursing and non-nursing staff to get the work done. The lack of these supports was suggested as increasing nurses' workloads. The findings of nurses not having enough staff, and not enough time to complete work have been reported by other researchers (Brooks & Anderson, 2004; Khani et al., 2008; Shields & Wilkins 2006a). In the national survey exploring the health of nurses, Shields and Wilkins (2006a), found that 66.9% of nurses reported that one person could not do the assigned work, and 57.2% indicated there was not enough time to complete all the work. These results were not surprising, as previous studies conducted by several researchers, have repeatedly reported similar findings by nurses that there was inadequate staffing over many years. (Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; Tourangeau et al., 2005, 2009). Nurses shared that the lack of staffing and resources increased their workloads and contributed to their stress. The association of increased workloads to increased stress for nurses has also been consistently reported by several researchers (Baumann et al., 2006; Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2005; 2009; Wilkins et al., 2007).

### **Supportive Leaders Who Listen**

The theme *Supportive Leaders Who Listen* related to Phase I findings in the Nursing Quality and Nursing Ability subscales. Nurses highlighted the need to have supportive

supervisors who understand the work that is done by them and who were able to listen to their concerns as key factors found in the QOWL, and stress regression models. The pivotal role of leadership has been connected to positive health outcomes for nurses and healthy work environments (Bamford, Wong & Laschinger, 2013; Laschinger & Leiter, 2006; Wong, & Giallonardo, 2013). Nurses in this study commented that supervisors or front line managers were not readily available or visible on their units. Nurses also explained that supervisors had increased workloads with many tasks, and multiple units or areas that supervisors were responsible for managing. This finding is congruent with research that explored and compared the role stress of supervisors with Swedish nurses (Johanson, Sandahl, & Hasson, 2013). Findings indicated that both RNs and supervisors worked in high-demand situations. The authors concluded that support for both nurses and supervisors were needed, and that the work environment should allow for a high amount of control over the work to lessen the risks associated with stress related illnesses (Johanson et al., 2013).

The theme *Supportive Leaders who Listen* also included the leadership styles of nurses' supervisors and or managers. Nurses shared the need to have a supervisor who was present and supportive of the work nurses were doing. In one systematic review conducted with 53 studies, the leadership styles of nurse leaders were explored to outcomes for nurses and practice environments (Cummings, MacGregor, and Davey et al, 2010). Cummings et al. (2010) concluded that the best outcomes for nurses were linked with transformational and relational leaders who were not mainly focused on completing tasks. Considering the roles and workloads of frontline supervisors that allow them to spend time listening and supporting nurses may be an important factor to consider when addressing nurses' QOWL, and stress (Cummings et al., 2010).

## **Exhaustion and Fatigue Among Nurses**

Exhaustion was another key factor that was associated with nurses' QOWL and stress. Almost half of the nurses in this study reported that they had experienced exhaustion (45.1%). This finding could be attributed to several factors. For example, leadership was one factor that was associated with nurses' exhaustion when nurses reported not having enough resources and staff (Manojlovich & Laschinger, 2007). Exhaustion was suggested by the nurses in this study to be connected to their workloads, not having enough time to spend with their patients, and not having enough staff to provide care during the scheduled shift times. Further, the majority of nurses were not able to take their regularly scheduled breaks (51.4%) with most nurses reporting having to work overtime to complete their work (82.7%), which could account for some of the exhaustion nurses reported.

These findings are similar to results of a comprehensive project that was conducted by The Canadian Nurses' Association and Registered Nurses' Association of Ontario (2010) that specifically explored fatigue among nurses. The sample included 7,239 nurses who worked in a variety of settings across Canada. Nurse fatigue was described as involving physical, psychological, environmental factors and defined as "a subjective feeling of tiredness (experienced by nurses) that is physically and mentally penetrative. It ranges from tiredness to exhaustion, creating an unrelenting overall condition that interferes with individuals' physical and cognitive ability to function to their normal capacity" (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010, p. 1 & 12). There are several factors that may cause fatigue that need to be considered, for example: physiological (circadian rhythms), psychological (stress), behavioural (sleep patterns), and environmental (demands at work), as well as a combination of factors such as the level of tiredness or sleepiness and emotional

exhaustion. It was suggested that fatigue could continue even after nurses have had time off to rest (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010).

Two key factors that contributed to nurses' fatigue were workload and not having enough staff or working short staffed (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010). Nurses suggested that their workloads were heavy, stressful, and were connected to having to work overtime hours. Nurses perceived that quality care of patients is a moral and ethical responsibility that is founded in professional values and standards. This perception provided nurses with a rationale to explain why nurses needed to work overtime.

The major concern about the fatigue levels among nurses relates to the consequences on their health, and the potential adverse effects on the health and safety of patients. Depending upon the level of fatigue, nurses' judgement, decision-making, and problem solving ability can be affected (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010). It is alarming to note that 95% of nurses did not think that their experiences of exhaustion or fatigue led to their patients safety being compromised by the care they provided. Additional factors of fatigue included increased expectations from patients and families, increased patient acuity, and having to handle or deal with unexpected emergencies (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010).

Several recommendations were developed based on this project. It is beyond the scope of this discussion to explore all of the recommendations; however, one key recommendation for organizations was the need to ensure that organizational policies and procedures that deal with fatigue are developed (Canadian Nurses' Association & Registered Nurses' Association of Ontario O, 2010). It would be important to make sure that prior to and post graduation education of nurses include information and discussions surrounding nurse fatigue, and strategies to

prevent fatigue. It was suggested that nurse's need to be aware and understand the term 'hero culture' as it could be useful in the prevention of exhaustion. "The hero culture means that the nurse is always responsible for making sure everything goes smoothly for the patient, the family and the other health-care professionals, while leaving herself/himself last on the list" (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010, p. 20). Nurses need to understand self-care as an important and healthy approach to address potential unhealthy behaviours.

### **Holistic Healing of Clients**

One common theme identified concerns related to nurses' inability to provide quality holistic care for patients with potential negative effects on the healing processes of patients. These findings are consistent with several researchers who suggested that nurses' QOWL impacts patient outcomes (Aiken, Cimiotti, et al., 2011b; Aiken, Sloane, et al., 2011a; Shields & Wilkins, 2006a; Trinkoff et al., 2011; Trinkoff et al., 2007). Nurses reported concerns about the quality of patient care when their workloads were heavy (Brooks & Anderson, 2004). Heavy workloads (Duffield et al., 2011; Tourangeau et al., 2006; Tourangeau et al., 2007) combined with short staffing were linked to increased falls of patients and medication errors (Duffield et al., 2011). Increased staffing was a key factor associated with fewer patient deaths (Duffield et al., 2011; Stone et al., 2007; Tourangeau et al., 2007). Further, Tourangeau et al. (2007) found that having the appropriate amount of staffing and resources was associated with 17 less patient deaths per 1,000 discharges.

Some literature exploring the meaning of quality healthcare, from the patient's perspective, found that some of the errors that occurred were linked with a lack of communication and or poor communication skills (Kooienga & Stewart, 2011). Patients recommended that outcome

measurements for quality healthcare needed to include factors beyond quantitative morbidity and or mortality rates (Brown, 2007; Wong et al., 2008). Patients suggested that healthcare professionals needed to focus on providing holistic care that responds to the needs of the patient (Wong et al., 2008). Nurses from this study agreed that providing quality holistic care was a priority; however, with workloads described as ‘insane’ it may be difficult to achieve this ideal.

### **Differences of Nurses’ Evaluation of Quality of Work Life**

There were three factors that were found to be significant in the final QOWL multiple and logistic regression models that were not found as significant factors associated with the final NSS models, which included: nurses’ general health, and the themes *Therapeutic Relationships with Colleagues* and *Supports for Professional Growth Opportunities* from the participants Phase I comments. Logically, as the general health of nurses increased so did nurses’ QOWL. Nurses’ experiences of physical and psychological violence are also discussed in relation to their health in this section. The themes *Therapeutic Relationships with Colleagues* and *Supports for Professional Growth Opportunities* briefly explained findings from the Phase I Collegial and Nurse Quality subscales results, respectively that affected their QOWL.

### **Nurses’ General Health**

The majority of nurses in this study rated their general health status to be good (31.2%) to very good (32.4%). In the national study conducted by Shields and Wilkins (2006a), similar findings were reported with nurses stating their health to be good (31.2%). It is surprising that nurses in this study reported good to very good health status since close to 60% of the nurses reported experiencing back pain. The experience of back pain for nurses in this study was higher when compared to findings in the national study (25.1%) (Shields & Wilkins, 2006a). Nurses in this study reported that physical illness contributed to being absent from work (65.3%), while

absences related with mental health illnesses were fewer (12.7%). The percentage of physical illness for nurses in this study was higher compared with findings across Ontario with total days lost associated with illness and disability at 15.3%, and higher than the industry rate of 7.1% (Shields & Wilkins, 2006b).

Although specific data related to factors contributing to nurses' back pain, and absenteeism were not collected during the time of this study, it is well known that nursing is a physically and mentally demanding profession (Ratner & Sawatzky, 2009). It is known that nurses have "the highest rates of work-related musculoskeletal injuries of any professional group" and have been described as the working wounded when returning to work without appropriate return to work supports and programs (Mullen, Gillen, Kools, & Blanc, 2013, p. 295). Lower back pain is the most frequent musculoskeletal injury among nurses that has been associated with physical and psychological factors including lifting, workload, and fatigue (Alamgir, Cvitkovich, Yu & Yassi, 2007).

Similar to the nurses in this study, research supports the finding that nurses have the highest illness and absenteeism rates among all other occupations ( Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b). Several QOWL factors have been linked to poor general physical and poor mental health status ratings that included: low nurse autonomy, low control over the nursing practice, poor relationships with physicians, a lack of respect from supervisors and co-workers, and high role overload (Shields & Wilkins, 2006a). Healthcare system costs incurred by nurses' illness and disability, injury, absenteeism, and overtime are significant (Canadian Federation of Nurses' Unions, 2011; , 2007; Canadian Nurses' Association, 2008b; Ontario Health Quality Council, 2010; Quality Work life Quality Healthcare Collaborative, 2007) with estimates being \$711 million annually (Canadian Federation of Nurses

Unions, 2011). It is evident from the findings of this study that more must be done to improve the health outcomes of nurses working in urban, rural and remote locations across Northeastern Ontario.

### **Nurses' Health: Physical and Psychological Violence in the Workplace**

An unexpected finding linked with nurses' health was that physical and psychological violence was not found to be a significant factor in the final regression models given that the majority of the nurses in this study reported experiencing high percentages of physical (70.5%), and psychological (68.8%) violence. Nurses reported that the majority of the physical (69.9%) and psychological violence (68.8%) they experienced came from patients. A higher percentage of psychological violence came from co-workers (30.1%), then from patient families (20.2%). Previous research has supported findings of violence against nurses in the workplace. In the national study, nurses reported being physically assaulted (28%), and experiencing psychological violence by patients (48.6%), physicians (15.9%), co-workers (8.3%), and visitors (11.9%) (Shields & Wilkins, 2006a).

Violence in nurses' work environments has been a growing concern for several years. The Registered Nurses' Association of Ontario addressed the seriousness of this situation in a letter to Ontario's Premier Kathleen Wynne, requesting an amendment to *Bill 163* that would include nurses as first responders under this legislation. Nurses' work in situations that can expose them to traumatic events that can develop Post Traumatic Stress Disorders congruent with the criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders (Registered Nurses' Association of Ontario, 2016). Nurses who had to take time off work related to injuries from violent incidences, filed a reported 1,015 Workplace Safety and Insurance Claims (Registered Nurses' Association of Ontario, 2016). According to one news report by

Cribb (2015), there were over 4,000 serious incidents of workplace violence involving nurses across Canada that were reported between 2008 and 2013. In Ontario, 760 nurses reported incidences of violence between 2008 and 2013 (Cribb, 2015). This is higher than the total number of experiences of violence in other hazardous occupations involving police officers and firefighters (Cribb, 2105). Violence towards nurses can cause injuries and is known to contribute to their stress and absenteeism rates (Canadian Nurses' Association & Canadian Federation of Nurses Unions, 2014b).

Physical and psychological violence has negative consequences to nurses' health and can lead to negative outcomes for patients (Registered Nurses' Association of Ontario, 2009). Accurate statistics are difficult to obtain as the under reporting incidences of violence in the workplace among nurses is known to occur (Canadian Nurses' Association & Canadian Federation of Nurses' Unions, 2014b). Explanations for the under reporting has been suggested to include: acceptance by healthcare professions that violence is a risk and potential work hazard, a lack of organizational supports such as policies, procedures, education and training to deal with this issue, complicated reporting of incidences, and concerns that reported incidences are not dealt with in a timely manner or simply not dealt with at all (Canadian Centre for Occupational Health and Safety, 2016, as cited in Registered Nurses' Association of Ontario, 2016 – Open letter to Premier). The specific reasons that the nurses in this study have a greater percentage of physical and psychological incidents of violence are unknown and disconcerting. Nurses did not explain this finding in any of the comments. The larger percentage could be related to the definitions that were provided for nurses in the questionnaire that described the types of behaviours associated with physical and psychological violence. Another possible explanation could involve a lack of policies and procedures in nurses' work settings that deal with violence.

Employers and nursing unions may need to provide additional workplace policies, supports, and education about the increasing incidences of violence and outline specific consequences of occurrences of any violent behaviour towards nurses.

The Registered Nurses' Association of Ontario (2009) has developed a Best Practice Guideline, '*Preventing and Managing Violence in the Workplace*' with several recommendations that nurses and employers can use to develop strategies to deal with workplace violence issues. In 2010, the government legislated *Bill 168* to address workplace acts of violence and harassment for all workers. It is unknown whether or not nurses are aware of this legislation. The findings in this study clearly indicate that more needs to be done to address nurses' experiences of physical and psychological violence in the workplace.

### **Therapeutic Relationships with Colleagues**

Nurses reported that *Therapeutic Relationships with Colleagues* was a key factor that impacted their QOWL and involved good-working relationships with physicians, collaboration, and teamwork. Nurses in this study described some relationships with physicians and co-workers as challenging. Previous research has identified that poor relationships with colleagues and co-workers can have a negative impact on nurses' QOWL (Brooks & Anderson, 2004; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2009; Wilkins et al., 2007). Ensuring good working relationships is an important factor to consider in improving nurses' QOWL.

### **Supports for Professional Growth Opportunities**

Nurses in this study described factors that were needed as *Supports for Professional Growth Opportunities* in their work environments that were aligned with their professional values and standards to maintain their certificates of competency. Continuing educational programs, supporting new graduate nurses through preceptorship programs, expectations of high

standards of nursing care, a clear nursing philosophy in the work environment, and working with competent colleagues, were a few examples of what nurses suggested were important factors affecting their QOWL. Several researchers have found that nurses want and need continuing educational opportunities (Baumann et al., 2006; Brooks & Anderson, 2004; Tourangeau et al., 2009; Hunsberger et al., 2009) and that this can be an important incentive for the retention of nurses (Tourangeau et al., 2009). It is a professional expectation for nurses to maintain their knowledge and skills with ongoing education for evidence based practice. A lack of access to continuing educational opportunities impact nurses' QOWL (Baumann et al., 2006; Brooks & Anderson, 2004; Tourangeau et al., 2009; Hunsberger et al., 2009).

### **Differences of Nurses' Evaluation of Stress**

A few differences were noted in some factors found between nurses' NSS and QOWL final regression model. Decreased work-home life balance and nurses less than 34 years of age were two factors identified that were associated with increased nurses' stress. Comments by nurses also provided a few insights towards differences of the QOWL and stress of nurses working at different geographical locations.

### **Work-Home Life Balance**

A decreased work-home life balance has been suggested to impact nurses' QOWL (Brooks & Anderson, 2004; Khani et al., 2008), and the retention of nurses (Tourangeau et al., 2009). It is not known why a decreased work-home life balance impacted nurses' stress and not their QOWL as the comments did not provide explanations related to this finding. One possible explanation could be related to the utilization of the Work-Home Life Balance subscale from the Brook's Quality of Nurses' Work Life instrument (Brooks & Anderson, 2004; Khani et al., 2008). Although the overall Brooks QOWL scale had acceptable Cronbach alpha scores, the

work-home life balance subscale alpha scores were below acceptable scores. This study combined three instruments to evaluate nurses' QOWL and stress, while two previous studies used one instrument that was developed by Brooks to evaluate nurses' QOWL.

### **Age of Nurses**

The age of nurses, specifically under 34 years, was identified in the final NSS logistic regression model as contributing to higher stress scores. Although comments did not specifically refer to age, some nurses described stress was experienced among junior or newly graduated nurses. This study did not evaluate or compare the QOWL or stress among the age groups of the participants; therefore, an exact understanding of this finding is unknown. Bener's (1982), seminal article *From Novice to Expert* may provide a plausible explanation. Bener applied Dreyfus's model of five stages of the acquisition of skills to nurses. The five stages include novice, advanced beginner, competent, proficient and expert. Obtaining a level of being competent requires a minimum of two to three years of working in the nursing profession (Bener, 1982). The majority of nurses in this study had been an RN between one and four years. Another potential explanation for increased stress may relate to the need for younger nurses to have adequate orientation, and enough senior nurses working with them as mentors or preceptors to assist them in transitioning to a competent level.

Younger nurses in this study stated they felt less stress when they worked with senior nurses that they could go to for advice when uncertain about a patient care situation. Depending upon a variety of factors, younger nurses may need additional supports to transition to a competent level. As one nurse in a small urban location stated: "SU RN 47: "Staff who have worked for two years are considered as senior and sometimes not given enough support" (SU RN 47). This idea is supported by a qualitative case study in Australia. Lea and Cruickshank (2015)

found that nursing practice in rural settings was affected by several factors including having enough staff and the staff-mix. The authors concluded that new graduates working in rural and remote locations would benefit from several learning and support strategies to assist with their transition (Lea & Cruickshank, 2015).

### **Geographical Differences Between Northern, Urban, Rural and Remote Hospitals**

Some nurses who were working in rural and remote locations during the time of the study shared comments that provided some explanation of differences surrounding geographical differences between hospital locations and healthcare system policies that impacted their QOWL and stress. Continuing educational opportunities, the lack of access to healthcare supports and services that are available in urban settings were shared by a majority of nurses working in rural and remote areas as factors increasing their stress. Rural and remote nurses described their work as being a “jack of all trades” that required a wide range of skills. It is well known that the work for nurses working in rural and remote locations is different than when working in larger urban centres (Baumann et al., 2006; Hunsberger et al., 2009; Montour et al., 2009). The recognition that rural and remote nurses require a broad generalist knowledge base and continuing educational opportunities has been previously reported (Baumann et al., 2006; Hunsberger et al., 2009; Montour et al., 2009). A lack of supports unique to rural and remote nursing practice can impact their QOWL and stress, and needs to be addressed.

### **Healthcare System Policies**

Nurses in rural and remote locations shared that healthcare system policies such as performance indicators imposed by governments were applied equally across all geographic locations, regardless of the unique requirements of each community. Nurses suggested that the government needed to recognize the uniqueness of each community and adapt performance

indicators and policies to reflect the specific needs and resources for each geographical location. This finding begins to address the complexity of healthcare system policies and funding. In a report prepared by Roy Romanow (2002), the health needs of Canadians living in rural and remote locations were recognized as being varied depending upon the different communities and that “there is no one size fits all solution” (Romanow, 2002, p. 160). A more detailed discussion of this finding will be presented in the next section.

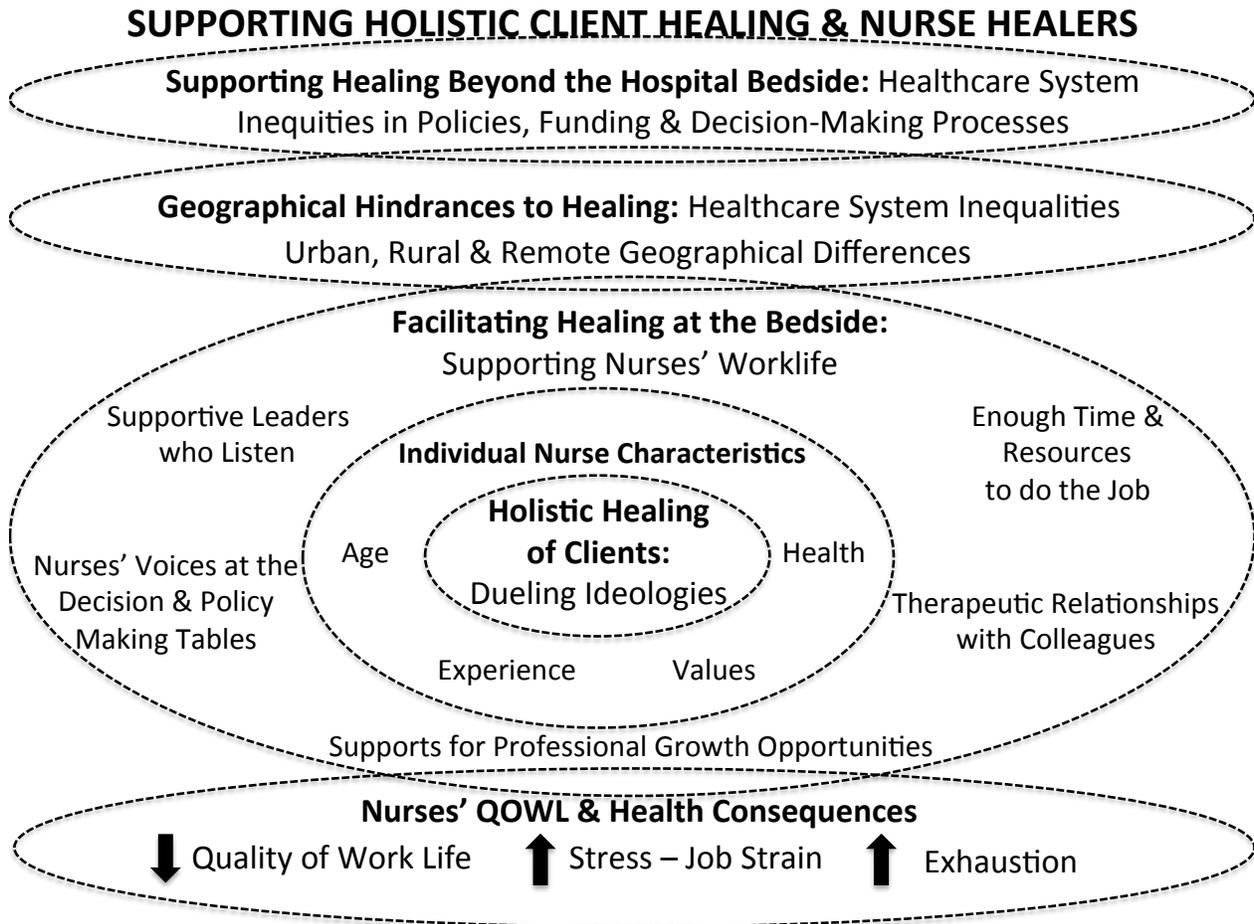
### **Phase I and Phase II Findings:**

#### **Supporting Holistic Client Healing and Nurse Healers Model**

The mixing of the quantitative results and comments from nurses allowed for a beginning understanding of the Phase I findings to answer some of the research questions. The interpretation of the Phase I and Phase II findings elucidated new knowledge related to how nurses and nurse leaders (n=17) evaluated nurses’ QOWL and stress, and the differences between the geographical locations of urban, rural, and remote nurses’ work settings. As depicted in Figure 2, *Supporting Holistic Client Healing and Nurse Healers* was revealed to be the overarching theme that summarizes the overall findings, and is supported by five key themes, and five sub-themes. The key themes include: Theme 1) *Holistic Healing of Clients: Dueling Ideologies*, Theme 2) *Facilitating Healing at the Bedside: Supporting Nurses’ Work Life* that includes five sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses’ Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*; Theme 3) *Geographical Hindrances to Healing: Healthcare System Inequalities*, Theme 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in*

*Policies, Funding and Decision-Making Processes* that together provided an understanding of nurses and nurse leaders description of Theme 5) *Nurses' QOWL and Health Consequences*. The

Figure 2: *Supporting Holistic Client Healing and Nurse Healers Model*



oval dashed shape versus a solid line, encompassing each of the key themes, denotes the fluidity and interconnectedness of the themes. Several authors have identified that individual factors such as age, gender, education, and work and life experiences can affect nurses' perceptions of their QOWL and work environment (RNAO, 2008). Although Figure 2 depicts *Individual Nurse Characteristics* as intermingling between Theme 1 and 2, the individual personal factors and demographic characteristics of each nurse such as their age, health, education, and experience are

central factors that are ubiquitous throughout each theme, and need to be considered. These key personal and demographic factors of the participants were previously presented in Chapter 4.

### **Theme 1: Holistic Healing of Clients: Dueling Ideologies**

*Holistic Healing of Clients: Dueling Ideologies* was a central theme that reflected the conflicting humanistic ideologies versus neoliberal ideologies that nurses described while attempting to provide quality holistic care, in accordance with their professional standards and ethical values, while working in a healthcare system that focused on the need for cost effectiveness and cost efficiencies (Choiniere, 2011; Heitlinger, 2003). Nurses indicated that they were just “not there for the patient” (Rural & Remote RN 177), and that the patients were the ones suffering from nurses not being able to provide quality holistic care.

This finding relates to the tensions nurses described between attending to patient needs congruent with personal and professional expectations as described by other authors. Tensions arose for nurses in this study when they recognized the need they had for more resources and staff to provide holistic care were not possible as they understood that there was no money in the budget to improve their working conditions. Nurses in this study supported the need to eliminate costs and become more efficient and shared about the introduction of the Lean approaches that involved them in their work environments across all geographical locations. Lean is a method that was developed from the automotive manufacturing sector primarily utilized for quality improvement purposes. The key principles guiding Lean focus on what the customer values and on reducing ineffective practices (Moraros, Lemstra, & Nwankwo, 2016). Recently, Lean methods have been implemented across many hospital settings in attempts to reduce inefficient and ineffective practices based on reports that suggest this method saves money; however, evidence is lacking that supports these claims (Moraros et al., 2016).

In a systematic review of 22 studies, the impact and effects of Lean methods were assessed (Moraros et al., 2016). Findings revealed that there was “a negative association with financial costs and worker satisfaction” and a lack of scientific evidence to support quality improvement and cost reduction claims from Lean methods (Moraros et al., 2016, p. 150). Moraros et al. (2016), further questioned the financial feasibility of continuing to use Lean methods and suggested that the return on investment was not sustainable. Based on the actual financial costs reported by the Province of Saskatchewan, costs for Lean over a three-year period was 86 million dollars and provided a total cost saving of \$56,934.26. Moraros et al. calculated that \$1,511 was spent on Lean for every one dollar saved by the province” with the assumption that the financial reports were correct (p. 163). This review suggested that more rigorous research is needed to determine the actual benefits and effectiveness of Lean methods for application in the healthcare sector (Moraros et al., 2016).

Nurses are part of the healing professions that facilitate the healing of clients (Clark, 2012; Dossey & Keegan, 2013; Jackson, 2004a; Levin, 2011; Lincoln & Johnson, 2009; McElligott, 2010; Zahourek, 2012). Nurses are also members of a discipline and accountable to a professional body that is governed by legal and ethical standards of care (Baumann et al., 2001; Canadian Nurses’ Association, 2002). The Canadian nursing *Code of Ethics*, developed by the Canadian Nurses’ Association (2002), stipulates that nurses are responsible to safeguard the professional ethical values that include: the provision of safe, competent, and consistent standards of quality care, the health and well being of others and nurses, respect, autonomy, confidentiality, accountability, justice, and quality practice environments (Canadian Nurses’ Association, 2002). Although nurses are bound by and espouse to professional and ethical standards of care, they do not disagree nor ignore the need to eliminate ineffective and costly

inefficiencies found within the healthcare system. However, reconciling the conflicts nurses have is an important area to address. It would be prudent to assess the return on investments costs associated with the utilization of Lean methods across Ontario's healthcare system to determine the feasibility of continuing these practices. Perhaps the funds that have been spent on Lean might need to be invested in other ways such as increasing nursing positions, and the resources needed by nurses to do their jobs that are in alignment with nurses' professional standards and expectations.

## **Theme 2: Facilitating Healing at the Bedside: Supporting Nurses' Work Life**

The key theme *Facilitating Healing at the Bedside: Supporting Nurses' work life* surrounds the *Holistic Healing of Clients* theme with a humanistic ideology while dealing with opposing or dueling cost effective and cost efficient ideologies. Several of the sub-themes identified articulate the necessary supports for nurses to be able to provide holistic quality care. The sub-themes 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Supports for Professional Growth Opportunities*, and 2.d) *Therapeutic Relationships with Colleagues* were already discussed in the Phase I findings. Sub-theme 2.e) *Nurses Voices at the Decision and Policy Making Tables*, was not mentioned during the Phase I findings and is discussed in the following section.

### **Sub-Theme 2.c: Nurses' Voices at the Decision and Policy Making Tables.**

Nurses in this study shared their desire to be involved in the decision and policy-making processes to change their working conditions that would improve the quality of holistic care nurses could provide to their patients. The majority of nurses found that meetings were scheduled during times that accommodated administrators' and managers' work schedules. This made it difficult to attend meetings when nurses were working the night shifts. Nurses stated that

when meetings were scheduled during the days they worked, heavy workloads and working short staffed, prevented them from attending, as they could not leave their units if no one was able to care for their patient assignment. Nurses perceived participation on committees were a waste of their time when the suggestions by nurses were not acted upon, or when nurses felt that their voices were not being listened to by administration. Nurses felt frustrated when they were continually told by administration that there was no money to address the key problem areas like working short staffed. The finding that there was a lack of nurses' input and ability to participate in key decisions and policies that directly impact nurses' work is not surprising as this situation has been ongoing for several years and has been reported by several researchers over many years (Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; Tourangeau et al., 2009).

Authors suggest that nurses' participation in decision and policy-making processes are influenced by social, historical, political, and economic factors. Gender issues related to the value of nurses' work has been a barrier for nurses (David, 2000; Evan, 2004; Fisher, 2009; McDonald, 2014; McIntyre, 2003; Vlassoff & Garcia Moreno, 2002; Wall, 2010). Historically, nursing has been viewed as woman's work that nursing educational programs reinforced (McDonald, 2014). Nursing jobs have largely been funded through provincial governments and are vulnerable to budgetary constraints and economic and political neoliberal ideologies (Heitlinger, 2003). Additionally, nurses do not have the financial control over the funding or resource allocation decisions that affect their work (McIntyre & McDonald, 2014).

In a qualitative study involving 63 RNs from several Canadian provinces, Choiniere (2011) conducted focus groups during the time of hospital restructuring. Findings suggested that many decisions related to nurses' work were made by non-nurses who based decisions on dominant neoliberal ideologies that were focused on cost effectiveness and business models for a

managed accountability of healthcare system expenditures. Findings indicated that nursing practice had shifted in this type of healthcare system and that nurses' health had been negatively affected. Nurses reported higher levels of patient acuity and less access to unit managers that ended up downloading administrative decision making to nurses, which in turn increased their workloads and stress. Choiniere (2011) asserted "instead of a more accountable, effective, or efficient system, this path is jeopardizing nurses' ability to provide needed care within healthy, supportive work environments, setting into motion a fundamental transformation of nursing practice" (p. 330). The importance of nurses resisting these types of accountability approaches, and the need for nurses to become more politically involved to affect changes to nurses' work environments were recommended (Choiniere, 2011).

*Theme 2: Facilitating Healing at the Bedside: Supporting Nurses' Work Life* with supporting sub-themes described urban, rural and remote nurses accounts of the supports they require to provide quality holistic patient care at the bedside. Although these sub-themes were common across all nurses' accounts, this theme is situated within the broader geographical contexts that consider the complexity of each hospital location, and the healthcare system inequalities that impacted nurses' QOWL and health consequences.

### **Theme 3: Geographical Hindrances to Healing: Healthcare System Inequalities**

*Geographical Hindrances to Healing: Healthcare System Inequalities* elucidates the understanding of some of the geographical differences between urban, rural, and remote settings that affected nurses QOWL and stress. The terms 'health inequalities' and 'health disparities' have been used interchangeably in the literature. For the purpose of this discussion, health inequality is defined as the differences found between the health status of different population

groups such as those living in urban and rural and remote locations (Provincial Health Services Authority, 2011).

In this study, nurses and nurse leaders acknowledged the existence of health inequalities for patients living in rural, and remote locations, and suggested that patients' healing processes were hindered related to the unequal access to the types of resources and supports that were located in larger acute care centres. Accounts of health inequalities among rural and remote populations compared with urban areas is not surprising as this has been reported by several researchers for many years (DesMeules et al., 2006; Elias et al., 2011; Kirby & LeBreton, 2002; Pong, Pitblado, & Irvine, 2002; Pong & Russell, 2003; Romanow, 2002; Walker et al., 2017).

Some health inequalities found in rural and remote populations have been reported to include higher rates of: hypertension, chronic conditions such as arthritis, depression and suicide, accidents, disabilities (DesMeules, et al., 2006; Health Quality Ontario, 2017), obesity, (DesMeules, et al., 2006; Elias et al., 2011; Health Quality Ontario, 2017), smoking, binge drinking, diabetes (Elias et al., 2011), and mortality (DesMeules, et al., 2006; Elias et al., 2011; Health Quality Ontario, 2017). Specific health inequalities for Northeastern Ontario populations includes: higher smoking rates, respiratory illnesses, addictions, and mental health illnesses (North East Local Health Integration Network Integrated Health Service Plan 2016-2019; North East Local Health Integration Network, 2014). In a recently released report by Health Quality Ontario (2017), residents living in Northern Ontario continue to be “more likely to have worse health, poorer access to healthcare, and die earlier than people in other parts of Ontario” (Health Quality Ontario, 2017, p. 1). The equitable access to health care is crucial to improve the health status of Indigenous, First Nation or Métis populations living in the most Northern, rural and remote areas of Ontario and across Canada with increased incidence and mortality rates of

cancer, which were reported to be the second leading cause of death for First Nation females and the third leading cause of death for First Nation males (Elias et al., 2011). The geographical location of communities in Northern Ontario was one factor reported to contribute to the health inequalities for people living in Northeastern Ontario (Health Quality Ontario, 2017). Although there are obvious barriers to accessing healthcare in rural and remote areas, there are some reported benefits for the population's health outcomes. Populations living in Northeastern Ontario rural and remote locations reported having lower stress levels and an strong to very strong sense of community belonging when compared to Ontario (North East Local Health Integration Network, 2014).

In exploring the similarities and differences of the QOWL and stress of nurses working in urban, rural, and remote geographic locations, nurses' and nurse leaders' accounts clearly identified vast differences between their work and practice settings. Although urban nurses in this study reported similar supports and resources needed to do their work, as previously described in the key theme and sub-themes for *Facilitating Healing at the Bedside*, all of these factors were intensified the further distance away nurses worked from larger urban centres. Major distinctions between urban RNs QOWL and stress compared with accounts of RNs working in rural and remote areas were linked to: their geographical locations, distance from urban centres, and weather conditions, which hindered their ability to facilitate the holistic healing of their patients. This finding is not surprising and has been reported by other researchers (DesMeules et al., 2006; Elias et al., 2011; MacLeod, Kulig, Stewart, & Pitblado, 2004; Registered Nurses' Association of Ontario, 2015; Walker et al., 2017).

Nurses and nurse leaders in this study articulated the unique characteristics and challenges that rural and remote nurses experienced that were congruent with findings from other

studies (Baumann et al., 2006; Hunsberger et al., 2009; Montour et al., 2009). Nurses in urban, and small urban areas may provide care to a specialized group of patients like medical or surgical care units. On the other hand, nurses in rural and remote areas are required to provide care to all populations, age ranges, and care units including: emergency care, labour and delivery, monitoring critically ill patients, dealing with mental health crises, while having less access to physicians, specialists, or other healthcare professionals (Baumann et al., 2006;, 2007; Hunsberger et. al., 2009; Registered Nurses' Association of Ontario, 2015). Rural and remote nurses can be tasked with an assortment of duties including filling in for physiotherapists and pharmacists especially on weekends and night shifts, which increases their workloads and stress (MacKinnon, 2014).

Several accounts from the urban nurses depicted obvious inequalities to the access to work life supports and resources compared with those being able to be accessed by rural and remote nurses. One example included access to physicians and allied healthcare professionals like a pharmacist. Nurses in the urban centre had immediate access to physicians with there being at least one physician in the hospital around the clock 24 hours a day – seven days a week (24/7), and access to a pharmacist who worked on each unit. Nurses in rural and remote locations did not have physicians physically present in the hospital 24/7, and had limited access to a pharmacist.

An additional key distinction between urban, rural and remote nurses' workloads in this study involved accompanying patients while they were being transported to urban centres to access needed resources, diagnostic equipment, and to provide specialized treatments or surgeries (MacKinnon, 2014; Montour et al., 2009; Registered Nurses' Association of Ontario, 2015). Conversely, nurses in urban locations could call for a porter to bring patients for an MRI

or CAT scan that is housed in the same building. Several nurses working in smaller urban, rural and remote locations shared the stress they experienced when having to wait for patients to be transferred to larger centres. Depending upon several factors including not having a physician to accept the patient at the urban centre and delays due to weather conditions, the transfer of a patient could end up taking between a few hours to a few days. This added stress for nurses as they indicated that the delays were a hindrance for the patients' healing process. This finding is similar to Hunsberger et al., (2009) study that found that rural and remote nurses experienced stress when access to resources were delayed or not readily available.

Rural and remote nurses shared how they needed to fulfill multiple roles compared with those of their urban counterparts. Fulfilling the multiple roles and tasks required by rural and remote nurses to become expert generalists, or a "jack of all trades" was similar to the findings reported by other authors (Baumann et al., 2006; Hunsberger et al., 2009; MacKinnon, 2014; Medves, Edge, Bisonette & Stansfield, 2015; Montour et al., 2009; Registered Nurses' Association of Ontario, 2015). To become an expert generalist requires additional and continuing education. An important professional challenge shared by all nurses in this study was the need for continuing educational opportunities regardless of their geographic location. However, the need for access to education was a dominant issue for nurses working in rural and remote locations in this study, which has been affirmed by several researchers (Baumann et al., 2006; Hunsberger et al., 2009; Hunt & Hunt, 2016; Leipert & Anderson, 2012; Mbemba, Gagnon, Paré, & Côte, 2013; Montour et al., 2009). Nurses shared that access to educational opportunities were reduced or eliminated as hospital budgets were constricted. This is especially problematic for some rural and remote nurses whose geographic remoteness in some settings, and lack of

access to educational opportunities can add to their feelings of professional isolation (DesMeules et al., 2006; Leipert & Anderson, 2012; Hunt & Hunt, 2016; MacKinnon, 2014).

The shared findings of nurses and nurse leaders illuminated and differentiated the numerous challenges and factors negatively impacting the QOWL and stress, between urban, rural and remote geographic locations that have been reported elsewhere. The lack of organizational supports (DesMeules et al., 2006; Hunt & Hunt, 2016), the lack of resources (Brooks et al., 2007; Brooks & Anderson, 2004; DesMeules et al., 2006; Tourangeau et al., 2005; 2009; Hunsberger et al., 2009; MacKinnon, 2014), inadequate staffing levels (Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; Tourangeau et al., 2005, 2009; MacKinnon, 2014), a lack of equipment, (Leipert & Anderson, 2012; Hunsberger et. al., 2009; MacKinnon, 2014) a lack of diagnostic materials (Hunsberger et. al., 2009), and heavy or unpredictable workloads (Baumann et al., 2006; Leipert & Anderson, 2012; MacKinnon, 2014; Tourangeau et al., 2005; 2009; Wilkins et al., 2007) have all been identified as impacting nurses' QOWL and stress.

Although rural and remote nurses, and nurse leaders in this study perceived nurses had greater autonomy compared to urban counterparts that increased their QOWL, many shared that increased autonomy created stress related to increased decision making responsibilities in conjunction with limited access to physicians, and resources. Some nurses felt they had not worked long enough as a nurse to obtain the level of competence to care for certain types of patients. According to MacKinnon (2014), when rural and remote nurses are faced with having to work autonomously with limited resources, they can experience moral distress. Nurses may not have a strong expert generalist knowledge and skills foundation and can be left feeling inadequate to deal with certain types of care needed by patients (Hunsberger et. al., 2009).

A large portion of the discussion related to rural and remote nurses' work and environments appear to present a skewed perception that no benefits exist in these settings. This would leave most readers wondering why nurses stay in this setting? On the contrary, nurses and nurse leaders reported several benefits and rewards related to rural and remote nursing practice. For example, nurses found it rewarding to deal with a variety of patient situations and age ranges, and that they knew their patients. Other nurses preferred living in smaller communities, living close to family members who are able to support them, being close to nature, and having a greater autonomy in nursing practice compared to urban settings. Similar rewards and benefits of rural and remote nursing practice have been affirmed (Jonatansdottir et al., 2017; MacKinnon, 2014).

Regardless of the rewards and benefits of rural and remote practice, several nurses shared that the lack of supports, resources, and educational opportunities left them wanting to leave the nursing profession all together. Nurses were clear that they needed to have supports, resources, and continuing educational opportunities to provide quality holistic care to their patients that facilitates rather than hinders the healing processes. Researchers have reported that the existence of organizational supports, resources and continuing education has a positive impact on nurses' QOWL, stress, and in the recruitment and retention of nurses in rural and remote areas (Hunsberger et al, 2009; Lea & Cruickshank, 2015; MacKinnon, 2014; Montour et al., 2009; Pong & Russell, 2003; Registered Nurses' Association of Ontario, 2015; Tourangeau et al., 2009). In a recent study, the majority of nurses (88%) reported that access to high speed internet, teleconferencing (77%), and videoconferencing (61%). On average, electronic resources were accessed for educational purposes on a monthly basis by 75% of RNs compared to 50% face-to-face resources (MacLeod, Stewart, Kulig, Olynick et al., 2017b). Additional factors influencing

Northeastern Ontario nurses' retention included: professional development opportunities offered where nurses worked, not having to work more than one hour of overtime in a week, and the Northeastern Ontario lifestyle (Nowrouzi, Rukholm, Larivière, Carter, Koren, & Mian, 2015).

The theme 3) *Geographical Hindrances to Healing: Healthcare System Inequalities* described the complexity of each hospital location. Inequalities in the access to a variety of supports and resources impacted the QOWL and stress of nurses between the different geographical locations. This theme is situated in the broader theme of 4) *Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding, and Decision Making Processes*.

#### **Theme 4: Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding & Decision-Making Processes**

*Supporting Healing Beyond the Hospital Bedside: Healthcare System Inequities in Policies, Funding, and Decision-Making Processes* conveys some policies and decisions that are made beyond the regional hospital boundaries, which affects the quality of holistic care that nurses were able to provide at the bedside. The terms 'health inequities' and 'health inequalities' are different and need to be distinguished. 'Health inequities' for the purpose of this discussion is defined as the "differences in health status among groups that are deemed to be unfair, unjust, or preventable, as well as socially produced and systematic in their distribution across the population" (Commission on Social Determinants of Health, 2007, as cited in Provincial Health Services Authority, 2011, p. 7).

A variety of factors have been identified to contribute to health inequities for populations living in Northern rural and remote areas that include: discrimination and discriminatory policies toward Indigenous, and Francophone peoples, factors associated with the social determinants of

health, the geographical location of some rural and remote communities that make access to healthcare providers challenging, such as those only accessible by plane, and problems with the healthcare system experienced by healthcare professionals (Health Quality Ontario, 2017). There have been concerted efforts and enhanced healthcare services that have been implemented to address health inequities including: Tele-health technologies, Telemedicine, provincial travel grants for people living in underserved areas, mobile healthcare services that travel to a patient's community, improved language services, community supports such as personal support workers for home care needs of patients, recruitment of healthcare professionals, and the education of Northern rural and remote residents living in Northern Ontario communities to become doctors, nurses, and a variety of healthcare professionals (Health Quality Ontario, 2017). Regardless of the ongoing efforts to address health inequities, these inequities continue (Health Quality Ontario, 2017). Inequities in the healthcare system policies and decisions made external from hospital sites directly impact rural and remote populations. Nurses suggested that these inequities affected the care they provide to facilitate patients' healing at the bedside and affects their QOWL and health.

It is important to understand how healthcare system policies are created and how they govern the actions of hospitals located in the North East Local Integrated Health Integration Network. According to Burke and Silver (2003), all policies stem from values and determine actions that are needed to achieve goals. The values and goals governing the healthcare policies and practices in Ontario are contained in the *Excellent Care for All Act* that was passed into legislation in 2010. The vision for Ontario's healthcare system is to deliver high quality care. Achieving high quality care means meeting the goals in the *Excellent Care for All Act* that

includes being “accessible, appropriate, effective, efficient, equitable, integrated, patient-centred, population health focused, and safe” (Ontario Legislative Assembly, 2010, p.3).

Nurses and nurse leaders in this study clearly articulated that the Provincial government was responsible for formulating and implementing healthcare policies, and making decisions related to the amount of money that would be allocated to hospitals. Other authors acknowledged this structure noting that although hospitals in Ontario are private organizations, they are publically funded institutions that are subject to and fiscally accountable to Provincial governments who provide them with money (Kromm, Baker, Wodchis, & Deber, 2014). Changes to the decision-making bodies responsible for allocating healthcare monies from local community led *District Health Councils* were enacted in 2006 with the passing of the *Local Health System Integration Act*. Nurse leaders were fully cognizant that the main responsibilities of the Local Integrated Health Integration Network’s were to transfer the funds from the government to each hospital and ensure that the accountability agreements, and performance measurements were in place. The main roles of the Local Integrated Health Integration Networks are to manage the mandatory performance agreements between hospitals and the government, and meet performance indicators or targets in order to receive healthcare funding (Kromm et al, 2014).

Nurses and nurse leaders were not opposed to the need for accountability and a fiscally responsible healthcare system, as they were cognizant of the escalating costs associated with healthcare. Recent reports emphasized and supported the need to contain healthcare spending costs. The *National Health Expenditures Trends, 1975 to 2014*, reported that spending on health in Canada was projected to reach a staggering amount of \$214.9 billion in 2014, with \$63.5 billion spent on hospitals alone (Canadian Institute for Health Information, 2014, p. 14). Over

60% of the costs for hospitals were spent on the payroll for employees (Canadian Institute for Health Information, 2014). The responsibility of accounting for spending costs incurred by the hospitals was included as part of the roles and responsibilities of the nurse leaders.

Nurse leaders discussed needing to submit numerous regular reports to justify where monies were spent. If they did not meet targets, they would have “to write a report as to why you didn’t meet the targets” (Nurse Leader RN 03) which could potentially impact the amount of funding they would receive in future budget allocations (Kromm et al., 2014). Nurse leaders reported that the time spent on completing reports had increased proportionately to the increased number of reports they needed to submit to different government bodies. Findings from an examination of the accountability documents utilized in Ontario conducted by Kromm et al. (2014), support nurse leaders observations and revealed that there was a significant increase in the overall number of performance metrics hospitals needed to be collected for their accountability agreements between 2005 and 2014. There was an increase in the number of reports for the quality dimension and patient safety indicators needing to be submitted between 2011 and 2014. The authors also found that “the accountability requirements are misaligned at the different levels (government, regional and acute care hospital levels) (Kromm et al., 2014, p. 26), which led to some information being duplicated. Although there were increases in the number of reports, these were considered to be moderate compared with the number of reports that other countries needed to submit such as the United Kingdom and the United States of America (Kromm et al., 2014).

Nurses and nurse leaders suggested that performance based funding models and quality based Provincial policies were being applied equally to all hospitals across Ontario. This finding is interesting as the balancing of annual hospitals budgets was the only required indicator that

was applied equally across all hospital settings (Kromm et al., 2014). Nurse leaders identified several difficulties related to meeting a balanced budget target that was perceived as unrealistic, especially for Northern, rural and remote locations. This finding is supported as the provision of cost effective healthcare services to Northern, rural and remote populations has been challenging for Local Integrated Health Integration Networks (Ministry of Health & Long Term Care Rural and Northern Healthcare Report, 2010).

Nurses and nurse leaders shared that the lack of funds to support community healthcare programs had a boomerang effect on the hospitals' ability to balance their budgets. As one nurse leader articulated, rural and remote hospitals absorbed the costs of care that would be provided in the community if they were located in a larger urban centre. Community healthcare programs had undergone funding cuts and were also required to balance their budgets. Rural and remote hospitals are not in the position where they can refuse to treat patients and they need to provide healthcare services. Patients who “no longer get physio at home, staple removals at home, they no longer get simple dressings...they have to bounce back to emergency that has an impact on our organization” (Nurse Leader RN 03). The extra costs absorbed by rural and remote hospitals to provide services can have an impact on monies available to improve conditions to address nurses' QOWL and stress. Community supports need to be in place to provide care to patients transitioning out of the hospital and back home.

Nurses and nurse leaders discussed that the restricted zero to one percent funding increases to hospital budgets meant that costs needed to be reduced in other areas to meet the required target of a balanced budget. The fiscal constraints placed on the hospitals severely limited their ability to address nurses' concerns such as replacing staff when nurses called in sick, which left nurses working short staffed. As one nurse working in a rural and remote

location reiterated, “they want to save \$200,000, and by doing so, if there’s a sick call they won’t replace it” (Rural and Remote RN 33). Several nurses and nurse leaders vocalized their concerns and feelings of frustration related to the budgetary constraints that limited their ability to address the concerns of nurses. Many expressed feelings of powerlessness when they could not affect changes to their working conditions. Hunsberger et al., (2009) also found that rural nurses experienced feelings of frustration and powerlessness “ when they lacked resources, support, and influence to manage negative situations” (p. 17). Several nurses wondered who were the people responsible for making healthcare policies and funding decisions that affected their ability to provide care? and what criteria were used to create these policies and make those decisions?

It has been well known that healthcare decisions that are applied to Northern, rural and remote populations have been, and continue to be made in larger urban centres (MacKinnon, 2014). The reality is that providing healthcare in Northern, rural and remote areas costs more (Ministry of Health & Long Term Care Rural and Northern Healthcare Report, 2010). Decisions regarding the funds and resources that are allocated according to the size of populations can disadvantage Northern, rural and remote residents populations, and create health inequities (Howe, 2008b, as cited in MacKinnon, 2014). Rural and remote nurses, and nurse leaders were passionate when emphasizing the need for healthcare system policy and decision makers to consider the unique contexts of each hospitals’ geographic location that includes each communities resources, and capacity to provide healthcare when formulating and implementing one-size-fits-all policies and funding decisions. This suggestion is not new and has been affirmed by others (MacKinnon, 2014; Pong & Russell, 2003; Ministry of Health & Long Term Care Rural and Northern Healthcare Report, 2010; Romanow, 2002). Dr. Jennifer Walker, who is a Canada Research Chair in Indigenous Health at Laurentian University and a member of the Six

Nations of the Grand River, clearly summarized the sentiments of nurses and nurse leaders in this study when she suggested, “Solutions cannot simply be imported from the southern part of the province. The landscape –social and cultural as well as geographic –is totally different” (Health Quality Ontario, 2017, p. 2).

According to Gottlieb, L., Gottlieb, B., and Shamian (2012), the reforming and restructuring of the healthcare system in Ontario and across Canada to reduce costs and eliminate inefficiencies has been occurring for more than 20 years, and has contributed to the decline of Canadians’ health with less access to healthcare. Nurses and nurse leaders in this study shared similar accounts in the perception that the attributes required to achieve the goals of a high quality healthcare system, as outlined in the *Excellent Care for All Act*, have not been realized especially for hospitals located in Northern, rural and remote locations. They suggested that the focus of all healthcare funding and decision-making processes seemed to largely hinge upon two key attributes that included cost effectiveness and cost efficiencies. As one nurse leader stated, “I can understand the concept regarding the quality-based procedures and access, it works well if you have resources” (NL RN 03). The ability for rural and remote nurses to provide quality holistic care can be disadvantaged when the funding and resources are not equitable (Howie, 2008b, as cited in MacKinnon, 2014, p.326). Ultimately, according to MacKinnon (2014), funding decisions are political in nature and dependent upon the value that is given to rural and remote nurses’ work.

The healthcare system is governed by healthcare policies that directly affect the care that nurses are able to provide to patients at the bedside (Shamian, Skelton-Green, & Villeneuve et al., 2003). Inequities in healthcare system policies and decision-making processes related to funding allocation impacted the supports and resources available to all nurses and nurse leaders

in this study, which can create disadvantages especially for those working in rural and remote areas. The increasing costs of healthcare cannot be sustained. Standardizing performance indicators and fiscal accountability are important and necessary to improve the quality of healthcare delivered in the healthcare system (Kromm et al., 2014; Health Quality Ontario, 2017). On one hand, all hospitals are equally required to meet balanced based budget targets regardless of their geographical locations. This leaves hospitals needing to make trade offs to cut spending costs (Kromm et al., 2014). On the other hand, ongoing budgetary restrictions have negatively impacted nurses' QOWL, stress, and health (Gottlieb, L., et al. 2012). The question that needs to be asked is: What are the consequences and costs of these trade offs with respect to nurses' QOWL, health, and impacts to patient's health and safety outcomes?

#### **Theme 5: Nurse's QOWL, Health and Stress Consequences**

Thus far, the discussion in this chapter related to each of the key themes and sub-themes describing several interrelated factors that explicated the findings related to a lower QOWL, higher stress, and increased exhaustion among nurses in this study. A discussion related to nurses' QOWL and experiences of exhaustion have been previously presented, therefore the focus of this section will relate to nurses' health and consequences of nurses' stress.

#### **Nurses' Stress and Job Strain**

Stress is a complex phenomenon that can have positive or negative effects on a person's health. Stress was defined by Selye (1973) "as the organism's response to any stressor or demand" (as cited in O'Keefe, Brown, & Christian, 2014, p. 432). When stress is useful it is called eustress. Eustress can provide motivation for individuals to achieve goals, such as meeting a deadline to submit a PhD dissertation to one's supervisor and committee. Stress can also have negative effects and is called distress. Distress can occur when an individual begins to feel

pressure when a deadline is becoming closer, such as the date to submit the dissertation.

Occupational stress was defined by the National Institute for Occupational Safety and Health (1999) as “the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker” (O’Keefe et al., 2014, p. 432). The nurses and nurse leaders in this study described several examples of factors associated with occupational stress. Nurses described their working environment as “insane” where nurses “go home crying” (LU RN 27).

Nurses in this study shared the physical, mental and emotional demands of their profession, and factors that influenced the provision of care to their patients. Nurses in this study are not isolated in their experiences of working under stressful conditions as this is a common finding that has been identified nationally and globally as an occupational hazard that can negatively affect nurses’ health (O’Keefe et al., 2014). The similar accounts of occupational stress fitting this definition by nurses and nurse leaders in this study were undeniable.

The harmful effects of occupational stress includes a wide range of symptoms such as: physical complaints and pain, depression, anxiety, (Luca, Bellia, Bellia, Luca, & Calandra, 2014; O’Keefe et al., 2014), inability to sleep (Mullen, 2015), and can contribute to chronic illnesses such as cardiovascular disease (O’Keefe et al., 2014). These symptoms of occupational stress that the nurses and nurse leaders in this study identified, have been reported by several authors and linked to many factors including the lack of: supports, resources, and staff (Brooks et al., 2007; Brooks & Anderson, 2004; Hunsberger et al, 2009; Khani et al., 2008; Tourangeau et al., 2005, 2009). Additional factors contributing to nurses’ stress involved: not having enough time to complete work, (Brooks et al., 2007; Brooks & Anderson, 2004; Shields & Wilkins, 2006a), not having control over the workload, (Shields & Wilkins, 2006a, 2006b; Wilkins et al., 2007),

heavy workloads (Baumann et al., 2006; Brooks et al., 2007; Brooks & Anderson, 2004; Khani et al., 2008; Shields & Wilkins, 2006a, 2006b; Tourangeau et al., 2005; 2009; Wilkins et al., 2007), not having the necessary know-how or skills for the job, and violence in the workplace (O’Keefe et al., 2014).

**Job Strain.** In this study both the nurses and nurse leaders described their work as having high workload demands and limited control over the ability to influence the decisions and policies, directly affecting access to resources required to do their work. This finding is congruent with Karasek’s (1979) Job Demands-Control (JDC) theory of job strain (Kain & Jex, 2010; Karasek, 1979; Laschinger, Finegan, Shamian & Almost, 2001; Wong & Laschinger, 2015). Karasek’s JDC theory has been widely used over the years to research and to explore occupational stressors among a variety of workers (Kain & Jex, 2010; Karasek, 1979; Laschinger, Finegan, Shamian & Almost, 2001; Wong & Laschinger, 2015). Significantly higher findings of job strain have been linked to nurses working in high demand jobs with low control (Laschinger et al., 2001a, 2001b; Schmidt & Diestel, 2011; Wong & Laschinger, 2015).

According to Karasek’s JCD theory, job strain arises when individuals experience high workload demands but have low control over how their work is completed (Kain and Jex, 2010; Wong & Laschinger, 2015). Job strain involves two aspects, job demands and decision latitude (Kain and Jex, 2010; Wong & Laschinger, 2015). Job demands are described as psychological stressors occurring in the practice environment that includes:“ the amount of required work, the speed and pace needed to complete work, the volume of work performed under time pressure, the degree of attentiveness necessary, the occurrence of conflicting demands, and the frequency of work interruptions or delays” (Wong & Laschinger, 2015, p. 1825). Decision latitude relates to the workers’ control over their work and the autonomy pertaining to how the worker will

complete the work during their shift (Wong & Laschinger, 2015). How the worker completes the work involves skill discretion and decision authority (Laschinger, Finegan, Shamian & Almost, 2001; Wong & Laschinger, 2015). Skill discretion includes “whether the job involves learning new tasks or practices, is non-repetitive, supports innovation, includes diversity of duties, and develops the individual’s unique capacities” (Wong & Spence Laschinger, 2015, p. 1825). Decision authority relates to “the individual’s freedom to make decisions about his/her job and to influence work group and organizational policy (Wong & Spence Laschinger, 2015, p. 1825).

Higher risks to workers’ health with a variety of negative health outcomes stemming from workers engaged in high strain jobs with high job demands and low decision latitude have been reported (Laschinger, Finegan, Shamian & Almost, 2001; Wong & Laschinger, 2015). Consequences include: increased sick time, emotional exhaustion, burnout (Laschinger, Finegan, Shamian & Almost, 2001), mental illness, absenteeism (Wong & Laschinger, 2015), diminished work performance, and high turnover rates (Laschinger, Finegan, Shamian & Almost, 2001; Wong & Laschinger, 2015). Long-term consequences of low decision latitude have been reported to interfere with coping responses to physiological arousal stress responses. The prolonged arousal state was suggested to result in “fatigue, anxiety, depression, and physical illness” (Laschinger, Finegan, Shamian & Almost, 2001, p. 234).

Nurse leaders described several factors describing high job demands with low control over the ability to influence the decisions and policies to address quality of work life issues directly impacting front line nurses. Nurse leaders shared that they had several administrative roles and meetings that they attended on a daily basis. Several reports that are required to be completed monthly to justify expenditures with current budget constraints were the responsibility of nurse leaders. The finding that nurse leaders had a large span of control over several clinical

areas without having the ability to influence monies needed to hire more staff or to replace staff who may have called in sick for a shift were described by other authors (Shirey et al., 2010; Wong & Laschinger, 2015).

Nurses' health can be negatively affected by their QOWL, stress, and job strain. Both nurses and nurse leaders described experiencing stress and job strain related to the QOWL and practice environments. Given the findings of this study that nurses across all locations experienced a variety of occupational stressors and distress, it is a wonder why any nurse would want to continue to work in a hospital setting, especially in Northern, rural and remote areas. An outcome that appears to stem from poor quality work environments with high job demands and stress levels, has been increased turnover rates of nurses and problems recruiting, and retaining nurses to work in Northern, rural and remote areas.

### **Recruitment and Retention of Nurses**

Some nurses shared that they felt like crying at work when their workloads were unmanageable and they did not have the supports and resources they needed to provide quality holistic patient care. Instead of these nurses crawling into a corner in the hospital hallways and crying, nurses shared their desire to leave their jobs or to quit the nursing profession altogether as a means of coping with the situation. This is congruent with findings of others who acknowledge that the recruitment and retention of nurses especially in rural and remote settings has been an ongoing concern for many years (Kulig, Kilpatrick, Moffitt, & Zimmer, 2015; Pitblado, Koren, MacLeod, Place, J., Kulig, & Stewart, 2013).

There is a plethora of research pertaining to several organizational and psychosocial factors that are known to influence the recruitment and retention of nurses across many settings. Organizational supports such as professional supports with communication technologies

(MacKinnon, 2014), educational opportunities, (Hunsberger et al, 2009; Tourangeau et al., 2009), adequate orientation and supervision (Lea & Cruickshank, 2015; MacKinnon, 2014; Tourangeau et al., 2009) especially for new graduates transitioning in rural and remote areas (Lea & Cruickshank, 2015), and the ability to participate on organizational committees (Tourangeau et al., 2009) were identified as factors. Having adequate human resources, supplies and up to date equipment (Hunsberger et al, 2009; MacKinnon, 2014; Tourangeau et al., 2009), safe environments (Tourangeau et al., 2009) were additional factors identified. Psychosocial factors involved support from nurse managers, supportive relationships with colleagues, having lower stress levels (MacKinnon, 2014; Tourangeau et al., 2009), work schedules that provided nurses with a work-home life balance (MacKinnon, 2014; Tourangeau et al., 2009), manageable workloads, such as the number of patients in a nurse's assignment, less time needing to be spend on non-nursing tasks (Tourangeau et al., 2009), the general satisfaction nurses have with their work environment, (MacKinnon, 2014), and financial incentives (MacKinnon, 2014) were all factors that can impact a nurse's decision to work at and stay working in a job.

There have also been several recommendations and strategies developed over the years to address the recruitment and retention of nurses, especially in Northern, rural and remote areas to address some of the inequities. Recently, the Registered Nurses' Association of Ontario convened a Task Force and released the *Coming Together, Moving Forward: Building the Next Chapter of Ontario's Rural, Remote and Northern Nursing Workforce Report* (2015). The Task Force consisted of 23 members who represented: the provincial government Ministry of Health and Long Term Care, Northeast and Northwest Local Health Integration Ns, hospitals, Health Canada, a variety of nursing and patient centred care associations, and the education and university sectors. This group developed 23 recommendations that specifically addressed the

recruitment and retention needs of nurses working in Northern, rural and remote areas of Ontario that were consistent with the key concerns shared by nurses and nurse leaders in this study. It is not possible to discuss all of these recommendations, in great detail in this section; therefore, a summary of the key areas being addressed by them are discussed here, with a summary page of all of the recommendations included in Appendix V.

Briefly, recommendations 1, 8, and 10 address education programs to be delivered locally, adequate and extended orientation programs, and continuing education for nurses (Registered Nurses' Association of Ontario, 2015). Recommendation 2 deals with providing funds to support educational programs for Indigenous and Metis populations. Recommendations 14, and 15 discuss expanding access to education and consultation through the use of technologies such as telemedicine, with appropriate standards for the use of technology. Recommendation 9 suggests using secondments to offset staffing shortages, while recommendation 17 suggests that professional standards need to be aligned with the roles that nurses have in Northern, rural and remote areas.

Recommendations 20, to 23 address issues related to the development of policies that consider the unique contexts of Northern, rural and remote areas, and include input from local stakeholders when developing new healthcare initiatives. The impact of initiatives also needs to be evaluated with input from local stakeholders. Evidence informed decision-making was a further recommendation when developing funding models and conducting human resource planning to ensure that the healthcare needs of Northern, rural and remote populations can be met and focused on the patients' needs. The final recommendation suggested that several infrastructures such as housing and transportation also needed to be in place (Registered Nurses' Association of Ontario, 2015). After reviewing these recommendations I could imagine the

*Hallelujah Chorus* from *Handel's Messiah* being sung. Although these are all excellent recommendations that could address some of the healthcare system inequities, it is unknown how quickly some or all of these can be implemented. The hope is that at least some of these recommendations can be implemented quickly. Addressing and improving QOWL issues and concerns have been suggested to improve the retention rates of nurses (Aiken, Cimiotti, et al., 2011b), and reduce unnecessary costs for the healthcare system (Canadian Institute for Health Information, 2007a; Ontario Health Quality Council, 2010; Quality Work life Quality Healthcare Collaborative , 2007; Shields & Wilkins, 2006a, 2006b).

### **Supporting Holistic Client Healing and Nurse Healers**

Nurses and nurse leaders in this study clearly articulated that their work was focused on the *Holistic Healing of Clients* (Theme 1) based on humanistic ideologies, while *Dueling* with opposing neoliberal *ideologies*. Nurses need supports and resources to *Facilitate patient's Healing at the Bedside* (Theme 2) that included sub-themes: 2.a) *Enough Time and Resources to do the Job*, 2.b) *Supportive Leaders who Listen*, 2.c) *Nurses Voices at the Decision and Policy Making Tables*, 2.d) *Supports for Professional Growth Opportunities*, and 2.e) *Therapeutic Relationships with Colleagues*. Nurses and nurse leaders identified *Geographical Hindrances to Healing: and Healthcare System Inequalities* (Theme 3), which affected nurses' ability to facilitate healing at the bedside. Nurses and nurse leaders shared similar accounts of challenges related to healthcare system inequities in *Supporting Healing Beyond the Hospital Bedside: related to Healthcare System Inequities in Policies Funding and Decision-Making Processes* (Theme 4). Nurses and nurse leaders described *Consequences* related to *Nurse's QOWL, Health and Stress* (Theme5) that included a decreased QOWL, increased stress, and increased exhaustion. The overarching theme *Supporting Holistic Client Healing and Nurse Healers*

summarizes nurses' and nurse leaders' accounts of the overall findings of this study. The following section will discuss components of quality practice environments and supports needed by nurses to ensure holistic client healing that also supports nurse healers, and what nurses may need to support their own holistic healing processes.

### **Quality Practice Environments, Strengths-Based Nursing and Strengths-Based Nursing Leadership**

Nurses and nurse leaders in this study shared similar accounts of factors that negatively impacted nurses' QOWL and the quality of their practice environments. Ongoing budgetary restrictions meant that resolutions to working short staffed, missing their breaks, working overtime, not having adequate resources, leaders who were invisible, and feeling unsupported by managers and administrators would continue. Other authors have confirmed all of these factors. The obvious solution to improve nurses' QOWL in this study would be to suggest that all hospitals achieve Magnet status; however, accreditation is expensive in a healthcare system that needs to cut costs. What remains clear for nurses and nurse leaders in this study was that maintaining the status quo is not an option, and that changes to the healthcare system needed to happen.

Nurses and nurse leaders shared accounts suggested that the patients healthcare needs were not central in a healthcare system that is focused on cost effectiveness and cost efficiencies. As one nurse described "management does not listen to us, it always comes down to money when they say their motto is patient focused care, is it really? (SU RN 71). The role of nurses has been shifting away from the provision of quality holistic patient centred care towards a functional task oriented model of care, versus primary care models (Duffield, Roche, Diers, Catling-Paull, & Blay, 2010). Primary care models have demonstrated positive health outcomes

for patients (Duffield et al., 2010). Gottlieb, L. et al. (2012), suggested that Strengths-Based Nursing Care (SBC) and Strengths-Based Nursing Leadership would place the patients' healthcare needs at the centre, and achieve high quality patient care that is cost effective, and efficient.

### **Strengths-Based Nursing and Strengths-Based Nursing Leadership**

It has been suggested that the healthcare system needs to refocus more energy and funds away from the hospitals towards providing primary care, health promotion and prevention, and community care that encourages individuals to actively participate in self-care health practices (Gottlieb, 2012; 2013; 2014). According to Gottlieb et al., (2012), Strengths-Based Nursing Care “is about mobilizing, capitalizing and developing a person's strengths to promote health and facilitate healing” (p. 39). Strengths, assets, and resources are used proactively to deal with problems instead of using a problem-based model approach to resolve issues. Theoretically, Strengths-Based Nursing Care is patient and family centred, based on empowering patients and families, provides humanistic and holistic care, situated in context, promotes self-care and self-determination, and engages in collaborative partnerships (Gottlieb, 2012; 2013; 2014). Nursing leaders are vital to this proposed healthcare system transformation.

Strengths Based Nursing Leadership is based on a set of principles that requires the leader to have a vision situated in the broader healthcare system (Gottlieb, 2012; 2013; 2014). Characteristics of this leader include being transformational, the ability to respect the uniqueness of each person, and being able to develop and build on the strengths of people. This leader ensures the work environment is high quality, safe, and has organizational supports to empower nurses. Strengths Based Nursing Leaders also promote self-determination, match the right person with the jobs they are capable of doing with realistic workload assignments, and provide

continuing professional development and educational opportunities, appropriate supports for knowledge and skill development with mentors. Nurse leaders value mutually respectful, collaborative, interprofessional relationships and partnerships that share power (Gottlieb, 2012; 2013; 2014). The findings of this study identified several factors that need to be present to improve the quality of nurses' work life, stress and health. The potential to affect changes to the healthcare system to improve nurses' QOWL and stress with a "new vision rooted in nursing values of holism and restoring the centrality of the nurse-person relationship as expressed through a strengths-based approach" may be worth pursuing (Gottlieb, L., 2012, p. 47).

### **Supporting Nurse Healers**

The nurses and nurse leaders in this study described several factors that explicated the findings of a low QOWL, increased levels of stress and exhaustion. This finding was not surprising as working in environments with harmful stressors having negative effects on nurses' and patients' health outcomes, with enormous costs to the healthcare system has been recognized by other authors (Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a; 2006b). Nurses are the largest professional group in the healthcare system and have been reported to be the sickest workers (Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b), with nurses' health outcomes linked to their QOWL and practice environments (Kerr et al., 2005; Ontario Health Quality Council, 2010; Shields & Wilkins, 2006a, 2006b).

Nurses and nurse leaders in this study suggested that nurses themselves needed to take care of their own health needs and they provided several strategies they used to cope with their stress. Nurses have been acknowledged as healers by several authors (Gershon, 2014; Jackson, 2004a; McElligott, 2010). In one qualitative study of 11 nurses, Jackson's (2004a) thematic analysis revealed that although nurses did identify themselves as a nurse healer, nurses were

described as wounded healers and had limited self-care practices. It was recommended that nursing education could do more to socialize nurses into the role of nurse healers and model self-care practices (Jackson, 2004a; 2004b). Jackson (2004b) further suggested that nurses needed to reclaim their roots of humanistic ideologies and holistic nursing practices and identity as nurse healers to begin to effect changes to nurses' health and the healthcare system.

In an article by Gershon (2014), a program entitled "Healing the Healer" was outlined that assisted nurses to deal with stressful working conditions (p.6). The program involves a six-week course that specifically attends to stress filled challenges nurses face on a regular basis when working. Along with a variety of topics, Nordic walking exercise is included as part of the class. The underlying purpose of spending time to heal ourselves stems from the belief that "you cannot attend to someone else's health unless you take time to heal yourself first" (Gershon, 2014, p. 12). In a recent news report by the Canadian Broadcasting Company a program that was aimed at assisting medical students deal with stress was discussed. This program provides training in resiliency and was adapted from the United States of America military Navy Seal training program (Bigham, 2017). It is interesting to note that although the majority of nurses in this study were aware that their employers offered Employee Assistance Program, none of the nurses and nurse leaders described types of stress reducing programs in their work setting. Stress reducing programs or resiliency training could be valuable coping strategies to reduce nurses' stress and improve their QOWL.

### **Implications and Recommendations**

The findings of this study highlight the importance of *Supporting Holistic Client Healing and Nurse Healers*. Supports and resources are required by urban, rural and remote nurses to provide quality care that can facilitate the holistic healing of patients at the bedside. This next

section will discuss implications and recommendations of these findings for healthcare policy and decision-makers, nurses, nurse leaders, nurse educators, researchers, and suggestions for future research. The strengths and limitations of this study will also be presented prior to the conclusion of this dissertation.

### **Implications for Healthcare Policy and Decision-Makers**

Raphael (2012) noted that Canada has been a worldwide leader in developing “health promotion and population health concepts” that acknowledge the need to address health equalities, “Yet, Canadian governmental authorities have repeatedly been identified as laggards in implementing these concepts through public policy activity” (p. 122). Resolving the numerous health inequities and inequalities facing the healthcare system is significant especially in Northern, rural and remote locations across Northeastern Ontario, and requires a concerted effort by many people to effect changes and implement actions through policies. Dr. Jennifer Walker suggested “The solutions to the inequities facing people in the North need to be found in the north by those who live and work there” (as cited in Health Quality Ontario, 2017, p. 2). Therefore, it is suggested that healthcare policy and decision-makers review current healthcare policies to determine if the one-size-fits-all funding decision models are being applied appropriately to meet the unique contexts of each hospital across Northeastern Ontario. The development and implementation of any performance benchmarks and indicators need to consider the existing community supports and resources to address the healthcare needs of patients, and of the healthcare providers. This can help patients avoid having to go back to small urban, rural and or remote hospitals to obtain care that can be provided for them in a community setting. Engagement and input from all community stakeholders on the healthcare needs of each community must be conducted to determine that urgent healthcare services for rural and remote

communities are accessible, and can be met in a timely manner, prior to implementing policies and funding decisions. This may augment the creation of equitable policies and allocation of funding that can begin to address inequalities between Northern urban, rural and remote populations, and healthcare professionals.

Healthcare policy and decision-makers might also consider implementing the Strengths Based approach in collaboration with local community and Provincial stakeholders to begin to address some of the healthcare issues identified by the nurses and nurse leaders in this study (Gottlieb, L., 2012). Creation of equitable policies and appropriate funding could also assist in the recruitment and retention of nurses, and other healthcare professionals to Northern, rural and remote communities. The recent Registered Nurses' Association of Ontario (2015) report outlined 23 excellent recommendations specifically targeting longstanding concerns and issues related to the recruitment and retention of nurses. The utilization of electronic technologies, such as Telehealth, and Telemedicine can be increased to address some of the practice concerns rural and remote nurses experience. In a study conducted by O'Gorman, Hogenbirk, and Warry (2015), the utilization rates of telemedicine for urban and rural locations in Northern Ontario was higher when compared to the utilization rates in Southern Ontario. This technology addresses medical needs for underserved areas; however, this may be an untapped resource that may have additional purposes to address some of the continuing education and practice concerns. Ensuring access to the necessary infrastructures to increase utilization of this technology is suggested. It is also suggested that all of these 23 recommendations be implemented as soon as possible.

Nurses are the largest professional group in the healthcare system. As such, they need to have a prominent role in the creation of policies and decisions made that directly impact their work and working environments. The appointment of nurses to government bodies and Local

Integrated Health Integration Networks that make these types of decisions is recommended. The representation of nurses on government bodies and Local Integrated Health Integration Networks could augment nurses' voices and perspectives at the decision-making tables to advocate for the funds and resources necessary by nurses to holistically care for patients. The lack of nurses' involvement on policy and decision-making bodies may be influenced by a lack of understanding of the clinical, social and economic benefits that nurses and the nursing profession have for patient care, society, and the healthcare system (Shamian, & Ellen, 2016). Healthcare policy and decision-makers may also need to explore possible gender bias that is known to create barriers in resolving issues affecting nurses' QOWL and stress, as nurses' work can be potentially devalued if perceived only as "women's work" (McDonald, 2014).

*Bill 46: The Excellent Care for All Act* was passed into legislation, by the Ontario government in 2010, to ensure that the healthcare system is high quality, accessible, appropriate, effective, efficient, equitable, and focused on the needs of the patient and the health of all Ontarians. These principles are congruent with the principles contained in the *Canada Health Act* (1984) (Ontario Legislative Assembly, 2010). *Bill 46* also mandates that best practice guidelines be utilized in the care provided to patients and that all persons involved in the delivery of healthcare services are accountable. Elected government officials need to consider the unique challenges facing Northern, rural and remote communities in the delivery of healthcare services to determine whether or not healthcare providers and other persons involved in healthcare have the appropriate and accessible resources and supports required to provide high quality healthcare that is equitable in all geographic locations across Ontario. *Bill 46* also mandates the administration of satisfaction surveys to patients and caregivers on a yearly basis, and staff satisfaction and perceptions of quality care every two years (Ontario Legislative Assembly, 210).

Conducting annual surveys of nurses to monitor QOWL factors specific to their geographic location would be recommended to determine if nurses' concerns are identified and being addressed.

### **Implications for Nursing Practice and Nurse Leaders**

Nurse leaders and nursing associations need to continue to support nurses and advocate for quality practice environments that allow front line nurses to provide quality holistic care to patients that facilitates healing and positive health outcomes for patients and nurses. Nurse leaders could ensure that adequate supports and resources are available and accessible to improve their QOWL and lower their stress and exhaustion levels. The provision of continuing professional growth and educational opportunities is a priority for all nurses, especially those working further away from large urban centres. Supports for new graduate nurses transitioning into the role of RN may require additional mentoring to develop confidence and competence (Lea & Cruickshank, 2015). Nurse leaders can advocate for protected funding for the development and implementation of continuing educational and mentoring opportunities. Nurse leaders may want to explore new models for leadership using the Strengths Based Nursing Leadership and Strengths Based Nursing Care approaches in their clinical settings (Gottlieb, L., 2012).

All nurses, whether working in urban, rural and remote settings, have a responsibility to provide quality healthcare that is safe, competent, congruent with professional standards and ethical values, and advocate for quality practice environments that are just, respect the dignity of others, and ensure the health and well being of others (Canadian Nurses' Association, 2002). Nurses working in unhealthy practice environments need to nurse themselves and address the unacceptable working conditions that negatively impact the quality of care they provide to our

patients. Nurses may consider exploring a Strengths Based Nursing Care model to transform their working environments.

Nurses may not perceive their role as nurse healers. Reinforcing the humanistic and holistic roots of the nursing profession may help nurses to become more vocal and involved in policy and political activities to raise awareness of unacceptable working conditions impacting the health outcomes of patients, nurses and the healthcare system. Nurses also need to become educated about healthcare policy and decision-making processes in order to be able to effect changes to unhealthy situations and develop strategies to unite together as a profession to address unjust working situations impacting the health of nurses everywhere (Shamian, & Ellen, 2016).

### **Implications for Nurse Educators**

Nurse educators have a responsibility to ensure that the curricula being delivered in our baccalaureate programs are preparing nurses to meet the realities of the practice environment with respect to employers' expectations (McIntyre & McDonald, 2014). Educators need to ensure that nurses understand the physical, emotional and mental demands of nursing work, and prepare healthy strategies to avoid being a 'hero' and becoming fatigued (Canadian Nurses' Association & Registered Nurses' Association of Ontario, 2010). Nursing curricula could incorporate components related to Strengths Based Nursing Care that prepares them to become Strengths Based Nursing Leaders who can effect positive changes to their working environments.

There is an urgent need to address challenges associated with preparing nurses to practice competently in Northern, rural and remote locations given the predicted nursing shortage for Northern Ontario in the coming years (Jonatansdottir et al., 2017). Nursing programs need to prepare rural and remote nurses to become expert generalists versus specializing in one area of practice such as working on a medical or surgical unit in a large urban hospital setting.

Universities and Colleges in collaborative partnerships delivering nursing programs need to work together and form liaisons with healthcare centres across the Northeastern Ontario. Input from all stakeholders can be used to develop unique specialized educational programs, practicums and simulations that support and assist nurses working in rural and remote locations. Increased utilization of electronic technologies could allow for ongoing continuing educational opportunities that have a potential to link with nurses in larger urban centres for mentoring or precepting purposes. This could reduce feelings of professional isolation among rural and remote nurses that can occur.

### **Implications for Nurse Researchers and Future Research**

This research explored how urban, rural and remote Northeastern Ontario nurses evaluated their QOWL and stress. Although new knowledge was revealed, there is a plethora of research that has examined several problems related to factors associated with nurses' QOWL and stress working in a variety of clinical settings and geographic locations. There have also been several studies that have examined QOWL and stress factors associated with the recruitment and retention of nurses. However, there is a gap in exploring and evaluating policies, interventions, or programs that might have been implemented to address the factors negatively affecting nurses' QOWL and stress specific to the unique contexts of nurses' geographical locations. Future research could evaluate the effectiveness of these programs and policies using newer instruments, such as the nursing stress scale for remote nurses that have good psychometric properties. A larger sample size inclusive of nurses all across Canada would also increase the generalizability of the findings.

There is a noticeable lack of Community Based Participatory Research studies that were found (Lightfoot, Strasser, Maar, & Jacklin, 2008). Although Community Based Participatory

Research has many challenges associated with this design, it engages and involves key local community stakeholders that respects the community's culture, and engages the community in the process of addressing the concerns specific to their community (Lightfoot et. al., 2008). This type of research design is particularly crucial and appropriate when conducting research with Indigenous populations. Jacklin and Kinoshameg (2008) developed a CBPR model that outlines several principles to guide research processes when working with Aboriginal communities. Key principles included: "partnership, empowerment, community control, mutual benefit, wholism, action, communication, and respect" (Jacklin, & Kinoshameg, 2008, p. 53). Using these principles engages the researcher and community members to address local problems, develop and build research capacity, empower and support self-determination to address issues for the local community (Jacklin, & Kinoshameg, 2008). Romanow (2002) suggested that the formulation of actions based on research conducted in urban settings alone would not allow for unique resolution of the unique issues facing healthcare professionals in rural settings. Future research exploring the specific concerns of nurses working in Northern, rural or remote locations needs to consider using the Community Based Participatory Research design that engages, empowers and respects the unique contexts of each of the community's healthcare concerns.

### **Limitations of this Study**

Challenges are identified with any research that can limit the generalizability of the findings and need to be acknowledged. The study was cross-sectional and limited the ability to determine causation of factors affecting nurses' QOWL and stress. Selection bias may be considered a limitation with the use of a non-probability convenience sampling strategy that was restricted to four hospital sites located in Northeastern Ontario. This prevented all nurses working in urban, rural and remote hospitals across Ontario having an equal chance to participate

in the study (Endacott & Botti 2005). It is possible that self-selection bias could have influenced the results as hospital sites were selected based on their geographical locations and voluntary consent to participate in the study (Burns & Grove, 2005; Polit & Beck, 2010). The survey relied on self-report data that also can be susceptible to self-selection bias (Burns & Grove, 2005; Polit & Beck, 2010). However, self-reported surveys that collected anonymous data without the researcher being present reduce the likelihood of participants providing responses that socially desirable (Tourangeau & Yan, 2007).

Survey response errors are reported to occur if the participants did not understand some of the questions, or could not recall accurate information related to some information that was asked over a one-year time frame (Tourangeau, & Yan, 2007). Although there was an acceptable response rate to the survey, there were fewer responses from nurses working in the rural and remote locations, which may influence the results with a non-response bias. Although missing data were assessed with no patterns identified and listwise deletion was utilized to remove all cases that had missing data, some responses if provided may have affected some of the findings (Sauro, 2015; Soley-Bori, 2013).

Although the factors included in the multiple regression final models explained 35.3% of the variance in the QOWL model, and 42.3% of the variance in the NSS model, some personal factors such as: the resiliency, organizational commitment, and job satisfaction were not collected from the participants (Caricatil et al.2015; Cummings et al., 2008; Hart, Brannan & De Chesnay 2014; Malloy & Penprase, 2010; Nayak & Sahoo, 2015; Pindek & Spector, 2016; Pineau Stam et al., 2015; Registered Nurses' Association of Ontario, 2008). These factors may have impacted the findings of this study and viewed as a limitation. Future research could

explore additional personal factors for a comprehensive understanding of some other factors that may influence nurses' QOWL and stress.

All of the total scores of all of the three scales had acceptable measures of Cronbach's alpha coefficients. However, three subscales in the QOWL and three subscales in the NSS instruments had scores less than 0.70 and included: work design (0.52), work world, (0.49), and work/homelife (0.36). Brooks and Anderson (2004) reported low Cronbach's alphas for the same three subscales: work design 0.58, work world 0.60, and work/homelife 0.56, while Khani et al., (2008) reported acceptable Cronbach's alpha scores for the total scale 0.93, and all four subscales: work design 0.78, work world 0.83, work life/home life 0.75, work context 0.90 (Khani et al., 2008). The NSS subscales Lack of support (0.66), Conflict with physicians (0.67), and Conflict With Other Nurses (0.65) also had low Cronbach's alphas. Reported test-retest reliability scores for three subscale scales, developed by Gray-Toft and Anderson (1981) were below 0.70 and included: Inadequate Preparation (0.42), Lack of Staff Support (0.65), and Uncertainty Concerning Treatment (0.68). Lee, Holzemer, and Faucett (2007) translated the NSS to be used among Chinese nurses and reported coefficient alpha scores greater than 0.70 for five out the seven subscales. Two subscales Conflict With Other Nurses, ( $\alpha = 0.68$ ); and Uncertainty Concerning Treatment, ( $\alpha = 0.67$ ) had low Cronbach's alpha scores. Based on the reported Cronbach's alpha scores findings from the QOWL and NSS subscales used in this study below 0.70, are to be viewed with caution. Future research could consider increasing the number of geographical locations, number of participants, and survey instruments with rigorous psychometric properties to augment the generalizability of the quantitative findings.

Some limitations can also apply to the qualitative findings. There has been a considerable time lapse from the time data were collected and the time to complete the analysis and report the

findings of this study. Working conditions may have changed, improved, or have become worse for the participants in some of the hospital sites. Current literature supports that factors identified by these participants that negatively impact their QOWL and stress continue to exist. This study used a mixed methods sequential explanatory design. Although there was sufficient quantitative data for analysis (n=173) and participant comments (n=53), one-on-one interviews were conducted with 17 nurses and nurse leaders. Increasing the number of qualitative interviews may have provided additional perspectives that were not gathered during this study. Analysis of the qualitative data was focused on discovering the shared reality of nurses' emic perspectives. The individual accounts of all 17 participants could not be represented, which is congruent with qualitative research (Campbell & Gregor, 2002). Future research could increase the number of participants and geographical locations to augment the transferability of the findings.

### **Strengths of this Study**

A key strength of this study is that a previous gap in knowledge related to how urban, rural and remote nurses and nurse leaders evaluate nurses' QOWL and stress in Northeastern Ontario has been comprehensively explored utilizing a mixed methods sequential explanatory design. A mixed methods approach strengthens this study and addresses some of the limitations associated with the use of one methodology (Creswell, 2009). All of the three scales used to collect data had acceptable Cronbach's alpha scores and have been used on nursing populations. The Practice Environment Scale instrument has been tested and extensively used in large samples of nursing populations working in several countries. Integrity for qualitative methods was guided by dependability, auditability, and transferability or fittingness principles to ensure confirmability (Rothe 2000; Streubert & Carpenter, 1999, Thorne, et al., 1997; 2008). Preliminary results were presented to a small group of nurses who worked in small urban, rural

and remote locations in Northeastern Ontario. Nurses confirmed the findings as plausible and transferable to their experiences passing the ‘thoughtful clinician test’ (Thorne et al., 2004, p. 18).

## CONCLUSION

This study elucidated new knowledge related to how Northeastern Ontario urban, rural and remote RNs from four acute care hospitals evaluated their QOWL and stress. This study’s findings highlight the importance of addressing several factors associated with poor quality working environments that affected nurses’ QOWL and stress. Geographical hindrances to healing processes and inequalities impacting nurses’ QOWL, stress and health consequences, underscore the supports and resources required by nurses. The critical need for nurses to work in high quality environments cannot be emphasized enough. Nurses must be able to work in environments that allow them to maintain their legal and ethical standards when providing holistic care to facilitate the healing processes for patients.

Supporting the holistic healing of clients and nurse healers requires changes to inequitable healthcare system policies and decision-making processes that perpetuate healthcare system inequalities. As Dr. Martin Luther King, Jr. (1966) said when giving a speech at a medical conference on human rights in Chicago 1966, *“Of all the forms of inequality, injustice in health is the most shocking and the most inhuman because it often results in physical death”* (as cited in Quote Investigator, 2017). Maintaining the status quo is unacceptable, and contributes to ongoing injustices experienced by the populations and healthcare providers living and working in Northeastern Ontario.

The ability to meet the healthcare needs and facilitate the holistic healing for clients in urban, rural and remote hospital settings across Northeastern Ontario is dependent upon the

health of nurses and their QOWL. Improving the QOWL and reducing their stress can positively influence the health outcomes for nurses, patients, and the long-term sustainability for the healthcare system. Changes to improve nurses' QOWL will require a concerted effort by several people and agencies and willingness to listen to local concerns. Healthcare policies and decision-makers need to listen to the voices of nurses and healthcare providers who live and work in rural and remote settings across Northern Ontario to create unique solutions and policies to address these healthcare challenges. It is imperative that all stakeholders including governments, healthcare professionals regulatory bodies, nursing associations and unions, and universities work together in collaboration to eventually actualize the vision of the delivery of high quality healthcare services that are equal and equitable to all Ontarians regardless of their geographic location.

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## APPENDICES

## Appendix A

### **Practice and Employment Definitions Area of Practice (College of Nurses of Ontario, 2016, pp. 97-100)**

- **Acute care:** Services provided primarily to clients who have an acute medical condition or injury that is generally of short-duration.
- **Administration:** This area is responsible for administrating, planning and evaluating an organization, department or program.
- **Cancer care:** Services provided primarily to clients with a variety of cancer and cancer-related illnesses.
- **Cardiac care:** Programs and services concerned with the prevention and management of acute and chronic cardiovascular disease.
- **Case management:** A collaborative service consisting of interrelated processes to support clients in their efforts to achieve optimal health and independence in a complex health, social and fiscal environment (e.g., assessment, discharge planning, placement coordination).
- **Chronic disease prevention/management:** Services are provided primarily to address chronic diseases early in the disease cycle to prevent disease progression and reduce potential health complications. Diseases can include diabetes, hypertension, congestive heart failure, asthma, chronic lung disease, renal failure, liver disease and rheumatoid and osteoarthritis.
- **Complex continuing care:** Services for clients whose health is unstable and requires 24-hour nursing care for a chronic or fluctuating serious illness (e.g., reactivation, mental health/cognitive support, chronic care).
- **Critical care:** Care of acutely ill clients, typically delivered in intensive care units and cardiac care units.
- **Diabetes care:** Programs and services concerned with the prevention and management of diabetes and diabetes-related health issues.
- **Education:** Programs and services aimed at developing the knowledge and skills of clients, other health care professionals and/or students on a broad range of health topics.
- **Emergency:** Services for individuals with serious, often life-threatening health problems or situations that require immediate action.
- **Foot care:** Services provided to prevent and manage diseases or injury of the foot.
- **Geriatrics:** The care of the elderly and the treatment of diseases associated with aging.
- **Informatics:** The use of information science for discipline-specific applications in the management and processing of data, information and knowledge to generate or support designs, decisions and discoveries (e.g., information management, utilization management).
- **Infection prevention/control:** Services are provided to primarily prevent and control health-care associated infections and other epidemiologically significant organisms. This includes providing services to reduce the risk, spread and incidence of infections in populations. This includes pandemic planning.
- **Maternal/newborn:** Programs and services geared to meeting the health needs of expectant/new parents and newborns.

- **Medicine:** Programs and services concerned with non-surgical techniques to prevent, cure or alleviate disease or injury.
- **Mental health/psychiatric/addiction:** Programs and services that meet the needs of individuals with mental health/psychiatric illness and/or addictions.
- **Nephrology:** Programs and services concerned with kidney function and kidney disease processes.
- **Occupational health:** The development and provision of wellness programs; the implementation of safe workplace strategies; the liaising with employees and insurance companies on illnesses, injuries and back-to-work strategies.
- **Palliative care:** Programs and services concerned with the study and management of clients with an active, progressive, far-advanced disease for whom the prognosis is limited and the focus of care is quality of life.
- **Perioperative care:** Services related to the operating room for clients needing surgical care. The services cover the preoperative, intra-operative and immediate post-operative periods.
- **Policy:** The gathering of information, analysis of data and provision of policy advice to support an organization's decisions and strategies.
- **Primary care:** Programs and services provided from the first contact with a client, including assessment, and preventative, sustaining or curative nursing care.
- **Public health:** Programs and services concerned with disease prevention, health promotion and education for all age groups (e.g., community health).
- **Rehabilitation:** The provision of time-limited, goal-oriented therapeutic services for all ages geared toward the optimization of health.
- **Sales:** Focus of activities is in the sales and/or service of health-related apparatuses or equipment.
- **Surgery:** Programs and services concerned with surgical techniques to cure or alleviate disease or injury.
- **Telehealth services:** Programs and services concerned with the provision of free, confidential 24/7 access to health information via telephone.
- **Other:** An area of practice not represented by any of the above terms.

## Appendix B



### **Introduction Letter Chief Nursing Officers**

**Study Title:** Evaluation of the quality of work life of Northeastern Ontario nurses in urban, rural and remote acute care locations

**Institution:** Laurentian University, School of Rural and Northern Health

**Principal Investigator:** Judith Horrigan, RN, MSc.N, Ph.D student,

**Co-Investigators:** Nancy Lighfoot, Ph.D. (Ph.D. Supervisor)  
Michel Larivière, Ph.D. (Committee Member)  
Kristen Jacklin, Ph.D. (Committee Member)

**Dear (Name of Chief Nursing Officer)**

My name is Judith Horrigan and I am a Ph.D. student in the Interdisciplinary PhD in Rural and Northern Health at Laurentian University in Sudbury, Ontario, Canada, and the principal investigator of a mixed methods research study exploring the quality of nurses' work life in northern urban, rural and remote acute care settings. This letter provides the background and purpose of my study. If you could take a few minutes to review the enclosed information about this research study to consider participating in this important endeavour, I would be most grateful.

#### **Background:**

Canadians living in rural or remote locations are known to have poorer health status than those living in urban settings. Challenges linked with health disparities have been reported to include shortages of healthcare professionals stemming from difficulties in recruiting and retaining nurses in rural locations. Issues faced by nurses working in rural and small urban locations are complex and multi-dimensional that include: increased responsibility, workload demands, stress, staffing, multi-skilling, interdisciplinary collaboration, barriers related to continuing educational opportunities, links to urban practitioners, limited involvement in research, and the quality of work life. Quality of work life has been linked to the health of nurses. Although excellent research has been done exploring nurses health and quality of work life in large urban settings, limited research has been conducted focusing on the quality of work life of nurses in Northeastern Ontario working in urban, rural and remote acute care locations.

Based on these research findings I invite you to consider participating in this research project that will gather information related to evaluating the quality of the work life of nurses. This

research is characterized by a collaborative partnership between nurses, nursing leaders, and myself as the researcher that will allow for feedback to and from all participants to assist in effectively understanding the quality of nurses' work life. Knowledge from this research would also assist me in completing educational requirements towards an interdisciplinary Ph.D. in Rural and Northern Health through Laurentian University.

Thank you for taking the time to review this information and your consideration in choosing whether or not to participate in this important research focused on understanding the quality of work life for Northeastern Ontario nurses working in urban, rural and remote acute care settings. This study will be undergoing ethics approval at Laurentian University and reviewed by each hospital ethics review board.

If you have any questions or concerns regarding this study please do not hesitate to contact me, **Judith Horrigan, the Principal Investigator, at 1-800-461-4030, ext. 3718, 705-675-1151, ext. 3718, or via email, [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca).**

Sincerely,

Judith Horrigan, RN., MSc.N, Ph. D student  
c/o Laurentian University, School of Rural and Northern Health

Appendix C  
Ethical Approvals

Appendix C a: Laurentian University Ethics Approval



**APPROVAL FOR CONDUCTING RESEARCH INVOLVING HUMAN SUBJECTS**

Research Ethics Board – Laurentian University

This letter confirms that the research project identified below has successfully passed the ethics review by the Laurentian University Research Ethics Board (REB). Your ethics approval date, other milestone dates, and any special conditions for your project are indicated below.

TYPE OF APPROVAL / New / Modifications to project X/ Time extension	
<b>Name of Principal Investigator and school/department</b>	Judith Horrigan
<b>Title of Project</b>	Evaluating the quality of work life of Northeastern Ontario urban, rural and remote registered nurses.
<b>REB file number</b>	2012-09-08
<b>Date of original approval of project</b>	October 1, 2012
<b>Date of approval of project modifications or extension (if applicable)</b>	December 9, 2012
<b>Final/Interim report due on:</b> <i>(You may request an extension at that time using this weblink)</i>	October 1, 2013
<b>Conditions placed on project</b>	Final report due on October 1, 2013

During the course of your research, no deviations from, or changes to, the protocol, recruitment or consent forms may be initiated without prior written approval from the REB. If you wish to modify your research project, please refer to the Research Ethics website to complete the appropriate [REB form](#).

All projects must submit a report to REB at least once per year. If involvement with human participants continues for longer than one year (e.g. you have not completed the objectives of the study and have not yet terminated contact with the participants, except for feedback of final results to participants), you must request an extension using the appropriate [REB form](#).

In all cases, please ensure that your research complies with [Tri-Council Policy Statement \(TCPS\)](#). Also please quote your REB file number on all future correspondence with the REB office.

Congratulations and best of luck in conducting your research.

Susan James, Acting chair

Appendix C b: Heath Sciences North Ethics Approval

	<b>Health Sciences North</b> Horizon Santé-Nord	<b>Research Ethics Office</b> Children's Treatment Centre 41 Ramsey Lake Road Sudbury, ON P3E 6J1 t: 705-523-7100, ext. 2409 email: reb@hnsudbury.ca
<b>To:</b>	Judith Horrigan	
<b>Study Title:</b>	Evaluating the Quality of Work Life of Northeast Ontario Urban, Rural, and Remote Registered Nurses	
<b>REB Review Type:</b>	Delegated	
<b>Date of Review:</b>	January 28, 2013	
<b>Expiry Date:</b>	<u>January 28, 2014</u>	

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**Notification of Initial REB Approval**

**Documents Approved**  
Application (received January 22, 2013)  
RN Participant Recruitment Poster – Urban sites  
RN Participant Recruitment Poster – Rural and Remote Sites  
Script for Quality of Nurses' Work Life Research Study  
Information and Consent for Prospective RN Participants (Phase I Survey)  
Questionnaire - Evaluating the Quality of Work Life of Urban, Rural, and Remote Northeastern Ontario Nurses  
Information Letter for Prospective Nurses and Nurse Leaders (Phase II Interviews)  
Research Protocol for RN and Nurse Leaders Interviews (Phase II Interviews)  
Research Consent Form for Nurse Participant (Phase II Interviews)  
Qualitative Research Questions for RNs  
Qualitative Research Questions for Nurse Leaders  
Phase II - Short Form Demographic Information

**Documents Acknowledged**  
Laurentian University REB Approvals

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*Project Number: 902*

The Research Ethics Board of Health Sciences North (HSN REB) has reviewed the above research protocol.

The above Project Identification Number has been assigned to your project. Please use this number on all future correspondence.

If, during the course of the research, there are any serious adverse events, confidentiality concerns, changes in the approved project, or any new information that must be considered with respect to the project, these should be brought to the immediate attention of the REB. The relevant forms may be found on the HSN's intranet site, but may also be obtained from our office upon request in the event that you do not have access to same.

The Health Sciences North Research Ethics Board operates in compliance with and is constituted in accordance with the requirements of TCPS 2 – 2<sup>nd</sup> Edition of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, the International Conference on Harmonisation of Good Clinical Practices, Part C, Division 5 of the Food and Drug Regulations of Health Canada, and the provisions of the Ontario Personal Health Information Protection Act (2004) and its applicable Regulations. The HSN REB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB00002680.

In the event of a privacy breach, you are responsible for reporting the breach to the HSN Privacy Officer.

If the study is expected to continue beyond the expiry date, you are responsible for ensuring the study receives re-approval. The REB must be notified of the completion or termination of this study and a final report provided.

The Board wishes you good luck with your study.

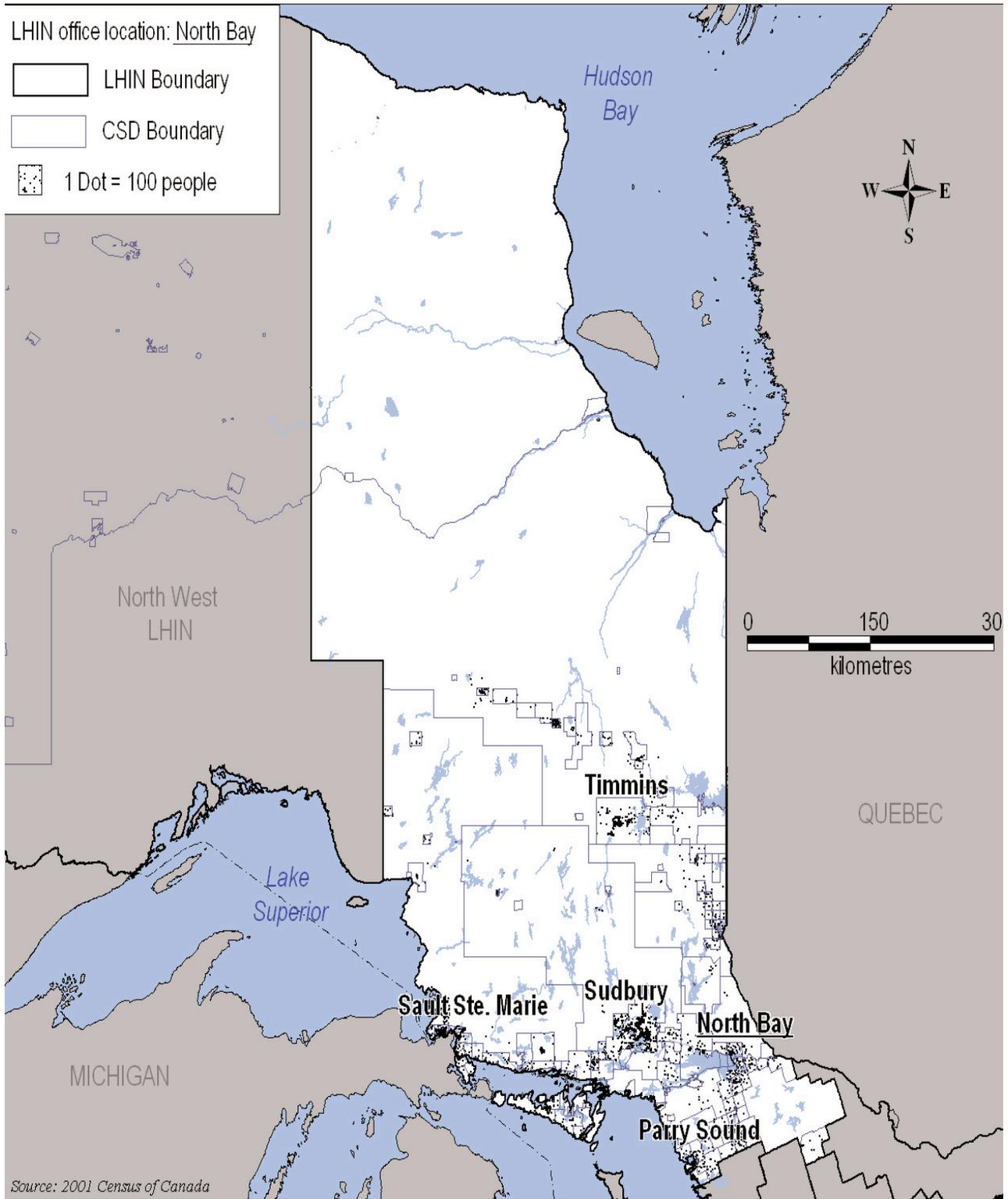
Sincerely,



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Dr. Martin Shine, Chair, Health Sciences North Research Ethics Board

Appendix D  
 Map of North East Local Integrated Health Integration Network  
 Bains, N., Dall, K., Hay, C., Pacey, M., Sarkella, J. & Ward, M. HSIP-PHP-01.



## Appendix E Sample Size Calculations

E a – Sample Size for Fisher Exact Z

**Exact** - Correlation: Bivariate normal model

**Options:** large sample approximation (**Fisher Z**)

**Analysis:** A priori: Compute required sample size

**Input:** Tail(s) = Two  
Correlation  $\rho$  H1 = 0.5  
 $\alpha$  err prob = 0.05  
Power (1- $\beta$  err prob) = 0.95  
Correlation  $\rho$  H0 = 0

**Output:** Lower critical z = -1.9599640  
Upper critical z = 1.9599640  
**Total sample size** = **47**  
Actual power = 0.9538822

E b – Sample Size for Linear Multiple Regression

**F tests - Linear multiple regression:** Fixed model,  $R^2$  deviation from zero

**Analysis:** A priori: Compute required sample size

**Input:** Effect size  $f^2$  = 0.5  
 $\alpha$  err prob = 0.05  
Power (1- $\beta$  err prob) = 0.95  
Number of predictors = 2

**Output:** Noncentrality parameter  $\lambda$  = 17.5000000  
Critical F = 3.2945368  
Numerator df = 2  
Denominator df = 32  
**Total sample size** = **35**  
Actual power = 0.9554913

## E c- Logistic Regression

### z tests - Logistic regression

**Options:** Large sample z-Test, Demidenko (2007) with var corr

**Analysis:** A priori: Compute required sample size

**Input:** Tail(s) = Two  
**Odds ratio** = 2  
Pr(Y=1|X=1) H0 = 0.2  
 $\alpha$  err prob = 0.05  
Power (1- $\beta$  err prob) = 0.90  
R<sup>2</sup> other X = 0  
X distribution = Normal  
X parm  $\mu$  = 0  
X parm  $\sigma$  = 1

**Output:** Critical z = 1.9599640  
**Total sample size** = 148  
Actual power = 0.9020277

## E d- Logistic Regression

### z tests - Logistic regression

**Options:** Large sample z-Test, Demidenko (2007) with var corr

**Analysis:** A priori: Compute required sample size

**Input:** Tail(s) = Two  
**Odds ratio** = 1.5  
Pr(Y=1|X=1) H0 = 0.2  
 $\alpha$  err prob = 0.05  
Power (1- $\beta$  err prob) = 0.95  
R<sup>2</sup> other X = 0  
X distribution = Normal  
X parm  $\mu$  = 0  
X parm  $\sigma$  = 1

**Output:** Critical z = 1.9599640  
**Total sample size** = 503  
Actual power = 0.9503087

## Appendix F

### Sample Size Calculations for Confidence Level and Confidence Interval (MaCorr, 2011)

Sample Size Calculations for Confidence Level & Confidence Interval Calculated for Urban, Rural & Remote Population

	Total Urban Population n=214	Total Rural & Remote Population n=105
Confidence Level	95%	95%
Confidence Interval	5%	5%
Population	214	105
Sample Size	138	83
Total Sample Size	<b>N=221</b>	

	Total Urban Population n=214	Total Rural & Remote Population n=105
Confidence Level	95%	95%
Sample Size	138	83
Population	228	105
Percentage	5%	5%
Confidence Interval	2.2	2.2

Total Sample Size with 40% Response Rate

	Urban	Rural & Remote
Population	214	105
Sample Size	138	83
X 40% =	55.2	42.0
Sample Size +40%	193.2	125
Total	<b>N=318</b>	

Appendix G

RN Participant Recruitment Poster Quantitative Survey Urban Sites

**Quality of Nurses' Work Life Research Study**



School of Rural and Northern Health  
Laurentian University,  
935 Ramsey Lake Road, Sudbury, ON,  
Canada, P3E 2C6.



**Laurentian**University  
Université **Laurentienne**

***Title of Study:* Evaluation of the quality of work life of Northeastern Ontario registered nurses in urban, rural, and remote acute care locations**

**Attention Registered Nurses**

All Registered Nurses working on *medical and surgical* units at Health Sciences North in Sudbury are invited to participate in a research project exploring the quality of nurses' work life in urban, rural and remote acute care locations.

Participants will be randomly selected. If you agree to participate you will be asked to complete a questionnaire that will take approximately 45 minutes of your time. We really value your time and input. Refreshments will be provided for you while you complete the survey.

If you have any questions you can Contact:

Judith Horrigan, RN, MSc.N., by telephone at 1-800-461-4030 ext. 3718, 705-675-1151 ext. 3718 or via email [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca)

**Benefits of Participating**

The aims of my research is to provide an understanding of the quality of urban, rural and remote nurses' work life that will assist decision and policy makers to promote quality work life that will have an immediate and long-term positive effect on nurses' health. Participation will provide valuable information on how Northeastern Ontario nurses evaluate the quality of work life of nurses working in urban, rural and remote locations.

**Researchers:**

Judith Horrigan, RN, MSc.N, (PhD Student)  
Laurentian University, School of Rural & Northern Health

Nancy Lightfoot, Ph.D., (PhD Supervisor)  
Laurentian University, School of Rural & Northern Health

Michel Larivière, Ph.D., (Committee Member)  
Laurentian University, School of Human Kinetics

Kristen Jacklin, Ph.D. (Committee Member)  
Northern Ontario Medical School (NOSM)

**Quality of Nurses' Work Life Research Study**



School of Rural and Northern Health  
Laurentian University,  
935 Ramsey Lake Road, Sudbury, ON,  
Canada, P3E 2C6.



**Laurentian University**  
**Université Laurentienne**

**Title of Study: Evaluation of the quality of work life of Northeastern Ontario registered nurses in urban, rural, and remote acute care locations**

**Attention Registered Nurses**

All Registered Nurses working at small urban, rural and remote hospitals are invited to participate in a research project exploring the quality of nurses' work life in urban, rural and remote acute care locations.

Participants will be randomly selected. If you agree to participate you will be asked to complete a questionnaire that will take approximately 45 minutes of your time. We really value your time and input. Refreshments will be provided for you while you complete the survey.

If you have any questions you can Contact:

Judith Horrigan, RN, MSc.N., by telephone at 1-800-461-4030 ext. 3718, 705-675-1151 ext. 3718 or via email [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca)

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Laurentian University, School of Rural & Northern Health

Michel Larivière, Ph.D., (Committee Member)  
Laurentian University, School of Human Kinetics

Kristen Jacklin, Ph.D. (Committee Member)  
Northern Ontario Medical School (NOSM)

Appendix H  
Prepared Script for Recruitment

**Script for Quality of Nurses' Work Life Research Study  
(Can be done in person or on the Telephone)**

Hello [**name of potential participant**], my name is (*insert name*) and I am a staff member [**title of position**] working here at Health Sciences North.

I am contacting you on behalf of Judith Horrigan, who is a PhD candidate at Laurentian University regarding a research study. The reason I am talking with you is that Judith is conducting a study about the quality of nurses' work life and we are currently seeking volunteers as participants in this study. I am asking if you would be interested in hearing more about it?

[IF NO] Thank you for your time. Good-bye.

[IF YES] Continue

The purpose of this study is to explore how Northeastern Ontario Registered Nurses (RNs) and nurse leaders evaluate nurses' quality of work life (QOWL) in urban, rural and remote acute care locations.

The research will provide an understanding of the quality of urban, rural and remote nurses' work life that will assist decision and policy makers to promote quality work life that will have an immediate and long-term positive effect on nurses' health.

I would like to assure you that:

- This study has been reviewed and received ethics clearance from the hospital and the Office of Research Ethics at Laurentian University.
- Your participation in the study is completely voluntary.
- Your employment will not be affected in any way if you choose to participate or not to participate in the study.
- Your name will not be used in this study and the research team will be the only people who will see the responses on the questionnaires.
- Confidentiality will be maintained. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators.
- All identifying information will be removed for the data. You have the choice to answer only those questions they are comfortable answering.
- Only aggregate data will be reported in studies and publications.

Would you be interested in finding out more information?

[If NO] Thank you for your time. Good-bye.

[IF YES] Thank you; we appreciate your interest in our research! I have a brief one page information sheet that describes the study that I can go over with you.

## **Frequently asked questions:**

### **When will the study start?**

The study is expected to start by the end of in April 2013 or early May 2013.

### **How long does the study take?**

It will take approximately 40 minutes to complete the study. It can be done on paper or online.

### **Is there compensation for taking part in the study?**

In appreciation for any inconvenience the research is providing a \$10 Tim Horton's gift certificate.

### **What are the benefits of the study?**

Participants in this study may not directly benefit from participation in this research study. Participation will provide valuable information on how Northeastern Ontario nurses evaluate the quality of work life of nurses working in urban, rural and remote locations.

Confidentiality will be maintained. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators. All identifying information will be removed for the data. Only aggregate data will be reported in studies and publications.

The overall results of the study will be shared with all stakeholders including participants, hospital administration, nursing unions, and occupational health and safety committees to provide an understanding of the issues effecting nurses' QOWL.

Knowledge from group findings will be published and form the basis of a thesis for Judith Horrigan as part of the Interdisciplinary PhD program requirement in Rural and Northern Health at Laurentian University

### **What are the risks?**

There are no known risks involved in participating in this study. However, there is a foreseeable potential risk of a temporary emotional reaction to some of the survey questions. You are not obligated to answer any questions that may cause harm. In the event that you experience any difficulties such as emotional distress or discomfort, you may wish to contact the Employee Assistance Program at Health Sciences North 1-800-268-5211.

I am providing you with the information package that also has more detailed information, a consent form, and instructions if you decide to participate in the study. I am also giving you a \$10.00 gift certificate for any inconvenience

Thank you for your time!

Appendix I  
Phase I: Information Package and Consent for RN Participants



**Information and Consent for Prospective RN Participants (Phase I Survey)**

**Study Title:** Evaluating the quality of work life of Northeastern Ontario nurses in urban, rural and remote acute care locations

**Institution:** Laurentian University, School of Rural and Northern Health

**Principal Investigator:** Judith Horrigan, RN, MSc.N, Ph.D. Candidate,

**Co-Investigators:** Nancy Lighfoot, Ph.D. (Ph.D. Supervisor)  
Michel Larivière, Ph.D. (Committee Member)  
Kristen Jacklin, Ph.D. (Committee Member)

**Dear Participant**

My name is Judith Horrigan and I am a Ph.D. Candidate in the Interdisciplinary PhD in Rural and Northern Health at Laurentian University in Sudbury, Ontario, Canada, and the principal investigator of a research study exploring the quality of nurses' work life in northern urban, rural and remote acute care settings. I invite you to be a participant in this study designed to evaluate the quality of work life (QOWL) of nurses working in urban, rural and remote hospitals in Northeastern Ontario. This information will help you to decide whether or not you want to participate in this study. This letter explains the purpose of my study, potential risks and benefits, your participation, and your rights as a participant. Your participation in this study is entirely voluntary, and a decision not to participate will not affect you or your job in any way. Additional contact information is provided to answer any further explanation or concerns you may have related to this project.

**What is the Purpose of this research?**

The QOWL has been linked to the health of nurses. However, limited research has been conducted focusing on the QOWL of nurses in Northeastern Ontario working in urban, rural and remote acute care locations. Therefore, the purpose of this research will be to explore how Northeastern Ontario nurses and nursing leaders evaluate the quality of work life in urban, rural and remote acute care locations.

**What does participation in the survey involve?**

Your experiences as a healthcare provider are very valuable and important to this study. You would be asked about aspects of the QOWL for nurses in your organization. If you consent to participating in this study, your commitment would involve completing a questionnaire at a time that is convenient to you, that would take approximately 30 minutes. The survey may be completed using a paper-based form or online at

**<http://workplace.behdin.com/index.php?sid=16822&lang=en>**.

Participants' names will not be used in this study. All individual information, including the online responses for the questionnaire will be kept confidential. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators. All identifying information will be removed for the data.

All information obtained in the study will be used for research purposes only and only group information will be reported in studies and publications. Once the study is complete, the research findings will be used to produce a summary of the results and a report. The overall results of the study will be shared with all stakeholders including participants, hospital administration, nursing unions, and occupational health and safety committees to provide an understanding of the issues effecting nurses' QOWL. You can opt to receive one or both forms of the findings. Knowledge from group findings will be published and form the basis of a thesis for Judith Horrigan as part of the Interdisciplinary PhD program requirement in Rural and Northern Health at Laurentian University.

### **What are the potential benefits?**

Participants in this study may not directly benefit from participation in this research study. Your participation will provide valuable information on how Northeastern Ontario nurses evaluate the quality of work life of nurses working in urban, rural and remote locations. The general results of the study will be shared with all stakeholders including participants, hospital administration, nursing unions, and occupational health and safety committees to provide an understanding of the issues effecting nurses' QOWL. The aims of my research is to provide an understanding of the quality of urban, rural and remote nurses' work life that will assist decision and policy makers to promote quality work life that will have an immediate and long-term positive effect on nurses' health.

### **Potential harms, risks, or discomforts**

There are no known harms associated with participating in this study. Completing the survey will take approximately 40 minutes of your time that may cause you some inconvenience. There is a foreseeable potential risk of a temporary emotional reaction to some of the survey questions. Participation in this study is completely voluntary. You may choose not to answer any questions that make you feel uncomfortable. Should you experience any distress or discomfort while completing the survey, you can suspend or end your participation in the study without providing a reason. In the event that you experience any difficulties such as emotional distress or discomfort arising from the study, you may wish to contact the Employee Assistance Program (EAP) at Health Sciences North 1-800-268-5211.

### **Participants' rights**

Your participation in the study is completely voluntary. You are not under any obligation to answer questions that you are not comfortable with completing. You may choose to withdrawal from the study at any time with no affect on your employment. Your work within your organization will not be altered or affected in any way by your decision to participate or not, or withdraw from the study.

### **How will confidentiality be maintained?**

All measures of privacy, confidentiality and security will be respected. All individual information will be kept confidential. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators. All identifying information will be removed for the data. Participants names and the name of your workplace

will not appear on any surveys collected except on the research consent form. Your questionnaire will be coded with only an identification number that allows us to keep track of who has returned either a completed or blank survey that will be kept in a separate online database. The information you share will be summarized in group information along with information obtained from other participants. If the results of this study are published or presented at a research conference only group information will be presented.

All research data collected along with computer files generated for this research will be kept in the locked graduate file cabinet of Judith Horrigan in the locked School of Rural and Northern Health student office at Laurentian University. Employers and supervisors will not have access to your survey data. Only the research team (Nancy Lightfoot, Ph.D., Michel Larivière, Ph.D., and Kristen Jacklin, Ph.D.) directly involved in the research project will have access to the survey data in accordance with regulations that protect anonymity and confidentiality. All hardware will be password protected and only pseudonyms will be used as individual identifiers. AES 256 will be used to encrypt data collected. The research data and information will be kept secured in a locked filing cabinet for a period of not more than five years.

**What is the cost of participating in the survey?**

The cost of participating in the survey to you will be the time to complete this survey that will take approximately 40 minutes. We recognize that your time is very valuable to this research process. In appreciation for any inconvenience participants invited to participate will receive a \$10 Tim Horton's gift certificate.

**Ethical Approval**

This study has been reviewed and has received ethics approval by the Research Ethics Office at Health Sciences North, and Laurentian University.

**Your Rights as a Research Subject, questions and contact information**

Thank you for taking the time to review this letter explaining this study. If you have any questions about your rights as a research participant or the conduct of the study you may contact Judith Horrigan 1-800-461-4030, ext. 3718, 705-675-1151, ext. 3718 or via email: [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca). You may also contact Dr. Nancy Lightfoot (Ph.D. Supervisor) at the School of Rural and Northern Health, 1-800-461-4030, ext 3972, 705-675-1151, ext. 3972 or via email [nlightfoot@laurentian.ca](mailto:nlightfoot@laurentian.ca). You may also contact Ms. Pauline Zanetti, Coordinator for the Research Ethics Board Laurentian University Research Office, E-mail: [pzanetti@laurentian.ca](mailto:pzanetti@laurentian.ca), Telephone: 1-705-675-1151 ext. 2436 or 1-800-675-1151 ext. 2436.

If you wish to speak to a neutral individual who is not involved in the study at all and who will answer any questions about your rights as a research subject or about ethical issues related to this study, you may contact Dr. Diaz Mitoma, the Senior Manager Responsible for Research Administration, Health Sciences North, 41 Ramsey Lake Road, Sudbury, Ontario, P3E 5J1, telephone 705-523-7100 ext. 3219.

Sincerely,

Judith Horrigan, RN, MScN, Ph.D. Candidate  
School of Rural and Northern Health, Laurentian University

**Research Consent Form for Nurse Participant (Phase I Survey)**

**Study Title:** Evaluating the quality of work life of Northeastern Ontario nurses in urban, rural and remote acute care locations

**Institution:** Laurentian University, School of Rural and Northern Health

**Principal Investigator:** Judith Horrigan, RN, MSc.N, Ph.D. Candidate,

**Co-Investigators:** Nancy Lighfoot, Ph.D. (Ph.D. Supervisor)  
Michel Larivière, Ph.D. (Committee Member)  
Kristen Jacklin, Ph.D. (Committee Member)

I have read and understand the information given in this information letter about the study being conducted by Judith Horrigan (PhD candidate), Nancy Lightfoot, Michel Larivière, and Kristen Jacklin, from Laurentian University in Sudbury, ON.

I understand that I am being asked to complete a questionnaire to assist in evaluating the quality of nurses' work life in urban, rural and remote Northeastern Ontario hospital settings. I understand that by signing this form and returning a completed survey I have consented to participate in the above mentioned study. I understand that my participation in this study is entirely voluntary and that I may withdraw from the study at any time. I understand that I will not benefit from my involvement in the study and that a copy of this information letter has been provided to me. I voluntarily consent to participate in this study.

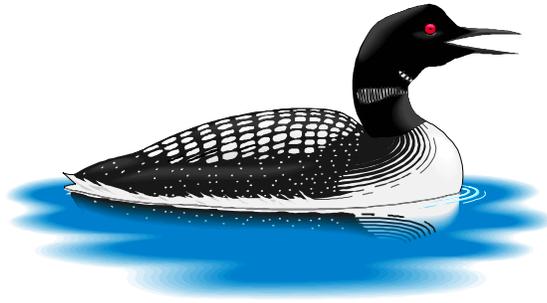
\_\_\_\_\_ Date: \_\_\_\_\_  
Name of Participant (Please Print)

\_\_\_\_\_  
Signature of Participant

For further information, please contact:  
Judith Horrigan, R.N., MScN., PhD Candidate,  
School of Rural and Northern Health, Laurentian University  
E-mail: [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca)  
Tel: (705) 675-1151 ext. 3718

Appendix J  
Phase I Questionnaire for RNs

QUESTIONNAIRE  
EVALUATING THE QUALITY OF WORK LIFE OF  
URBAN, RURAL AND REMOTE  
NORTHEASTERN ONTARIO NURSES



**Principal Investigator:** Judith Horrigan, RN, MSc.N, Ph.D Candidate,

**Co-Investigators:** Nancy Lighfoot, Ph.D. (Ph.D. Supervisor)  
Michel Larivière, Ph.D. (Committee Member)  
Kristen Jacklin, Ph.D. (Committee Member)

**Questionnaire Instructions**

The questionnaire will take approximately 30 minutes to complete.

Your participation is completely voluntary. You may withdraw at any time without penalty. You may skip any question that you are uncomfortable answering. All questions contained in this questionnaire are strictly confidential. If you do not wish to participate please return the blank questionnaire in the enclosed envelope.

This survey is also available online at:

**<http://workplace.behdin.com/index.php?sid=16822&lang=en>**

Thank you for your time!

**RN Participant Identification Code :** \_\_\_\_\_

**SECTION A. YOUR INFORMATION**

This section (A1 to A15) asks about your **current** nursing job.

A 1. Please indicate your nursing experience in years.

Total # of years as an RN \_\_\_\_\_ Total # of years as RN in Northeastern Ontario  
 \_\_\_\_\_

A 2. What is the Hospital/Healthcare Centre where you are currently employed?

Sudbury, Health Sciences North

A 3. What is the date you started working at this hospital: \_\_\_\_\_  
 (month) (year)

A 4. For your current nursing position, are you considered: (mark only one answer)  
 Full-Time (30 hrs. per wk.)                       Full-Time (more than 30 hrs. per wk.)  
 Part-Time (less than 30 hrs. per wk.)             Casual (as needed basis)  
 Other, *please specify*: \_\_\_\_\_

A 5.  
 a. How many shifts and days off are you scheduled in a two-week pay period?

Job Status	Number of Shifts	Number of Days Off
Full-Time (30 hrs. per wk.)	_____	_____
Full-Time (more than 30 hrs. per wk.)	_____	_____
Part-Time (less than 30 hrs. per wk.)	_____	_____
Casual (as needed basis)	_____	_____
Other, <i>please specify</i> :	_____	_____

b. Are you usually able to take your scheduled days off?                       Yes             No

c. On average, how many hours do you work per shift? (mark only one answer)  
 8 hours       12 hours       Other, *please specify*: \_\_\_\_\_

d. Do you usually work rotating shifts?                       Yes             No

e. Are rotating shifts     Voluntary     Mandatory?

A 5.

- f. Do you receive additional compensation for rotating shifts?  Yes  No

a) If yes: how are you compensated? \_\_\_\_\_

- g. For your current nursing position, please indicate the type of shifts you normally/usually work and the number of clients/patients you usually care for on those shifts: (**CHECK ALL** that apply)

Shifts worked:

Average number of clients/patients per shift:

Day-time shift

\_\_\_\_\_

Evening shift

\_\_\_\_\_

Night shift

\_\_\_\_\_

Other, *please specify*: \_\_\_\_\_

\_\_\_\_\_

A 6.

- a. Are you usually able to take your scheduled coffee, lunch, or dinner breaks?  Yes  No

If no, how often do you miss your breaks in a work week? \_\_\_\_\_

- b. Do you ever work overtime?  Yes  No

- c. Please indicate the average overtime hours you worked in the past week and past month.

\_\_\_\_\_ overtime hours in the past week \_\_\_\_\_ overtime hours in the past month

- d. If you worked any overtime in the past year, please indicate how you were compensated. Please **CHECK ALL** that apply.

Banked hours  Overtime payment  No compensation

Other, *please specify* \_\_\_\_\_

A 7. Identify the type of unit where you currently work in your nursing position

\_\_\_\_\_

A 8. a. How many years have you worked on this unit? \_\_\_\_\_

- b. Do you work on other units on a regular basis?  Yes  No

If yes, *please specify*: \_\_\_\_\_

A 9. a. Are you certified in a specialty area?  Yes  No

If yes, what is your specialty certificate? \_\_\_\_\_

- b. Do you receive additional compensation for being certified?  Yes  No

- A 10. a. What is your current nursing position (mark only one answer)  
 Staff Nurse  Team Leader  Charge Nurse  Unit Manager  
 Other, *please specify*: \_\_\_\_\_
- b. Do you receive additional compensation for being the charge nurse?  Yes  No
- A 11. Do you usually participate in interprofessional rounds?  Yes  No
- A 12. Do you usually participate in multidisciplinary care meetings?  Yes  No
- A 13. a. Do you ever attend work related conferences?  Yes  No  
 If yes, on average how often? \_\_\_\_\_
- b. Does your employer reimburse you for conference expenses?  Yes  No
- c. Does your employer reimburse you for time off to attend conferences?  Yes  No
- A 14. Do you belong to a union?  Yes  No
- A 15. Do you have seniority in your current job?  Yes  No

**SECTION B. DEMOGRAPHIC INFORMATION**

Sections **B to E** asks questions related to your personal and general health information, educational background and income.

- B 1. What is your gender?  Female  Male
- B 2. a. What is your date of birth? \_\_\_\_\_ 19\_\_\_\_\_  
 (month) (day) (year)
- b. Were you born in Northeastern Ontario?  Yes  No
- B 3. a. What is your current marital status?  
 Single/never married  Married/Common-law  Divorced/Separated/Widowed
- b. Was your spouse/significant other born in Northeastern Ontario?  
 Yes  No  Not Applicable
- B 4. Do you have any dependent children living with you?  Yes  No
- a. If yes, indicate the number of dependent children you have living with you at home and their ages.

	# of Children _____	
Age of each Child:	_____	_____
	_____	_____
	_____	_____
	_____	_____

- B 5. a. Do you have any dependent adults living with you?  Yes  No
- b. Do you have any dependent seniors living with you?  Yes  No
- c. Are involved in caring for someone (parent/relative) **not** living with you on a daily basis?  Yes  No

**SECTION C. GENERAL HEALTH INFORMATION**

C 1. In general, how would you rate your present overall health compared to other people your age?

- Poor  Fair  Good  Very Good  Excellent

C 2. a. Over the past year, have you experienced any of the following potentially work-related health conditions?

- Back pain
- Back injury
- Other muscle strain/sprain
- Depression (clinically diagnosed)
- Exhaustion
- Anxiety/Panic (clinically diagnosed)
- Infectious disease
- Contaminated sharp injury
- None of the above
- Other, *please specify*: \_\_\_\_\_

b. Have you ever experienced any physical violence in the workplace?  
 \*Physical Violence is defined as: “the use of physical force against another person or group, that results in physical, sexual or psychological harm. It includes among others, beating, kicking, slapping, stabbing, shooting, pushing, biting and pinching”.

- Yes  No

If Yes: Did you experience physical violence from:

- a Patient  a Patient’s family  a Co-worker  Other: \_\_\_\_\_

- C 3. c. Have you ever experienced any psychological violence in the workplace?  
 \*Psychological Violence is defined as the: “intentional use of power, including threat of physical force, against another person or group, that can result in harm to physical, mental, spiritual, moral or social development. It includes verbal abuse, bullying/mobbing, harassment and threats”

Yes  No

If Yes: Did you experience psychological violence from:

a Patient  a Patient’s family  a Co-worker  Other: \_\_\_\_\_

\*Definitions taken from: pp. 3-4. International Labour Office, International Council of Nurses, World Health Organization, & Public Services International. Joint Program on workplace violence in the Health Sector. (2002). Framework guidelines for addressing workplace violence in the health sector. Geneva, Switzerland: Authors, pp. 3-4 <sup>47</sup>

- C 4. The next series of questions asks you about absences from work **in the past 12 months**.

- a. Have you ever missed work due to physical illness? (excluding injuries)

Yes  No

If yes, how many days did you miss and in what month of the year?

i. # of days \_\_\_\_\_ ii. Month(s) \_\_\_\_\_

- b. Have you ever missed work due to mental health?  Yes  No

If yes, how many days did you miss and in what month of the year?

i. # of days \_\_\_\_\_ ii. Month(s) \_\_\_\_\_

- c. Have you ever missed work due to a work related accident or injury?  Yes  No

If yes, how many days did you miss and in what month of the year?

i. # of days \_\_\_\_\_ ii. Month(s) \_\_\_\_\_

If yes, was this a musculoskeletal injury?  Yes  No

(injury to bones, joints, ligaments, tendons, muscles, and nerves)

If No: Please describe the type of work related accident or injury:

- d. Did you receive workers compensation for the accident or injury?  Yes  No

- e. Have you ever missed work due to an accident or injury that was not work related?  Yes  No

If yes, how many days did you miss and in what month of the year?

i. # of days \_\_\_\_\_ ii. Month(s) \_\_\_\_\_

- f. Does your employer currently offer Employee Assistance programs?  Yes  No  
 (e.g. counseling, substance abuse control, financial assistance, legal aid, etc.)

- g. Have you used this service in the last 12 months?  Yes  No

- h. Have you ever missed work due to caring for a sick child?  Yes  No

If yes, how many days did you miss and in what month of the year?

i # of days \_\_\_\_\_ ii. Month(s) \_\_\_\_\_

- i. Have you ever missed work due to caring for an elderly parent?  Yes  No

If yes, how many days did you miss and in what month of the year?

i # of days \_\_\_\_\_

ii. Month(s) \_\_\_\_\_

(Questions in C. 4 were adapted from the National Survey of the Work and Health of Nurses (2005) Shields, M., & Wilkins, K. (2006). National survey of the work and health of nurses. Health Canada Catalogue no. 11-621-MIE-No. 052, pp i-164.<sup>97</sup>

**SECTION D. EDUCATION**

D 1. a. Was your basic registered nursing (RN) education obtained in Northeastern Ontario?  
 Yes  No

b. What year did you graduate from an RN Diploma or BScN Nursing program? \_\_\_\_\_

D 1. c. Please check off all the formal education credentials you have completed both in nursing and outside of nursing. (**CHECK ALL** that apply)

Nursing	Outside Nursing
<input type="checkbox"/> Nursing Diploma	<input type="checkbox"/> Diploma/Certificate
<input type="checkbox"/> Baccalaureate Degree in Nursing	<input type="checkbox"/> Baccalaureate Degree
<input type="checkbox"/> Nurse Practitioner (EC)	<input type="checkbox"/> Masters Degree
<input type="checkbox"/> Masters Degree in Nursing	<input type="checkbox"/> Doctorate Degree
<input type="checkbox"/> Doctorate Degree in Nursing	<input type="checkbox"/> Post-Doctoral Training
<input type="checkbox"/> Post-Doctoral Training in Nursing	

D 2. a. Are you currently enrolled in an educational program leading to a formal degree or completing post-doctoral training?  Yes  No

b. If yes, please indicate what kind of program you are enrolled in. (**CHECK ALL** that apply)

Nursing	Outside Nursing
<input type="checkbox"/> Nursing Diploma	<input type="checkbox"/> Diploma/Certificate
<input type="checkbox"/> Baccalaureate Degree in Nursing	<input type="checkbox"/> Baccalaureate Degree
<input type="checkbox"/> Nurse Practitioner (EC)	<input type="checkbox"/> Masters Degree
<input type="checkbox"/> Masters Degree in Nursing	<input type="checkbox"/> Doctorate Degree
<input type="checkbox"/> Doctorate Degree in Nursing	<input type="checkbox"/> Post-Doctoral Training
<input type="checkbox"/> Post-Doctoral Training in Nursing	

**SECTION E. INCOME AND EMPLOYMENT HISTORY**

E 1. What is your annual salary before taxes?

- |   |  |
|---|--|
| <input type="checkbox"/> Less than \$20,000 | <input type="checkbox"/> \$50,000 - \$59,999 |
| <input type="checkbox"/> \$20,000-\$29,999  | <input type="checkbox"/> \$60,000 - \$69,999 |
| <input type="checkbox"/> \$30,000-\$39,999  | <input type="checkbox"/> \$70,000 - \$79,999 |
| <input type="checkbox"/> \$40,000-\$49,999  | <input type="checkbox"/> \$80,000 or more    |

E 2. What City/Town and Province have you worked the majority of your nursing career?

(City/Town)	(Province)
-------------	------------

**SECTION F. BROOKS’ QUALITY OF NURSING WORK LIFE SURVEY**

**Section F** contains statements about nursing work life. Please indicate how much you **disagree or agree** with each statement using the scale given below. Responses range from **Strongly Disagree (1)** to **Strongly Agree (6)**. Please mark your answer by circling one number. If you are unsure about your answer to a given item, think about it for a minute and then respond. There are no right or wrong answers.

F	Quality of Nursing Work Life Survey	Strongly Disagree						Strongly Agree
1.	I receive a sufficient amount of assistance from unlicensed support personnel (the dietary aides, housekeeping, patient care technicians, and nursing assistants).	1	2	3	4	5	6	
2.	I am satisfied with my job.	1	2	3	4	5	6	
3.	My workload is too heavy.	1	2	3	4	5	6	
4.	In general, society has an accurate image of nurses.	1	2	3	4	5	6	
5.	I am able to balance work with my family needs.	1	2	3	4	5	6	
6.	I have the autonomy to make patient care decisions.	1	2	3	4	5	6	
7.	I am able to communicate well with my nurse manager/supervisor.	1	2	3	4	5	6	

<b>F</b>	<b>Quality of Nursing Work Life Survey</b>	<b>Strongly Disagree</b>					<b>Strongly Agree</b>
8.	I have adequate patient care supplies and equipment.	1	2	3	4	5	6
9.	My nurse manager/supervisor provides adequate supervision.	1	2	3	4	5	6
10.	It is important for a hospital to offer employees on-site childcare services.	1	2	3	4	5	6
11.	I perform many non-nursing tasks.	1	2	3	4	5	6
12.	I have energy left after work.	1	2	3	4	5	6
13.	Friendships with my co-workers are important to me.	1	2	3	4	5	6
14.	My work setting provides career advancement opportunities.	1	2	3	4	5	6
15.	There is teamwork in my work setting.	1	2	3	4	5	6
16.	I experience many interruptions in my daily work routine.	1	2	3	4	5	6
17.	I have enough time to do my job well.	1	2	3	4	5	6
18.	There are enough RNs in my work setting.	1	2	3	4	5	6
19.	I feel a sense of belonging in my workplace.	1	2	3	4	5	6
20.	Rotating schedules negatively affect my life.	1	2	3	4	5	6
21.	I am able to communicate with the other therapists (physical, respiratory, etc.).	1	2	3	4	5	6
22.	I receive feedback on my performance from my nurse manager/supervisor.	1	2	3	4	5	6
23.	I am able to provide good quality patient care.	1	2	3	4	5	6
24.	My salary is adequate for my job given the current job market conditions.	1	2	3	4	5	6
25.	My organization's policy for family-leave time is adequate.	1	2	3	4	5	6

<b>F</b>	<b>Quality of Nursing Work Life Survey</b>	<b>Strongly Disagree</b>					<b>Strongly Agree</b>
26.	I am able to participate in decisions made by my nurse manager/supervisor.	1	2	3	4	5	6
27.	It is important for a hospital to offer employees on-site day care for elderly parents.	1	2	3	4	5	6
28.	I feel respected by physicians in my work setting.	1	2	3	4	5	6
29.	It is important to have a designated, private break area for the nursing staff.	1	2	3	4	5	6
30.	It is important to me to have nursing degree-granting programs available at my hospital.	1	2	3	4	5	6
31.	I receive support to attend in-services and continuing education programs.	1	2	3	4	5	6
32.	I communicate well with the physicians in my work setting.	1	2	3	4	5	6
33.	I am recognized for my accomplishments by my nurse manager/supervisor.	1	2	3	4	5	6
34.	Nursing policies and procedures facilitate my work.	1	2	3	4	5	6
35.	The security department provides a secure environment.	1	2	3	4	5	6
36.	It is important for a hospital to offer employees on-site ill child care services	1	2	3	4	5	6
37.	I would be able to find my same job in another organization with about the same salary and benefits.	1	2	3	4	5	6
38.	I feel safe from personal harm (physical, emotional, or verbal) at work.	1	2	3	4	5	6
39.	I believe my job is secure.	1	2	3	4	5	6
40.	Upper-level management has respect for nursing.	1	2	3	4	5	6
41.	My work impacts the lives of patients/families.	1	2	3	4	5	6
42.	I receive quality assistance from unlicensed support personnel (the dietary aides, housekeeping, patient care technicians, and nursing assistants).	1	2	3	4	5	6

**SECTION G. PRACTICE ENVIRONMENT SCALE (LAKE, 2002)**

For each item, please indicate the **extent to which you agree** that the item is **PRESENT IN YOUR CURRENT JOB**. Responses range from **Strongly Disagree (1)** to **Strongly Agree (4)**. Please mark your answer by circling one number. If you are unsure about your answer to a given item, think about it for a minute and then respond. There are no right or wrong answers.

<b>G</b>	<b>Practice Environment Scale</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
1.	Adequate support services allow me to spend time with my patients.	1	2	3	4
2.	Physicians and nurses have good working relationships	1	2	3	4
3.	A supervisory staff that is supportive of the nurses.	1	2	3	4
4.	Active staff development or continuing education programs for nurses.	1	2	3	4
5.	Career development/clinical ladder opportunity.	1	2	3	4
6.	Opportunity for staff nurses to participate in policy decisions.	1	2	3	4
7.	Supervisors use mistakes as learning opportunities, not criticism.	1	2	3	4
8.	Enough time and opportunity to discuss patient care problems with other nurses	1	2	3	4
9.	Enough registered nurses to provide quality patient care.	1	2	3	4
10.	A nurse manager who is a good manager and leader.	1	2	3	4
11.	A chief nursing officer who is highly visible and accessible to staff	1	2	3	4
12.	Enough staff to get the work done	1	2	3	4
13.	Praise and recognition for a job well done.	1	2	3	4
14.	High standards of nursing care are expected by the administration	1	2	3	4
15.	A chief nursing officer equal in power and authority to other top-level hospital executives	1	2	3	4
16.	A lot of team work between nurses and physicians.	1	2	3	4
17.	Opportunities for advancement.	1	2	3	4
18.	A clear philosophy of nursing that pervades the patient care environment.	1	2	3	4
19.	Working with nurses who are clinically competent.	1	2	3	4

<b>G</b>	<b>Practice Environment Scale</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Agree</b>	<b>Strongly Agree</b>
20.	A nurse manager who backs up the nursing staff in decision- making, even if the conflict is with a physician.	1	2	3	4
21.	Administration that listens and responds to employee concerns.	1	2	3	4
22.	An active quality assurance program.	1	2	3	4
23.	Staff nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	1	2	3	4
24.	Collaboration (joint practice) between nurses and physicians.	1	2	3	4
25.	A preceptor program for newly hired RNs	1	2	3	4
26.	Nursing care is based on a nursing, rather than a medical, model.	1	2	3	4
27.	Staff nurses have the opportunity to serve on hospital and nursing committees.	1	2	3	4
28.	Nursing administrators consult with staff on daily problems and procedures	1	2	3	4
29.	Written, up-to-date nursing care plans for all patients.	1	2	3	4
30.	Patient care assignments that foster continuity of care, i.e., the same nurse cares for the patient from one day to the next.	1	2	3	4
31.	Use of nursing diagnoses.	1	2	3	4

## SECTION H. STRESS IN THE WORKPLACE

Below is a list of situations that commonly occur in a hospital unit. Please **indicate how often** in your present unit **you have found the situation to be stressful**. Responses range from **Never (1) to Very Frequently (4)**. Please mark your answer by circling one number. If you are unsure about your answer to a given item, think about it for a minute and then respond. There are no right or wrong answers.

<b>H</b>	<b>Stress in the Workplace</b>	<b>Never</b>	<b>Occasionally</b>	<b>Frequently</b>	<b>Very Frequently</b>
1.	Breakdown of the computer.	1	2	3	4
2.	Criticism by a physician.	1	2	3	4
3.	Performing procedures that patients experience as painful.	1	2	3	4
4.	Feeling helpless in the case of a patient who fails to improve.	1	2	3	4

<b>H</b>	<b>Stress in the Workplace</b>	<b>Never</b>	<b>Occasionally</b>	<b>Frequently</b>	<b>Very Frequently</b>
5.	Conflict with a supervisor.	1	2	3	4
6.	Listening or talking to a patient about his/her approaching death.	1	2	3	4
7.	Lack of an opportunity to talk openly with other unit personnel about problems on the unit.	1	2	3	4
8.	The death of a patient.	1	2	3	4
9.	Conflict with a physician.	1	2	3	4
10.	Fear of making a mistake in treating a patient.	1	2	3	4
11.	Lack of an opportunity to share experiences and feelings with other personnel on the unit.	1	2	3	4
12.	The death of a patient with whom you developed a close relationship.	1	2	3	4
13.	Physician not being present when a patient dies.	1	2	3	4
14.	Disagreement concerning the treatment of a patient.	1	2	3	4
15.	Feeling inadequately prepared to help with the emotional needs of a patient's family.	1	2	3	4
16.	Lack of an opportunity to express to other personnel on the unit my negative feelings towards patients.	1	2	3	4
17.	Inadequate information from a physician regarding the medical condition of a patient.	1	2	3	4
18.	Being asked a question by a patient for which I do not have a satisfactory answer.	1	2	3	4
19.	Making a decision concerning a patient when the physician is unavailable.	1	2	3	4
20.	Floating to other units that are short-staffed.	1	2	3	4
21.	Watching a patient suffer.	1	2	3	4
22.	Difficulty in working with a particular nurse (nurses) outside the unit.	1	2	3	4
23.	Feeling inadequately prepared to help with the emotional needs of a patient.	1	2	3	4
24.	Criticism by a supervisor.	1	2	3	4

<b>H</b>	<b>Stress in the Workplace</b>	<b>Never</b>	<b>Occasionally</b>	<b>Frequently</b>	<b>Very Frequently</b>
25.	Unpredictable staffing and scheduling.	1	2	3	4
26.	A physician ordering what appears to be inappropriate treatment for a patient.	1	2	3	4
27.	Too many non-nursing tasks, required, such as clerical work.	1	2	3	4
28.	Not enough time to provide emotional support to a patient.	1	2	3	4
29.	Difficulty in working with a particular nurse (or nurses) on the unit.	1	2	3	4
30.	Not enough time to complete all of my nursing tasks.	1	2	3	4
31.	A physician not being present in a medical emergency.	1	2	3	4
32.	Not knowing what a patient or a patient's family ought to be told about the patient's medical condition and its treatment.	1	2	3	4
33.	Uncertainty regarding the operation and functioning of specialized equipment.	1	2	3	4
34.	Not enough staff to adequately cover the unit.	1	2	3	4

Would you like to share any other comments?

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Would you like to receive a copy of the results of this survey?  Yes  No

If Yes: *please provide an email address:* \_\_\_\_\_

**Part two of this study involves individual interviews with a total of six RNs, from across Northeastern Ontario, to explore and discuss the key findings from this survey. The one-on-one interview would take approximately one hour of your time. If you are interested in being a potential participant in part two of the study please indicate yes below and provide your email address.**

Yes  No

*Email address:* \_\_\_\_\_

**Thank you for your interest!**

**Thank you very much for taking the time  
to complete this survey!**

Appendix K  
Permission to use Scales and Demographic Questions

K a. Dr. Joel Anderson (NSS),

K b. Dr. Beth Brooks (QNWL),

K c. Mr. Behdin Nowrouzi,

K d. Dr. Ann Tourangeau.

K a. Dr. Joel Anderson (NSS),

June 13, 2011

RE: Nursing Stress Scale

I have enclosed a copy of the Nursing Stress Scale. You have our permission to use the Nursing Stress Scale in your research. Please cite the original source in the Journal of Behavioral Assessment, Vol. 3, No. 1, 1981, pp. 11-23. Please note that six of the items were dropped on the basis of the factor analysis. I have checked the final 34 items that were included on the enclosed copy of the NSS.

Good luck. I would be most interested in receiving a copy of any of the publications that result from the research. Please call me at (765) 494-4703 or send me an email if you have any questions.

Sincerely yours,

**James G. Anderson, Ph.D.**  
Professor of Medical Sociology  
Professor of Health Communication  
(765) 494-4703  
FAX: (765) 496-1476  
e-mail: andersonj@purdue.edu  
web.ics.purdue.edu/janders1

K b. Dr. Beth Brooks (QNWL),

May 14, 2011

Judith Horigan  
Laurentian University  
Sudbury, Ontario Canada

Dear Judith:

You have permission to use my instrument, Brooks' Quality of Nursing Work life Survey (BQNW), to assess nursing work life as part of your PhD degree program at Laurentian University in Sudbury, Ontario Canada.

In return, I require that you:

- Report summary findings to me from the survey, including reliability analysis
- Credit the use and my authorship of the survey in any publication of your research
- Inform me of the institution where you are collecting data

Keep in mind that the survey was originally designed to assess the nursing work life of staff nurses working in acute care. Using the survey with other groups of nurses (e.g. charge nurses, nurse managers, etc.) will require modification of some survey items. Making significant changes to the intent of the item and/or adding items is prohibited. If you need the demographic section customized, let me know. I will email the factor analysis-derived subscales for data analysis.

Please don't hesitate to call upon me to discuss your process. If you need me to perform data entry and analysis, or to generate a formal report with benchmarking, there is a consultant fee. I am also available for onsite speaking or consultation.

Good luck with your research.

Sincerely,



Beth A. Brooks, Ph.D., R.N., FACHE  
President  
The Brooks Group, LLC  
[brooksbe@comcast.net](mailto:brooksbe@comcast.net)  
[brooksbe@uic.edu](mailto:brooksbe@uic.edu)

K c. Dr. Behdin Nowrouzi,

Permission to Use Demographic Questions from Mr. Behdin Nowrouzi

January 29<sup>th</sup>, 2012

Hi Jude,

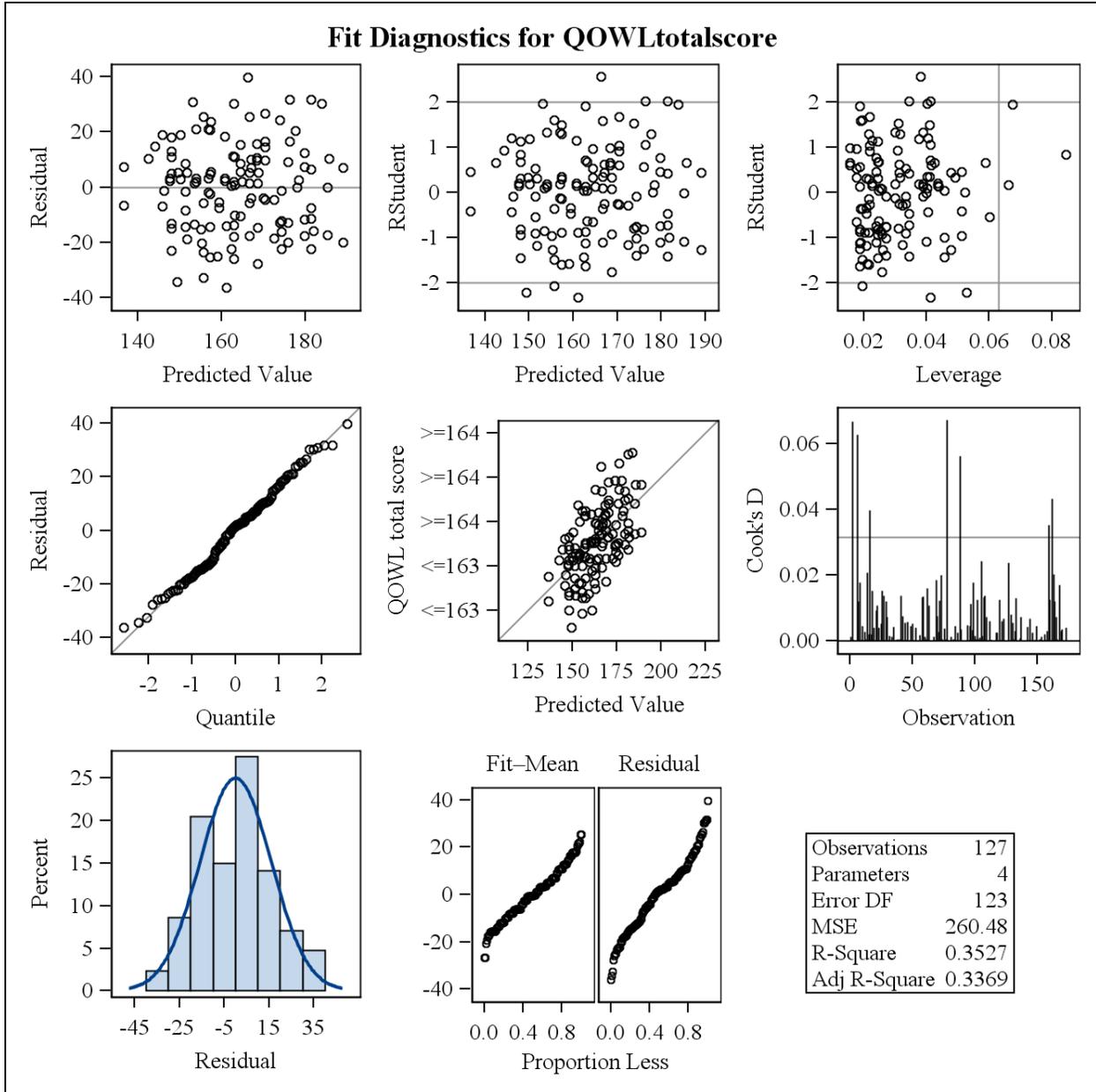
Of course, feel free to use any of the questions in your study as well.

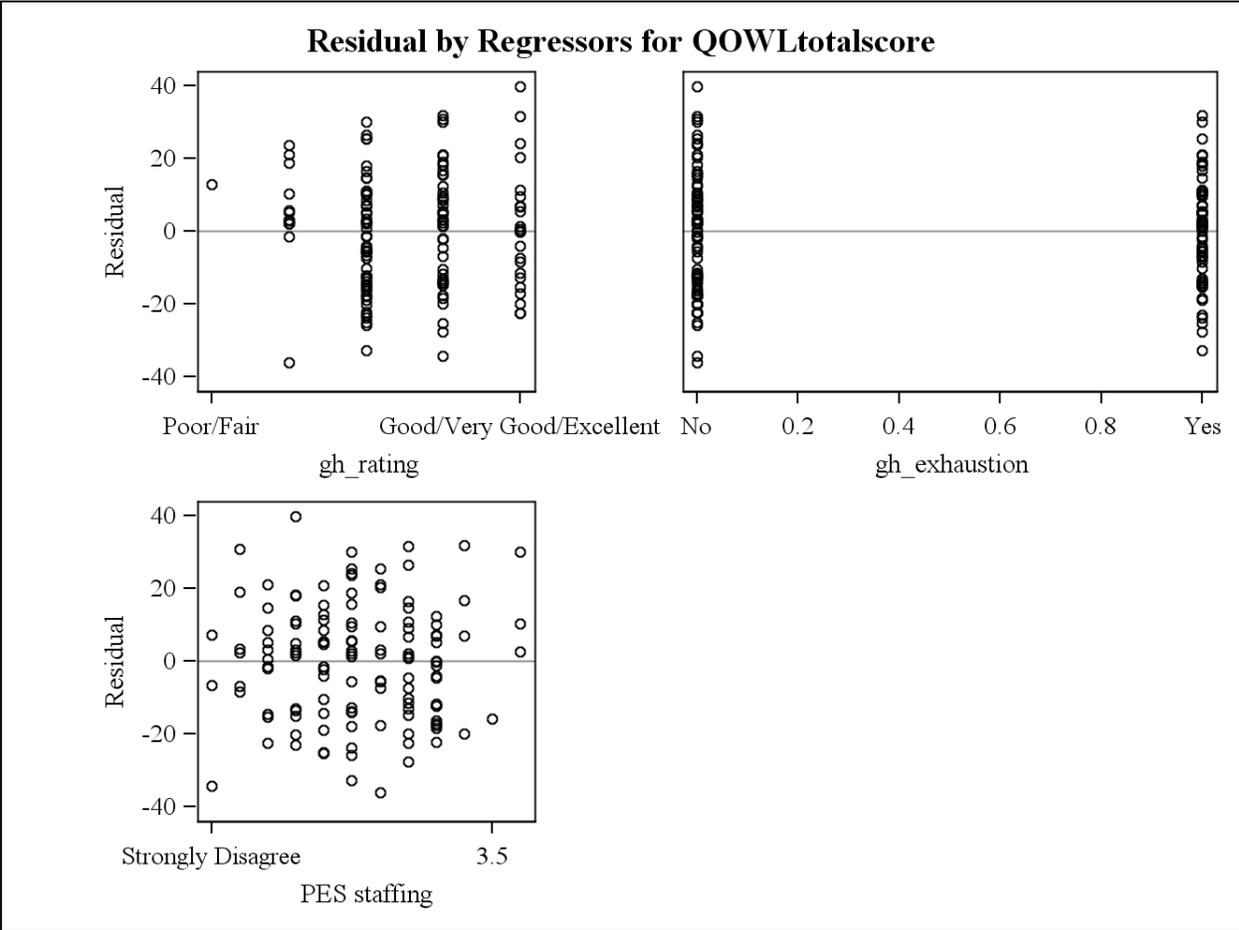
Behdin  
BX\_Nowrouzi@laurentian.ca

K d. Dr. Ann Tourangeau.

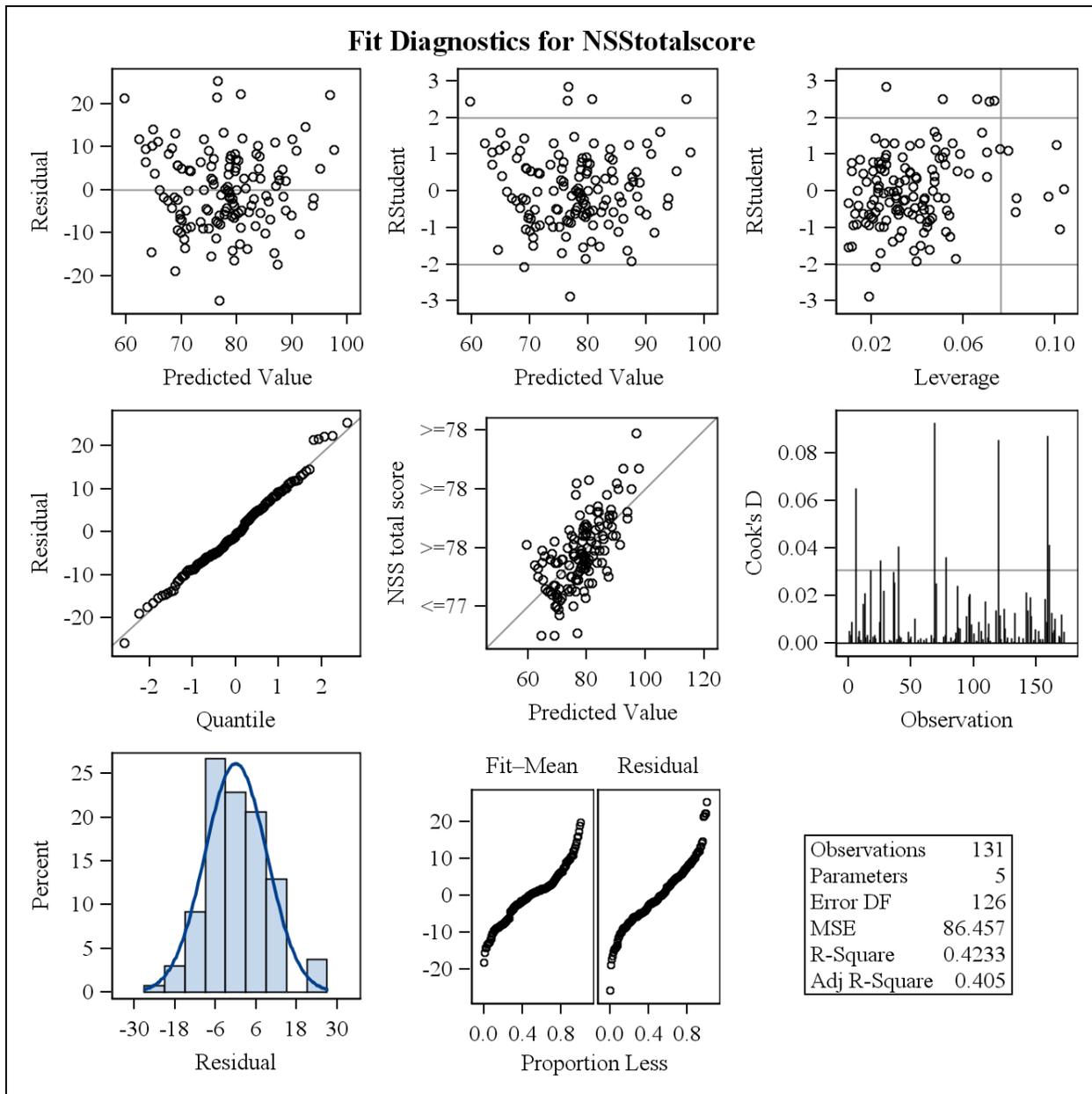
>>>> On 5/30/2011 at 04:42 PM, in message  
> <[25d6dc7c-8066-47b7-bdac-9f71ab79e8d5@arborexhub01.UTORARBOR.UTORAD.Utoronto.ca](mailto:25d6dc7c-8066-47b7-bdac-9f71ab79e8d5@arborexhub01.UTORARBOR.UTORAD.Utoronto.ca)>  
> Ann Tourangeau <[ann.tourangeau@utoronto.ca](mailto:ann.tourangeau@utoronto.ca)> wrote:  
>> Hi Judith,  
>>  
>> You are free to use any items / instruments that are not copyrighted so you  
>> need to determine which items you want to use and then I can let you know if  
>> they are copyrighted or not. Just let me know.  
>>  
>> Hope the PhD is going well.  
>>  
>> Ann  
>>  
>> Dr. Ann Tourangeau  
>> Associate Professor and Graduate Program Coordinator  
>> Lawrence S. Bloomberg Faculty of Nursing  
>> University of Toronto  
>> 130-155 College Street  
>> Toronto, Ontario, Canada M5T 1P8  
>> 416.978.6919  
>>  
>>  
>>  
>> -----Original Message-----  
>> From: Judith Horrigan [<mailto:jhorrigan@sympatico.ca>]  
>> Sent: May-30-11 4:36 PM  
>> To: Ann Tourangeau  
>> Cc: Judith Horrigan  
>> Subject: request for permission to use sections of nurse faculty retention  
>> survey  
>>  
>> Dear Dr. Tourangeau  
>>  
>> My name is Judith Horrigan and I am currently enrolled in an  
>> interdisciplinary PhD program at Laurentian University. The focus of my  
>> thesis is on the quality of nurses' work life and health in rural, remote,  
>> and urban locations in Northeastern Ontario. I am currently searching for  
>> instruments to utilize for my research. I completed the Retention of Ontario  
>> College and University nurse faculty study a while ago and am wondering if it  
>  
>> is possible to have permission to use some parts of your survey related to  
>> work environments and demographic sections for my study. I would appreciate  
>> it if you could let me know if this is possible to receive permission and if  
>> there are any costs.  
>> Thank you for taking time to consider my request.  
>>  
>> Judith Horrigan, RN, MScN  
>> [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca)  
>

Appendix L  
QOWL Total Score Fit Diagnostics and Residual Regressors

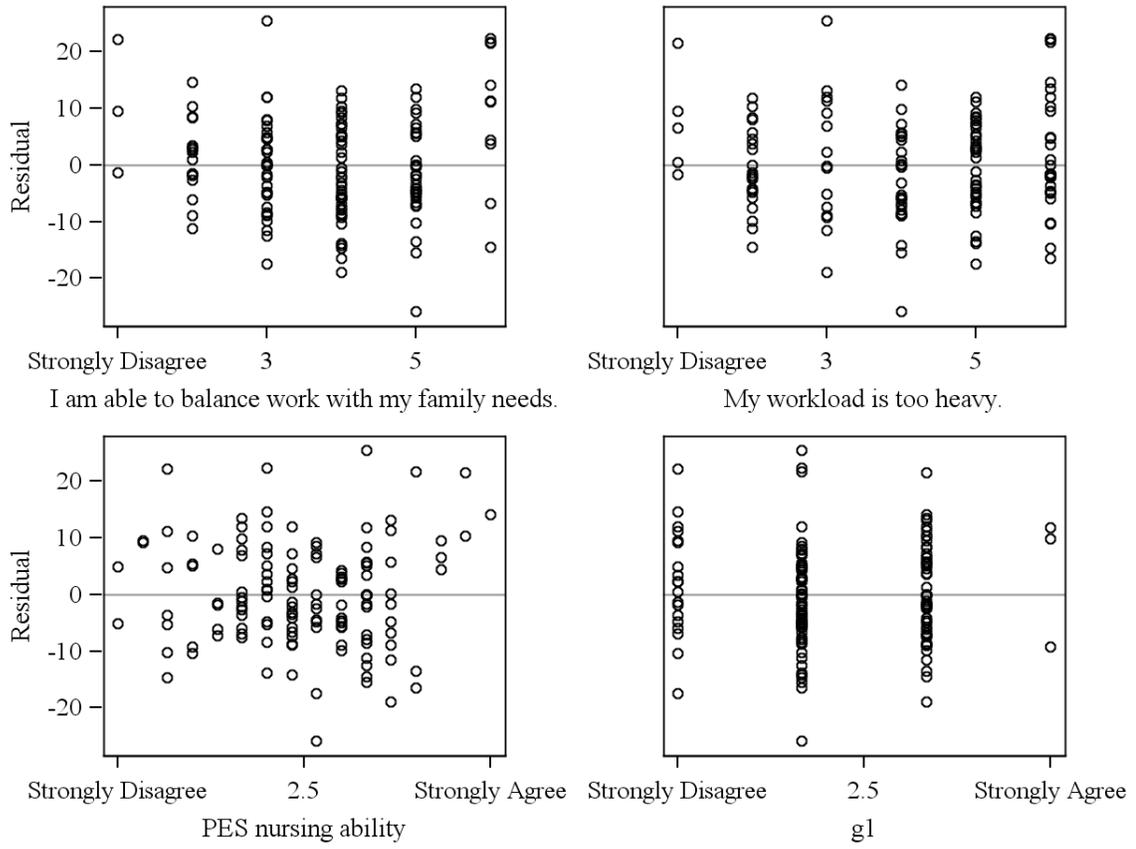




Appendix M  
 NSS Total Score Fit Diagnostics and Residual Regressors



### Residual by Regressors for NSStotalscore



## Appendix N

### Phase II – Information Package and Consent for RNs and Nurse leaders Participants

N a: Information Letter for Prospective Nurses and Nurse Leaders (Phase II Interviews)



**Study Title:** Evaluation of the quality of work life of Northeastern Ontario nurses in Urban and rural acute care locations

**Institution:** Laurentian University, School of Rural and Northern Health

**Principal Investigator:** Judith Horrigan, RN, MSc.N, Ph.D. Candidate,

**Co-Investigators:** Nancy Lighfoot, Ph.D. (Ph.D. Supervisor)  
Michel Larivière, Ph.D. (Committee Member)  
Kristen Jacklin, Ph.D. (Committee Member)

#### **Dear Participant**

My name is Judith Horrigan and I am a Ph.D. Candidate in the Interdisciplinary PhD in Rural and Northern Health at Laurentian University in Sudbury, Ontario, Canada, and the principal investigator of a research study exploring the quality of nurses' work life in northern urban and rural acute care settings. I invite you to be a participant in this study designed to evaluate the quality of work life (QOWL) of nurses working in urban and rural hospitals in Northeastern Ontario. This information will help you to decide whether or not you want to participate in this study. This letter explains the purpose of my study, potential risks and benefits, your participation, and your rights as a participant. Your participation in this study is entirely voluntary, and a decision not to participate will not affect you or your job in any way. Additional contact information is provided to answer any further explanation or concerns you may have related to this project.

#### **What is the Purpose of this research?**

The QOWL has been linked to the health of nurses. However, limited research has been conducted focusing on the QOWL of nurses in Northeastern Ontario working in urban and rural acute care locations. Therefore, the purpose of this research will be to explore how Northeastern Ontario nurses and nursing leaders evaluate the quality of work life in urban and rural acute care locations in.

#### **What does participation in the survey involve?**

If you consent to participating in this study, you would be asked to attend one interview with Judith Horrigan that would take approximately one hour. The interview would be held at a date, time and at a location in the hospital that is convenient to you. Your experiences as a healthcare provider are very valuable and important to this study and would be audio digitally recorded and transcribed at a later date. You would be asked to share your thoughts about what

you consider to be important issues in your work environment. Moreover, you would be asked about aspects that foster quality work life for nurses in your organization.

Participants' names will not be used in this study. All individual information, including the online responses for the questionnaire will be kept confidential. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators. All identifying information will be removed for the data.

All information obtained in the study will be used for research purposes only and only group information will be reported in studies and publications. Once the study is complete, the research findings will be used to produce a summary of the results and a report. The overall results of the study will be shared with all stakeholders including participants, hospital administration, nursing unions, and occupational health and safety committees to provide an understanding of the issues effecting nurses' QOWL. You can opt to receive one or both forms of the findings. Knowledge from group findings will be published and form the basis of a thesis for Judith Horrigan as part of the Interdisciplinary PhD program requirement in Rural and Northern Health at Laurentian University.

### **What are the potential benefits?**

Participants in this study may not directly benefit from participation in this research study. Your participation will provide valuable information on how Northeastern Ontario nurses evaluate the quality of work life of nurses working in urban and rural locations. The general results of the study will be shared with all stakeholders including participants, hospital administration, nursing unions, and occupational health and safety committees to provide an understanding of the issues effecting nurses' QOWL. The aims of my research is to provide an understanding of the quality of urban and rural nurses' work life that will assist decision and policy makers to promote quality work life that will have an immediate and long-term positive effect on nurses' health.

### **Potential harms, risks, or discomforts**

There are no known harms associated with participating in this study. Completing the interview will take approximately one hour of your time that may cause you some inconvenience. There is a foreseeable potential risk of a temporary emotional reaction to some of the interview questions. Participation in this study is completely voluntary. You may choose not to answer any questions that make you feel uncomfortable. Should you experience any distress or discomfort while completing the survey, you can suspend or end your participation in the study without providing a reason. In the event that you experience any difficulties such as emotional distress or discomfort arising from the study, you may wish to contact the Employee Assistance Program (EAP) at Health Sciences North 1-800-268-5211.

### **Participants' rights**

Your participation in the study is completely voluntary. You are not under any obligation to answer questions that you are not comfortable with completing. You may choose to withdraw from the study at any time with no affect on your employment. Your work within your organization will not be altered or affected in any way by your decision to participate or not, or withdraw from the study.

### **How will confidentiality be maintained?**

All measures of privacy, confidentiality and security will be respected. All individual information will be kept confidential. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators. All identifying information will be removed from the data. Participants names and the name of your workplace will not appear on any surveys collected except on the research consent form. Your questionnaire will be coded with only an identification number that allows us to keep track of who has returned either a completed or blank survey that will be kept in a separate database. The information you share will be summarized in group information along with information obtained from other participants. If the results of this study are published or presented at a research conference only group information will be presented.

All research data collected along with computer files generated for this research will be kept in the locked graduate file cabinet of Judith Horrigan in the locked School of Rural and Northern Health student office at Laurentian University. Employers and supervisors will not have access to your survey data. Only the research team directly involved in the research project will have access to the survey data in accordance with regulations that protect anonymity and confidentiality. All hardware will be password protected and only pseudonyms will be used as individual identifiers. AES 256 will be used to encrypt data collected. The research data and information will be kept secured in a locked filing cabinet for a period of not more than five years.

### **What is the cost of participating in the survey?**

The cost of participating in the survey to you will be the time to complete the interview that will take approximately one hour. We recognize that your time is very valuable to this research process. In appreciation for any inconvenience participants invited to participate will receive a \$20 Tim Horton's gift certificate. In geographic locations where there are no Tim Horton's participants invited to participate will receive a \$20 gift card from Northern Stores.

### **Ethical Approval**

This study has received ethics approval by the Research Ethics committees at Laurentian University, Health Sciences North in Sudbury, and your hospital ethics board.

### **Your Rights as a Research Subject, questions and contact information**

Thank you for taking the time to review this letter explaining this study. If you have any questions about your rights as a research participant or the conduct of the study you may contact Judith Horrigan 1-800-461-4030, ext. 3718, 705-675-1151, ext. 3718 or via email: [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca). You may also contact Dr. Nancy Lightfoot (Ph.D. Supervisor) at the School of Rural and Northern Health, 1-800-461-4030, ext 3972, 705-675-1151, ext. 3972 or via email [nlightfoot@laurentian.ca](mailto:nlightfoot@laurentian.ca). You may also contact Ms. Pauline Zanetti, Coordinator for the Research Ethics Board Laurentian University Research Office, E-mail: [pzanetti@laurentian.ca](mailto:pzanetti@laurentian.ca), Telephone: 1-705-675-1151 ext. 2436 or 1-800-675-1151 ext. 2436. If you wish to speak to a neutral individual who is not involved in the study at all and who will answer any questions about your rights as a research subject or about ethical issues related to this study, you may contact Dr. Diaz Mitoma, the Senior Manager Responsible for Research Administration, Health

Sciences North, 41 Ramsey Lake Road, Sudbury, Ontario, P3E 5J1, telephone 705-523-7100 ext. 3219.

Sincerely,

Judith Horrigan, RN, MScN, Ph.D. Candidate  
School of Rural and Northern Health, Laurentian University

N b: Research Protocol for RN and Nurse Leaders Interviews (Phase II Interviews)

**Study Title:** Evaluation of the quality of work life of Northeastern Ontario nurses in Urban and rural acute care locations

## **I. Summary of Research Background/ Purpose**

Canadians living in rural or remote

locations are known to have poorer health status than those living in urban settings. Issues faced by nurses working in urban, rural and remote locations are complex and multi-dimensional that include: increased responsibility, workload demands, stress, and the quality of work life. Quality of work life has been linked to the health of nurses. Limited research has been conducted focusing on the quality of work life of nurses in Northeastern Ontario working in urban and rural acute care locations.

The purpose of this mixed methods research will be to explore how Northeastern Ontario nurses and nursing leaders evaluate the quality of work life in urban, rural and remote acute care locations.

The aim of this interview is to understand your experience as nurses working within a northeastern urban and rural acute care setting. Specifically, the interview questions are exploring issues impacting the quality of work life that may have an immediate or long-term effect on nurses' health.

## **II. Housekeeping Information:**

### **Voluntary Participation:**

Your participation involves being interviewed once for this study and is completely voluntary. You do not have to participate in this study and are under no obligation to share any information that they are not comfortable with sharing. If you choose to withdrawal from the study at any time you may do so at no risk to your employment situation.

### **Anonymity and Confidentiality:**

If you decide to participate your name will not appear on any information collected except on the research consent form. All measures of privacy, confidentiality and security will be respected. All individual information will be kept confidential. No individual information or responses collected will be shared with other participants, your co-workers, supervisors, or administrators. All identifying information will be removed for the data. All interview data collected will be given a code number. This code number will not appear on the consent form. The results of this study may be published your name will not be used. All data collected will be kept in locked filing cabinets and computer access limited to those directly involved in the research project. Employers and supervisors will not have access to interview data. Audio taped transcripts will remain in a secure place until destroyed in accordance with regulations that protect anonymity and confidentiality.

**Digital Recorder:**

As part of our research we would like to digitally record the interview so that we can get the full meaning of what is being described by you during the interview. At any time during the interview you can ask me to shut off the recorder or request that I not use information that has been recorded. Would you have any objections to me recording the interview? We will be interviewing you once during this project and sharing information with all participants at the completion of the project. You will have full access to the reports that are produced as a result of this study.

**Consent Form:**

I would now like you to take time to read over the information and consent form. If you are satisfied that I have answered all your questions and wish to continue with the interview process I would ask that you sign this form.

**III. Interview Process:**

1. Please feel free to ask me questions at any point during the interview. Do you have any questions before we continue?
2. (After the interview) I will ask you to fill out a short demographic information questionnaire.
3. I have the provided a \$20 gift card in appreciation for any inconvenience you may experience from your participation

N c: Research Consent Form for Nurse Participant (Phase II Interviews)



**Study Title:** Evaluation of the quality of work life of Northeastern Ontario nurses in urban and rural acute care locations

**Institution:** Laurentian University, School of Rural and Northern Health

**Principal Investigator:** Judith Horrigan, RN, MSc.N, Ph.D. Candidate,

**Co-Investigators:** Nancy Lightfoot, Ph.D. (Ph.D. Supervisor)  
Michel Larivière, Ph.D. (Committee Member)  
Kristen Jacklin, Ph.D. (Committee Member)

I have read and understand the information given in this information letter about the study being conducted by Judith Horrigan (PhD candidate), Nancy Lightfoot, Michel Larivière, and Kristen Jacklin, from Laurentian University in Sudbury, ON. I understand that I am being asked to take part in a one hour interview that will be recorded to assist in evaluating the quality of nurses' work life in urban and rural Northeastern Ontario hospital settings. I have had the opportunity to ask questions about my involvement in this study and to receive any additional details that I wanted to know about the study. I understand that my participation in this study is entirely voluntary and that I may withdraw from the study at any time. I understand that I can refuse to answer any questions that I am not comfortable in answering and can withdraw from the study at any time. Taking part in the interview is my decision and no one is forcing me to be involved. I understand that I will not benefit from my involvement in the study and that a copy of this information letter has been provided to me. I consent to the interview.

\_\_\_\_\_ Date: \_\_\_\_\_

Name of Participant (Please Print)

\_\_\_\_\_  
Signature of Participant

For further information, please contact: Judith Horrigan, R.N., MScN., PhD Candidate,  
School of Rural and Northern Health, Laurentian University, E-mail: [jhorrigan@laurentian.ca](mailto:jhorrigan@laurentian.ca)  
Tel: (705) 675-1151 ext. 3718

Appendix O  
Phase II Qualitative Questions for RNs and Nurse leaders

O a. Phase II Qualitative Research Questions for RNs

1. a) What do you think nurses like about working here in a (*urban, rural, remote*) hospital?
- b) What do you think nurses find challenging about working here?
2. Do you think that there are differences working as a nurse here compared with working in a hospital located in a (*urban, rural, remote*) location?
  - If so, can you describe what some of these differences might be?
3. The findings from the survey indicated that the majority of nurses missed their scheduled breaks and worked overtime.
  - Can you describe for me some examples or situations where nurses might miss their breaks and or work overtime?
4. The findings from the survey indicated that the majority of nurses did not have energy left after working. About half of the nurses indicated that they experienced exhaustion.
  - Can you help me understand this finding?
5. a) What kind of situations do you think might create stress for nurses?
- b) How do nurses cope with stress?
6. With respect to creating or changing decisions and policies related to the care of patients;
  - How are nurses part of the decision and policy-making processes here?
  - Can you provide some examples of how nurses participate in these processes?
7. a) What are the biggest concerns or issues that nurses' talk to you about?
- b) Can you describe how the concerns or issues of nurses are addressed?
- c) How does the organizational structure facilitate or hinder your ability to address the concerns or issues of nurses?
8. a) What more could be done by administration to improve the quality of work life for nurses?  
(8. *Do you feel supported in your work and career by hospital leadership?*)Nancy suggestion
- b) What more could be done by nurses to improve their quality of work life?
9. Is there anything else you would like to add that we have not talked about?

**Thank you very much for taking time to meet with me.**

O b. Phase II Qualitative Research Questions for Nurse Leaders

1. a) What do you think nurses like about working here in a (*urban, rural, remote*) hospital?  
b) What do you think nurses find challenging about working here?
2. Do you think that there are differences working as a nurse here compared with working in a hospital located in a (*urban, rural, remote*) location?
  - If so, can you describe what some of these differences might be?
3. The findings from the survey indicated that most nurses missed their scheduled breaks and worked overtime.  
Can you describe for me examples of situations where nurses might miss their breaks and or work overtime?
4. The findings from the survey indicated that the majority of nurses did not have energy left after working and about half of the nurses experienced exhaustion.  
Can you help me understand this finding?
5. a) What kind of situations do you think might create stress for nurses?  
b) How do nurses cope with stress?
6. With respect to creating or changing decisions and policies related to the care of patients;  
How are nurses' part of the decision and policy-making processes here?  
Can you provide some examples of how nurses participate in these processes?
7. a) What are the biggest concerns or issues that nurses' talk to you about?  
b) Can you describe how the concerns or issues of nurses are addressed?  
c) How does the organizational structure facilitate or hinder your ability to address the concerns or issues of nurses?
8. a) What more could be done by administration to improve the quality of work life for nurses?  
b) What more could be done by nurses to improve their quality of work life?
9. Is there anything else you would like to add that we have not talked about?

**Thank you very much for taking time to meet with me.**

Appendix P

Phase II - Short Form Demographic Information for RNs and Nurse Leaders

Participant Identification Code : \_\_\_\_\_

1. What is the Hospital/Healthcare Centre where you are currently employed? (Please Print) \_\_\_\_\_

2. For your current position are you considered? (mark only one answer)

- Full-Time (30 hrs. per wk.)
- Full-Time (more than 30 hrs. per wk.)
- Part-Time (less than 30 hrs. per wk.)
- Casual (as needed basis)
- Other, *please specify*: \_\_\_\_\_

3. What is your current nursing position (mark only one answer)

- Staff Nurse     Team Leader     Charge Nurse     Unit Manager
- Other, *please specify*: \_\_\_\_\_

4. Identify the type of unit where you currently work in your nursing position

\_\_\_\_\_

Thank you!

Appendix Q  
Transcription Conventions Hill Bailey, P. (2002).

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**Transcription Conventions**

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	<b>Symbols</b>	<b>Meaning</b>
1.	Participants P I	Participant Interviewer
2.	Phrases / . //	Used to indicate phrase boundaries A one second pause between utterances Indicates the beginning of an overlap in speaking turns
3.	Intonation CAPITAL LETTERS	Marks an increase in the voice tone relative to previous talk
4.	Gestures/clarifying information <i>[italics]</i>	Gestures used by the participants and explanatory information are included in italics in square brackets
5.	#	Used to indicate words or utterances not able to be distinguished from audio-tape

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(adapted from Hill Bailey, 2002, p. 577).

Appendix R

Table 11.1:

QOWL Logistic Regression Associations with Demographic Characteristics

QOWL Logistic Regression Associations with Demographic Characteristics				
Demographic Characteristic	≤163 (n=76)	≥164 (n=68)	OR <sup>γ</sup> (95% CI)	P value
Age	34.0 (46.6%)	26.0 (40.0%)	1.31 (0.67, 2.57)	0.437
RN Experience	37.0 (48.7%)	32.0 (50.0%)	0.95 (0.49, 1.85)	0.877
Geographic Location	45.0 (59.2%)	42.0 (61.8%)	0.90 (0.46, 1.76)	0.755
Employment	59.0 (77.6%)	46.0 (68.7%)	1.58 (0.75, 3.34)	0.227
Income	58.0 (77.3%)	49.0 (75.4%)	1.11 (0.51, 2.43)	0.786
Able to take breaks	26.0 (36.1%)	40.0 (60.6%)	0.37 (0.18, 0.73)	0.004
Marital Status	56.0 (73.7%)	40.0 (59.7%)	1.89 (0.93, 3.83)	0.077
General Health	66.0 (88.0%)	60.0 (92.3%)	0.61 (0.19, 1.93)	0.400
Exhaustion in past year	42.0 (56.0%)	23.0 (35.4%)	2.32 (1.17, 4.60)	0.016
Experience of: Physical Violence in workplace	59.0 (78.7%)	45.0 (67.2%)	1.80 (0.85, 3.82)	0.124
Psychological violence in workplace	56.0 (74.7%)	45.0 (67.2%)	1.44 (0.70, 2.99)	0.326

<sup>γ</sup> Odds ratios are calculated with respect to a score of ≤163

Appendix S

Table 11.2:

Steps in determination Practice Environment Scale components for QOWL

Logistic Regression Model

Steps in determination PES components for QOWL Logistic Regression Model				
Subscale	Component Items	Component items remaining after backward removal at 5% level	Add in subscale to previous step and allow for removal at 5%	Backward removal of total score & components from previous step
PES Total Score				
Nurse Participation	5, 6, 11, 15, 17, 21, 23, 27, 28	17, 28	17, 28	
Nursing foundations for quality care	4, 14, 18, 19, 22, 25, 26, 29, 30, 31	4, 26, 30	Nursing Quality	Nursing Quality
Nurse manager ability	3, 7, 10, 13, 20	3, 13	3, 13	3
Staffing/Resource Adequacy	1, 8, 9, 12	1, 12	1,12	
Collegial nurse-physician relations	2, 16, 24	16, 24	Collegial	Collegial

Appendix T

Table 12.1

NSS Logistic Regression Associations with Demographic Characteristics

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NSS Logistic Regression Associations with Demographic Characteristics

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Demographic Characteristic	≤77 (n=75)	≥78 (n=73)	OR <sup>γ</sup> (95% CI)	P value
Age	39 (53.4%)	24 (34.3%)	2.20 (1.12, 4.32)	0.022
RN Experience	43 (58.9%)	28 (39.4%)	2.20 (1.13, 4.29)	0.020
Geographic Location	43 (57.3%)	47 (64.4%)	0.74 (0.38, 1.44)	0.380
Employment	59 (78.7%)	48 (66.7%)	1.84 (0.88, 3.86)	0.104
Income	57 (78.1%)	53 (73.6%)	1.28 (0.60, 2.74)	0.530
Able to take breaks	43 (59.7%)	21 (29.6%)	3.53 (1.76, 7.07)	<0.001
Marital Status	51 (68.9%)	48 (65.8%)	1.16 (0.58, 2.30)	0.683
General Health	65 (87.8%)	64 (90.1%)	0.79 (0.28, 2.25)	0.659
Exhaustion in past year	22 (29.7%)	43 (62.3%)	0.26 (0.13, 0.51)	<0.001
Experience of:	48 (64.9%)	58 (80.6%)	0.45 (0.21, 0.95)	0.036
Physical Violence in workplace				
Psychological violence in workplace	47 (63.5%)	53 (73.6%)	0.62 (0.31, 1.26)	0.191

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<sup>γ</sup> Odds ratios are calculated with respect to a score of ≤77

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Appendix U

Table 12.2

Steps in determination QOWL and Practice Environment Scale Components for NSS Logistic Regression Model

Steps in determination QOWL and PES components for NSS logistic regression model				
Subscale	Component Items	Component items remaining after backward removal at 5% level	Add in subscale to previous step and allow for removal at 5%	Backward removal of total score & components from previous step
QOWL Total score				
Homelife/Work life	5, 10, 12, 20, 25, 27, 36	5, 10	5, 10	5
Work Design	1, 2, 3, 6, 11, 16, 17, 18, 23, 42	2, 3, 11	3, 11,	3, 11
Work Context	7, 8, 9, 13, 14, 15, 19, 21, 22, 26, 28, 29, 31, 32, 33, 34, 35, 38, 40	22, 38	22, 38	
Work World	4, 24, 37, 39, 41	24	24	
PES Total score)				
Nurse participation	5, 6, 11, 15, 17, 21, 23, 27, 28	6, 28	6, 28	
Nursing foundations for Quality Care	4, 14, 18, 19, 22, 25, 26, 29, 30, 31	19, 31	19, 31	
Nurse manager ability	3, 7, 10, 13, 20	13	Nursing ability	
Staffing/Resource Adequacy	1, 8, 9, 12	1, 12	1, 12	1, 12
Collegial nurse-physician relations	2, 16, 24	2	Collegial	

## Appendix V

### Recommendations from the Registered Nurses' Association of Ontario Task Force Report (2015) Coming Together, Moving Forward: Building the Next Chapter of Ontario's Rural, Remote and Northern Nursing Workforce Report (pp. 6-7)

The recommendations being advanced to improve the retention and recruitment of nurses in rural, remote and northern communities include:

#### Recommendations

**Recommendation #1:** Expand and create programs that enable residents of rural, remote and northern communities to access practical nursing, baccalaureate and graduate nursing education locally across the province.

**Recommendation #2:** Provide sustainable funding for current initiatives that prepare and support First Nations, Inuit and Métis persons to pursue nursing education programs, preferably locally, and expand these programs across the province.

**Recommendation #3:** Ensure that all entry-level nursing education programs in Ontario incorporate the socio-cultural context of First Nations, Inuit and Métis people in the curriculum.

**Recommendation #4:** Expand and create new initiatives that prepare and support Francophone persons to pursue nursing education, preferably locally.

**Recommendation #5:** Develop regional networks that co-ordinate opportunities for rural, remote and northern student placements and establish community partnerships to support travel and accommodation.

**Recommendation #6:** Continue to highlight in all marketing the unique and rich opportunities that exist within rural, remote and northern communities, while also openly communicating the realities that are experienced in these communities.

**Recommendation #7:** Invest and support strategies that will enable achievement of 70 per cent full-time employment for all nurses.

**Recommendation #8:** Fund a rural nursing orientation program to provide any nurse who is newly hired, or returning, to rural, remote and/or northern practice with an opportunity for an extended supernumerary orientation that includes accessing prerequisite certifications, if needed.

**Recommendation #9:** Leverage capacity to relieve short-term staffing gaps in rural areas through organizational partnerships that facilitate longer-term secondments in place of agency utilization and/or overtime.

**Recommendation #10:** Collaborate with rural, remote and northern nurses to create dedicated continuing education programs that recognize the unique nature of rural nursing practice.

**Recommendation #11:** Maintain current government interventions that promote the retention and recruitment of nurses in rural, remote and northern communities and expand them to all health-care settings, minimizing eligibility restrictions and optimizing their administration.

**Recommendation #12:** Establish a rural nursing education initiative to augment the Nursing Education Initiative to provide reimbursement for tuition and transportation/accommodation costs associated with pursuing education.

**Recommendation #13:** Enable collaboration between health organizations with capacity to deliver specialty care and rural, remote and northern organizations, to support ongoing education and competency development.

**Recommendation #14:** Expand access to, and utilization of, the Ontario Telemedicine Network (OTN) and leverage other forms of virtual connectivity to deliver education and consultation in rural, remote and northern areas, augmented with in-person opportunities.

**Recommendation #15:** Ensure effective standards exist to guide the appropriate use of technology in service delivery models and develop new standards, where needed.

**Recommendation #16:** Address compensation and benefit inequities for RNs, NPs and RPNs that exist between the community (including primary care) and hospital sectors and ensure that compensation reflects the realities of rural living.

**Recommendation #17:** Develop a framework, including practice standards and education pathways that support the expanded utilization role of nurses in rural, remote and northern settings, including RN prescribing.

**Recommendation #18:** Identify ways to develop and support the capacity of rural, remote and northern nurse administrators to effectively respond to clinical and human resource complexities.

**Recommendation #19:** Bridge research gaps by funding studies that focus on rural, remote and northern nursing practice and issues/interventions affecting recruitment and retention in these areas.

**Recommendation #20:** Consider the context of rural, remote and northern health-care delivery through meaningful engagement of relevant stakeholders and conducting an impact analysis, when developing new provincial initiatives.

**Recommendation #21:** Enable local health human resource planning that is inclusive of all sectors, engages the local voice and is informed by evidence and appropriate data.

**Recommendation #22:** Support evidence-informed funding models that consider population health needs and local context to enable person-centred care.

**Recommendation #23:** Invest in ongoing infrastructure renewal and growth in rural and remote communities (i.e. telecommunications, hydro, transportation, housing, etc).

#### Recommendations