How to Sustain Emergency Health Care Services

in Rural and Small Town Ontario

By

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in conformity with the requirements for the

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Abstract

The sustainability of publicly funded Canadian health care services is an ongoing debate. Timely access to services and the availability of qualified health care professionals are vital to the survival of emergency health care services in rural and small towns. One of many factors threatening sustainability is the lack of qualified professionals. The current nursing shortage and the aging nursing workforce present rural hospitals with recruitment and retention challenges that threaten the sustainability of emergency services and thus have the potential to compromise the health of Canadians living in rural communities.

Health care decisions are primarily based upon economics without consideration of the diversity of rural communities. Challenges in health care delivery including access to emergency services affect Canadians living in rural communities. These challenges need to be highlighted in the context of rural health as a unique entity in order to build awareness in policy makers to ensure appropriate health care service delivery to rural communities. It is important for researchers and policy makers to recognize that rural hospitals are not mini-urban centres and thus have differing needs.

This two phase study focused on the sustainability of emergency health care services in rural and small town Ontario. Using a mixed methods approach, this study explored a descriptive analysis of emergency departments in rural Ontario and concluded with in-depth case studies of three rural emergency departments with varying travel distances to tertiary care facilities. These findings have validated pre-existing frameworks and can be used to assist policy makers at all levels to develop recommendations for sustaining emergency health care services in rural Ontario including ways to recruit, train, retain, and maintain resources that are vital to the survival of rural emergency services.

Keywords: emergency, nursing, mixed methods, sustainability, health care services, rural
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My dream would never have been accomplished without the support and encouragement of many individuals.

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My dad, who stepped in to be me when I couldn’t be. Thank you for proof reading this document so many times, cooking, walking my dog, running my errands, and all those other things I just couldn’t do when they needed to be done.

My husband Mike, for allowing me to pursue this dream and coping with life when I left home for a month to collect my data, listening to my endless rants, and understanding that this was something I had to do to be me. I cannot promise that I will not be a student again, but I will take a break now (a short one anyway).

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Dedicated to the memory of Dr Michael Troughton 1939-2007

Although I didn’t have the opportunity to meet you

May You Rest in Peace

[Image of Dr Michael Troughton]
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Chapter 1 – Introduction and Study Overview

1.1 Background

The pressure to maintain sustainable publicly funded Canadian health care services is a constant issue. Factors that threaten sustainability of publicly funded health care services in rural Canada include: economics, political pressures, shortages of qualified health care professionals, underutilization of available services, decline in population, small size of hospital, streamlining services, and the macro-economy (Barnett & Barnett, 2003; Doeksen, Loewen, & Strawn, 1990; Humphreys, Wakerman, & Wells, 2006; Lepnurm & Lepnurm, 2001; Mayer, Kohlenburg, Sieferman, & Rosenblatt, 1987; McDermott, Cornia, & Parsons, 1991; Mulner & Whiteis, 1988; Petrucka & Wagner, 2003; Rosenberg & James, 1994; Rosenstein, 1986). Diminishing financial and human resources compromise access to health care services (Pong, 2000; Registered Nurses Association of Ontario, 2009) and threaten the sustainability of rural and small towns.

Rural Canadians experience health disparities due to a multitude of modifiable and non-modifiable factors including the limited number of services that are available in their communities. Barriers, including travelling long distances, inclement weather conditions such as fog, rain, wind, and snow, lack of accessible methods of transportation, and limited health care resources in rural communities, further impose health risks to rural residents leaving them vulnerable to poorer health outcomes than their urban counterparts (Laurent, 2002; Pong, DesMeules, & Lagace, 2009). Canadians are entitled to accessible health care services which means essential services (including emergency care) should be accessible to all Canadians within a reasonable timeframe (Health Canada, 2010).

This research study was guided by a belief that sustainable health care services must be available and accessible to rural Ontarians within a reasonable time period and linked with the provision of quality care by qualified and competent health care professionals.
1.1.1 Nurses Working in Rural Canada

In 2006, there were over 6 million Canadians (or approximately 20% of the Canadian population) living in rural areas of Canada (Statistics Canada, 2009). The Canadian Institute of Health Information (CIHI) [2007] reports approximately 18% of registered nurses working in Canada work in rural and remote areas. Nursing in rural communities is unique in that rural nurses are required to be highly skilled and often are cross trained to work in other areas. Concerns in rural nursing are the challenges in recruiting and retaining rural nurses (Baumann, Hunsberger, Blythe & Crea, 2006; Montour, Baumann, Blythe, & Hunsberger, 2009), in obtaining skills and maintaining competencies (Montour et al., 2009; Newhouse, 2005), and an aging workforce (CIHI, 2003a&b; Hegney & McCarthy, 2000; O’Brien-Pallas, Duffield, & Alksnis, 2004; Stewart et al., 2005). With patient acuity increasing and experienced nurses approaching retirement, the imbalance between demands and resources may become critical (Hunsberger et al., 2009, p. 22). One of the potential consequences of this crisis is the lack of human resources may result in the closure of essential services.

1.2 My Story

I think it was fate that brought me to the realm of rural nursing research. In helping to analyze data from a previous research project I was working on, I noticed many factors related to the demographics of nurses working in rural hospitals that had the potential to compromise health care services. Some of these factors included: the lack of attrition in nurses working in their home communities; the challenges in acquiring and/or updating skills required for specialty care areas; the lack of extra staff to call upon when someone was sick or if the workload demands exceeded the capabilities of the working staff; the nurses often had to care for their friends and family members; and there was a noticeable absence of mid-career nurses with a large number of the current nurses eligible to retire within 5 years complemented with a few
junior nurses. These findings caused me to question who was going to fill this gap in expertise when the older nurses retired.

This potential gap and threat to sustaining services was more apparent in specialty care areas, such as maternity, intensive care units, and emergency departments. Recruiting nurses to these areas creates many challenges because of the need to have highly skilled, autonomous practitioners, who are often caring for patients in situations where resources (physical and human) are limited. I identified this as an area for research requiring immediate attention: if there are no skilled practitioners, there can be no services. A lack of services means the health and access to health care services for rural Canadians is further compromised.

Having grown up in rural Canada and my experiences as an emergency nurse provided me with the impetus to investigate how to sustain emergency health care services in rural and small town Ontario.

1.3 Significance of the Study

This study advances our knowledge in the area of rural nursing and rural emergency departments in the Canadian context. To the best of my knowledge, this is the first research study to incorporate the Ontario Ministry of Health and Long-Term Care (MOHLTC) Rural and Northern Health Care Framework (2010). Also Troughton’s Model of Rural Sustainability (Troughton, 1999) has not been widely used in rural research and particularly not in the context of health care service delivery. This study uses the agricultural model and was able to demonstrates the value of using it in rural research as it illustrates the important characteristics and relationships between variables for a community to be self-sustaining.

The findings address the objectives set forth at the onset of the study and have the potential to influence program and policy development within individual organizations and at all
levels of government. Other stakeholders, such as Health Force Ontario, Registered Nurses Association of Ontario, and the MOHLTC may benefit from these findings in the development, maintenance, and restructuring of programs for rural Ontarians and the recruitment and retention of rural nurses in Ontario. The study also identifies areas for future research and provides the nursing profession and stakeholders with current knowledge of health care service delivery in rural Ontario. In summary, this research study has identified the needs of emergency services in rural communities with an emphasis on human resources, providing the foundation for the development of a proactive approach to ensure that emergency services in rural Ontario are not compromised.

1.4 Purpose

The purpose of the study is to determine how emergency health care services can be sustained in rural and small town Ontario.

1.5 Objectives

The objectives of the study are to:

- Describe existing emergency services incorporating Ontario Hospital Association’s definition of ‘small hospital’ and Statistics Canada definition of ‘rural’
- Evaluate accessibility of emergency services in rural and small town Ontario (availability and distance)
- Evaluate quality of care (having accessible services and care delivered by qualified health care professionals)
- Evaluate skill acquisition and maintenance for emergency nurses using the Dreyfus Model of Skill Acquisition
• Describe the role of rural hospitals in community sustainability using Troughton’s Model of Rural Sustainability

• Synthesize the findings to evaluate the sustainability of emergency health care services according to the MOHLTC Rural and Northern Health Care Framework

1.6 Other Findings

There were several other findings throughout this study that did not contribute to answering the research question. These other findings include: telemedicine; First Responders, Canadian Triage Acuity Scale (CTAS) in rural emergency departments, the influence of the Sandoz drug shortage and nursing care; and the use of Registered Practical Nurses in rural emergency departments. These findings are potentially of great value in future research and can be found in Appendix A.
Chapter 2 – Literature Review

A literature review was conducted about rural: health, hospitals and emergency health care services, nurses, and sustainability. These concepts reoccur in the frameworks used in the study including the Ontario Ministry of Health and Long-Term Care Rural and Northern Health Care Framework and Troughton’s Model of Rural Sustainability.

The literature search, without date restrictions, was reviewed up until December 2010 using the following electronic databases: CINAHL, PubMed, and Scholar’s Portal through the University of Ottawa library website. Scholar’s Portal is a comprehensive technological infrastructure that shares information resources with Ontario’s 21 universities including research databases and online journals relevant to this study. With the guidance of a library scientist, search terms that were explored include: rural health, rural health care, rural health care delivery, rural nursing, and emergency health care; all terms were used alone, together, and in combination. (See Table 2.1 for search strategy and number of articles). All search items were further assessed for literature and research within the Canadian context. Further literature was found using reference lists of retrieved articles, personal library files and books, and documents recommended by colleagues. Articles published in other languages were excluded. Topic specific literature not relevant to this study was also excluded including literature on aging and rural health. Although I did use grey literature, a systematic review of government documents was not undertaken. The majority of the available literature was qualitative in nature.
Table 2.1 Search Strategy

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<td>61214</td>
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<td>Emergency health care + rural + nursing</td>
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Although there was ample literature of the Canadian context to support the need for this study, Australian research studies identified similar areas of concern and many authors published in both Canadian and Australian journals, and are therefore included in the review. Literature from other countries including the United States was also included, but differences in the health care system were considered. Predominantly the research and literature is descriptive in nature which limits the extent to which the results are generalizable or transferable to nursing practice.

Common themes identified that access to health care services is a challenge for people living in rural communities, and specialty care services were more difficult to access than primary health care. The challenge in accessing health care services creates health disparities and is associated with poorer outcomes in these individuals (Romanow, 2002). This is further complicated by the challenge of recruiting and retaining qualified professionals which threaten the availability and sustainability of health care services in rural communities.

2.1 Rural Health

For the purpose of this study, the term 'rural' is used to describe rural and small town Canada as defined by communities with a core population of less than 10,000 and located outside larger urban centres (du Plessis, Beshiri, & Bollman, 2001). Ontario is a geographically diverse province and its communities represent all of the varying definitions of rural and remote.

According to the Ministry of Health and Long-Term Care (MOHLTC) [2010] access to quality health care is a long standing issue in rural Ontario. Challenges in the provision of health care services in rural communities are well-defined in the literature. These challenges include geographical barriers, long travel times, low population densities, lack of health care professionals, and harsh weather conditions (MOHLTC, 2010; Ryan-Nicholls, 2004). The MOHLTC Rural and Northern Health Care Panel (2010) highlighted these access issues from
both the availability of services (such as emergency health care services) and the scarcity of resources (including human).

In rural and northern areas, access to health care can be difficult because of the remoteness of some populations. Access to quality health care services is a core attribute of the Canadian health care systems and citizens of rural communities have the right to have their health care services close to their home (Romanow, 2002). Access to services is an important determinant of health outcomes for both ill-health treatment and preventative care (Smith, Humpreys, & Wilson, 2008, p. 57).

The Canada Health Act (1985) stipulates that all Canadians have reasonable access to health care services. Although reasonable access is not well defined in the literature it implies that there should be an even distribution of services across Canada highlighting the need to have services in rural and remote areas. However, services in rural Canada continue to be less accessible than services in urban areas as rural residents often must travel long distances to meet their health care needs (Laurent, 2002; Pong, DesMeules, & Lagace, 2009); thus, geography is a determinant of health (Ministerial Advisory Council on Rural Health, 2002).

In a report on the health of rural Canadians (Canadian Institute of Health Information [CIHI], 2006) those in rural areas are more likely to have lower socio-economic status, lower educational attainment, are less likely to engage in healthy behaviours, have more lifestyle related health issues including obesity, diabetes, circulatory and respiratory diseases and higher mortality rates than those living in urban areas of Canada. Factors that contribute to the health vulnerability of rural Canadians include: the aging population, economic difficulties, and geographical isolation. Lifestyle issues including smoking, poor diet, hazardous occupations, and potentially dangerous leisure activities place rural dwellers at increased risk for disease and injury in comparison to their urban counterparts. Limited access to health care services,
including primary health care, and a lack of family physicians, creates health disparities in rural communities.

Access to health care services in rural Canada is an important component in the self-sufficiency of a community (Canadian Policy Research Networks, [CPRN], 2002) as residents can rely on their community to meet their health care needs and often the hospital provides economic stability to the community through employment of the local residents. Workforce sustainability depends on a balance between practice demands and the available resources (Hunsberger et al., 2009, p. 22). Limited access to health care services, including primary health care and a lack of human resources, creates health disparities in rural communities (CIHI, 2006; Pong, 2000) and threatens the sustainability of rural health care services creating further disadvantages in the health of rural Canadians.

2.2 Emergency Services

Emergency services are often the first access point a patient has with the health care system. More than half of emergency room visits in Canada are non-emergency (Canadian Institute of Health Information, 2005). Limited access to primary health care services, such as the limited number of primary health care providers, causes rural dwellers to use emergency departments for their primary health care needs (Frey, Achmidt, Derksen, & Skipper, 1994; Harris, Bombin, Chi, deBortoli, & Long, 2004). Emergency departments are often used for non-urgent health issues including prescription refills (Hodgins & Wuest, 2007), because of a perceived inability to wait for primary care practitioners, lack of family physicians, time of day, office/clinic closed, or a belief in the hospital being able to provide more specialized services (Hodgins & Wuest, 2007; Kozoil-McLain et al., 2000; Steele, Anstef & Milne, 2008). Although this can be problematic as non-emergency cases can increase waiting times and create a backlog
of services, in rural and small communities these cases are often what sustains the hospital revenues and physician salaries.

Hospital emergency departments in rural areas encounter many challenges including staffing issues, doctors being generalists rather than specialists and typically functioning as family physicians within the community; low volume of patients might not be sufficient to maintain skill level of health care providers; and the lack of immediately available diagnostics may increase length of time to treatment and compromise patient outcomes (Lopez-Abuin, Garcia-Criado, & Chacon-Manzano, 2005).

Nursing-specific challenges in providing emergency care in rural communities include not having a physician on site meaning the nurse must be able to function independently in all types of emergency situations for varying lengths of time (Baker, 2009). Nurses may not have readily available assistance of other health care providers and subsequently must be able to work efficiently and autonomously across many specialties (Andrews et al., 2005; Baumann, Hunsberger, Blythe, & Crea, 2008).

Education and training opportunities are not as readily available in rural areas; the small number of people results in limited training opportunities on-site and a lack of adequate staff to cover shifts limits the ability of other staff members to travel to other sites for training. Nurses practicing in rural and remote areas require direct access to the most relevant and current educational opportunities within their practice environment because a lack of specialized training may influence a nurse’s competency level in dealing with emergency situations (Penz, Stewart, D'Arcy, & Morgan, 2008).

Hospital emergency departments must be able to meet a variety of patient care needs from primary health care to critical traumatic injuries for all age groups. This can be challenging
in rural hospitals due to the limited number of health care professionals, diagnostics, resources, and the high level of skill required and the limited access to educational and practice opportunities.

2.3 Rural Hospitals and Emergency Health Care Services

Rural hospitals are not mini-urban centres, but are unique health care entities (Baker, 2009). The term rural hospital cannot be used homogenously because rural communities are very diverse. Some of the similarities in rural hospitals, which contribute to the context of this study include: limited access to tertiary care services, increased use of hospital emergency departments for primary health care, lack of diagnostic tools, small health care teams, provision of services to a large geographical catchment area, and lack of specialists and specialty services (Hegney, 1998; Lea & Cruickshank, 2005; MacLeod, 1999; MacLeod et al., 2004). The unique characteristics and limited research in this area create challenges in developing a research design with the incorporation of a framework. These challenges limit generalizability of findings due to the lack of homogeneity of both required services and rural hospitals.

Emergency services are often the entry point to acute health care for many Canadians. Emergency health care services are not limited to those services that are provided in the emergency department, but include pre and post hospital care. I believe a lack of consideration of these factors results in a viewpoint that is narrow, and fails to capture a holistic view in understanding the delivery and practice of emergency health care services in rural communities.

Without timely access to emergency health care services the quality of rural health care can be compromised (Institute of Medicine [IOM], 2005). Many rural communities in Canada face geographical barriers that interfere with accessibility and transportation such as seasonal variations (the use of water and ice roads), the terrain, and weather. Ideally, hospital services should be no more that 20-30 minutes from a resident’s home (Ontario Health Coalition, 2010);
and studies found persons residing more than two hours by road travel suffer worse outcomes in emergency situations. In a longitudinal American study from 1997-2003 examining the effects of hospital closures on access to care, findings indicate those living further from hospital services experienced increased mortality from myocardial infarctions and unintentional injuries (Buchmueller, Jacobson, & Wold, 2006). An Australian study, had similar findings. Using a retrospective study reviewing multiple data sets over a three year period (n=3000) the researchers found that persons residing more than two hours away by road travel suffered worse outcomes in emergency situations (Chen & Tescher, 2010).

Having timely access to emergency services is congruent with the vision of the Ontario MOHLTC Rural and Northern Health Framework which proposes that 90% of rural residents will receive emergency services within 30 minutes travel time from their place of residence (MOHLTC, 2010). This means first responders, such as paramedics, fire department, and/or police arrive on a scene within 20-30 minutes of activation of an emergency medical response system (i.e., call placed to 911 where available) and skilled emergency care is provided. Currently 97.8% of persons residing in Ontario communities of less than 30,000 residents (22.7% [2,588,144] of the Ontario population [12,851,821]) have access to emergency departments within 30 minutes compared to 99% of the rest of Ontario (Institute of Clinical Evaluative Services [ICES], 2011). Meaning approximately 47,940 Ontarians experience a disparity in access to emergency health care services. The ICES report further explains in their findings that 185 communities in Ontario with small populations (less that 5,000) have more than 30 minutes of travel time to emergency services and an additional 55 are more than 60 minutes from emergency services.

Patient mortality in rural areas is higher than in urban centres often as a result of transportation issues including increased travel time and inclement weather (Peek-Asa, Zwerling, & Stallone, 2004). The delivery of emergency services in rural communities must be based on
the needs of that community (Allan et al., 2007; Wakerman, 2009; Wakerman et al., 2008). In addition to timely access, having skilled and qualified health care professionals who are able to meet varying needs of community members of all ages who require treatment for accidents and injuries, illness and disease, and primary and secondary health care needs is essential to the sustainability of these services.

2.4 Nurses: A Human Resource

According to the Ontario Hospital Association (2009), the lack of nurses is one of the challenges rural hospitals face in delivering health care services to the communities they serve. Workforce sustainability depends on a balance between practice demands and available resources; with patient acuity increasing and experienced nurses approaching retirement, the imbalance between demands and resources may become critical (Hunsberger, Baumann, Blythe, & Crea, 2009). There are approximately 12,000 nurses working in rural Ontario and the mean age of these nurses is 45 years, with almost 50 percent of the workforce being over the age of 40 (CIHI, 2002 & 2006). According to a report on nursing trends in Canada (CIHI, 2010), there are three typical age groups of Canadian nurse retirees, 55+, 60, and 65. Although dated, in 2009, 25 percent of Canadian nurses were over 55, with Ontario nurses slightly older than the national average with approximately 27 percent of nurses over the age of 55.

Recruiting nurses to rural areas is challenging, but recruiting and retaining nurses in specialty care areas, such as emergency departments, is paramount to the sustainability of rural hospitals as they are vulnerable to the critical nursing shortage (Bushy & Liepert, 2005; Henderson Betkus & MacLeod, 2004; Hunsberger et al., 2009; Keahey, 2008; Kulig, Stewart, Penz, Forbes, & Emerson, 2009; Manahan & Lavoie, 2008; Montour et al., 2009; O’Brien-Pallis et al., 2004; Palumbo, McIntosh, Rambur, & Naud, 2009; Robinson, Jagim, & Ray, 2005). According to Hunsberger and colleagues (2009), working in a critical care area in a
rural hospital is daunting for both novice nurses and transitioning urban nurses who are accustomed to having a health care team to rely on for patient care delivery. Demands of critical care areas, such as having to work alone, deter nurses from continuing to work in these areas and therefore they leave their positions. The workplace environment is cited as one of the most common reason why nurses leave (Baltimore, 2004; Santos, 2002). Reasons include: high acuity patient loads, scheduling, and patient safety issues (Santos, 2002). Attrition of nurses and other skilled professionals threatens rural sustainability and this is compounded by the large number of experienced nurses approaching retirement. This finding suggests the diversity of rural practice is a barrier to recruitment and retention. It is important to note that in small rural hospitals, there is a lack of supportive services that exists in urban centres including auxiliary health care professionals and access to advanced diagnostic equipment; therefore even one inexperienced nurse can affect a patient's safety.

One of the challenges in rural communities is the declining population as young people are migrating to urban centres creating an additional strain on human resources (Bollman, 2001; Lepnurm & Lepnurm, 2001). As stated by MacLeod and colleagues (1998), nursing in rural communities is defined based on the skills and expertise needed by practitioners who work in areas where distance, weather, limited resources and little back up shape the character of the lives and professional practice (p. 72).

One of the problems with recruiting nurses is the need to recruit experienced nurses from an already small pool and/or of having to compete with larger urban centres (Mountour et al., 2009). Because the inherent demands of the job, such as feeling overwhelmed with the responsibilities placed upon them, the inability to handle conflict with other providers, and the lack of confidence in their ability to make critical decisions, it is evident that human resource
personnel planning needs to be strategic in the recruitment process for nurses working in rural emergency departments. Sixty percent of new nurses working in rural hospitals leave their department within one year of hire (Keahey, 2008). This statistic is drastically different than the estimated 20 percent of nurses working in urban hospitals who leave their department within one year of hire (O’Brien-Pallis, Murphy, & Shamian, 2008).

Hegney and colleagues (2002) identified job satisfaction, being part of a team, and rural lifestyle as important predictors of nurses' staying and practicing in Australian rural hospitals. Job satisfaction for nurses has been significantly associated with economic, social, and psychological factors in the workplace (Molinari & Monserud, 2008; Penz et al., 2008) and is correlated with autonomy, recognition, communication with peers, relationships with supervisors, stress, fairness, locus of control and pay (Karasek, 1985). Factors that have been identified to have the most influence on nurses' job satisfaction are associated with the work itself and the work environment (McGillis Hall, 2003). The majority of nurses working in rural communities have attachments, including family, in the area in which they live and work (Bushy & Leipert, 2005; Henderson Betkus & MacLeod, 2004; Hunsberger et al., 2009; Keahey, 2008; Kulig et al., 2009; Manahan & Lavoie, 2008; Montour et al., 2009). These personal attachments to their community also influence where they work and whether or not they stay.

Findings of an American comparison study indicated it took up to 60 percent longer to recruit nurses to rural hospitals than to urban hospitals (MacPhee & Scott, 2002). This challenge was magnified when recruiting for specialty areas, due to the inherent need to be highly skilled, as there is a need to recruit an experienced practitioner. Recruitment and retention is an ongoing issue and is at a critical level in some rural areas (Hunsberger et al., 2009). The shortage of health care professionals further contributes to the decrease in
accessibility to health care and threatens the existence of available services in some communities (Pong, 2000; Taylor, Blue, & Misan, 2001).

The nature of nursing practice in rural communities is described as having a large scope of practice and multiple roles, requiring nurses to have a significant level of knowledge and experience (Baumann, Crea-Aresnio, Idriss-Wheeler, Hunsberger, & Blythe, 2010). Nursing specific challenges in providing emergency care in rural communities include physicians often being off site (Baker, 2009) and nurses feeling as though they have to practice outside their scope (Bushy, 2002). Nurses may not have readily available assistance of other health care providers and subsequently must be able to work efficiently and autonomously across many specialties (Andrews et al., 2005; Baumann et al., 2006). Emergency departments are particularly vulnerable to a nursing shortage as it is essential to have highly skilled, educated nurses who are both knowledgeable and comfortable in their role and these nurses may be difficult to recruit. The lack of available qualified health care professionals threatens the sustainability of rural emergency services. This issue is highlighted in the MOHLTC Rural and Northern Health Care Framework (2010).

The availability of health care professionals is not in itself a solution to sustaining health care services. There is a need to have educated and skilled health care professionals to ensure a high standard in the delivery of quality health care. Campbell and colleagues (2000) recommend the use of access and effectiveness to define quality of care thus moving away from assessing economic principles in health care which are often based upon utilitarian values (Ryan-Nicholls, 2004). Four concepts of quality include: access, professional competence, equity, and efficiency (Seddon, Marshall, Campbell, & Roland, 2001). Congruent with these concepts, the Ontario Health Quality Council (2009) says access is only one dimension of health care quality;
however, health care quality can only be accomplished when patients have access to health care services delivered by competent professionals. It is my belief that all persons residing in Canada are entitled to equitable distribution of services.

2.5 Sustainability

Sustainability of health care services means that sufficient resources will continue to be available to provide timely access to quality services that address the evolving health needs of Canadians (Romanow, 2002). In rural communities in Canada, the need for sustainable health care services is a much needed commodity as the need for all levels of health care is evident. Access to quality health care is a fundamental aspect of Canadian health care and citizens living in rural communities have the right to have essential health care services close to their home. Additionally, access to health care services is an important component in the self-sufficiency of the community.

Sustainability of health care service delivery relies on attracting and retaining health care professionals (Taylor et al., 2001). As previously stated, emergency services in rural communities must be based on the needs of that community (Allan et al, 2007; Wakerman et al., 2008; Wakerman, 2009) and these services include access to appropriate qualified health care professionals who are able to meet varying needs of community members of all ages. Emergency health care services are not limited to those that are provided in an emergency department, but may include pre and post hospital care including timely transport of critical patients to and from a rural hospital, and having the ability to liaise with a larger, more specialized tertiary care centre.

Workforce sustainability is dependent on a balance between practice demands and the available services. As patient acuity increases and experienced nurses approach retirement, this imbalance may become critical (Hunsberger et al., 2009). A report on registered nurses working
in rural and remote Canada by Stewart and colleagues (2005) confirmed the aging workforce is detrimental to the sustainability of health care and suggested health human resource plans focus on younger nurses. The overarching purpose of this research project is to increase our understanding of how to sustain emergency health care services and maintain qualified nurses in rural and small town Ontario.

2.6 Summary of the Literature

One of the key determinants of health for persons residing in rural communities is location of residence which may influence distance from urban centres, the ability to travel, harsh weather conditions that may interfere with travel, and expensive transportation costs. Location of residence presents challenges and barriers in having accessible health care services and in recruiting and retaining qualified health care professionals. This is highly apparent in speciality care areas where the demands of the role exceed those of the work area. Diversity of nursing practice in rural hospitals is a barrier to recruitment of nurses. Given an aging workforce, strategies that highlight recruitment and retention of qualified health care professionals, including nurses, are paramount to the sustainability of health care services in rural communities. Having accessible health care and skilled professionals is important in the sustainability of a community and influences the ability of persons to live and work in rural communities.

The extensive literature discussed in this review has identified the issues in rural health with a focus on nursing and many documents have developed recommendations at various policy levels. There is global consensus these issues do not exist only within the Canadian context but are of concern in the United States of America and Australia. Many of the issues involving recruitment and retention strategies were highlighted in the late 1990s and yet the issues are still problematic 10 to 15 years later. Findings of a summary of nursing research within the rural
emergency services research literature indicated there was a need to conduct research on methods to address the shortage of emergency nurses in rural areas (Brown, 2009).

There are minimal studies offering a proactive approach suggesting how rural health services can be sustained. Therefore this study is warranted. Research in the current context of health care in this underdeveloped area is likely to contribute to the recognition of the needs of persons living in rural Ontario, Canada, and elsewhere. This research also identifies priority areas, strategies, and stakeholders in the recruitment and retention of qualified professionals, and describes the current state of emergency health care services in rural Ontario.

2.7 Conclusions

Living in a rural community my present challenges in accessing health care services. One of these challenges is related to the shortage of health care professionals which threatens the availability of these services and thus creates a disadvantage in the health and well-being of those living in rural Canada. Timely access to emergency health care services is correlated with patient outcomes. In addition to services being available, there is a need for health care practitioners to maintain competent in all aspects of care delivery in order to provide quality of care for those living in rural communities.
Chapter 3 – Theoretical and Conceptual Frameworks

This research is guided by a belief that sustainable health care services must be available and accessible to rural Ontarians within a reasonable time period and linked to the provision of quality care by qualified and competent health care professionals. Prior to the onset of this study, a framework (Figure 3.1) was developed.
Figure 3.1. Conceptual Model Illustrating the Framework of this Research Project.

Figure 3.1. This diagram represents the three concepts that were explored and defined throughout this study. Corresponding models used in this research study fit into the domains of this diagram. This is an evolving cycle that depicts how sustainability of health care services is dependent upon having access to quality care delivered by skilled professionals.
This study evaluates sustainability of services using components of the MOHLTC Rural and Northern Health Care Framework (Figure 3.2); quality of care using Donabedian’s Model of Quality Care (Figure 3.3); skill acquisition and maintenance for emergency nurses using Dreyfus Model of Skill Acquisition (Figure 3.4); and sustainability using Troughton’s Model of Rural Sustainability (Figure 3.5). The use of multiple frameworks is required due to the complexity of the research question and the need to highlight the importance of acquiring and maintaining skilled professionals in rural emergency departments. These frameworks also emphasize how the presence of a hospital influences a community’s ability to be self-sustaining.

3.1 Access

In 2002, The Romanow Report (Romanow, 2002) identified that in order to sustain our current health care system, three dimensions need to be addressed: services, needs, and resources. Romanow further acknowledged access to health care services in rural Canada required additional funding to improve access to quality care. The biggest threat to access (and quality care) is the challenge in recruiting and retaining health care professionals. The belief guiding this research is that a service cannot exist without qualified individuals, and if it does not exist, it cannot be accessed.

3.1.1 MOHLTC Rural and Northern Health Care Framework

Health care services in rural Canada are less accessible than services in urban areas (Laurent, 2002; Pong, DesMeules, & Lagace, 2009). A lack of accessible services places the health of rural Canadians at a disadvantage. Access to quality health care in rural communities is an ongoing issue in Ontario. In December 2010, the Rural and Northern Health Care panel released a report identifying access to health care in rural, remote and northern communities in Ontario as a long standing issue (MOHLTC, 2010). The purpose of the report was to develop a vision, guiding principles, strategic directions and guidelines to assist the MOHLTC and the
Local Integrated Health Networks (LHINs) in health care decision making in the rural context. The vision of the framework was to develop a health care system that provides appropriate access and achieves equitable outcomes for rural, remote and northern Ontarians (MOHLTC, 2010, p. 36).

The report identifies several challenges to access of quality health care services in rural and remote Ontario. These challenges include: utilization of hospital services for primary health care needs, limited range of services available; limited availability of cultural or language specific services; scarcity of resources (including human), inconsistencies in practitioners working to their full scope of practice; a need for inter-professional models of care; transportation issues and travel time; health care planning that often overlooks the context of rural; and limited sharing of health records and information across professionals.

The Rural and North Health Care Framework (MOHLTC, 2010) is comprised of nine guiding principles: community engagement; flexible local planning and delivery; cultural and linguistic responsive services; valuing health care professionals; integration of initiatives; exploration of new models of care delivery; connection and coordination of planning between organizations; incorporation of evidence based initiatives; and having sustainable solutions. These principles were established to enable stakeholders to focus on planning efforts to ensure health care delivery that is innovative, locally responsive and sustainable (p. 7).

Clearly, the all encompassing challenges and principles identified in this framework overlap and are each worthy of comprehensive research studies like this one. However, due to the nature and scope of this research, the focus is on the scarcity of human resources and how this influences sustainability of health care services in rural and small town Ontario. The two guiding principles which are incorporated in this study are valuing health care professionals and
the desire to have sustainable solutions, including addressing the shortage of human resources, in hopes of improving access to health care services in rural Ontario.

The framework highlights the need to value health care professionals and identifies them as ‘assets’ in the improvement of the efficiency and cost-effectiveness of health care delivery systems, such as emergency medical services. The panel who developed this framework suggests achieving sustainable health care means the development of new initiatives which provide solutions that include maintaining and improving access through financial, human, and other resources. In order to improve and maintain these essential services in rural communities, innovative and proactive recruitment and retention of qualified professionals is necessary. Although this framework is in its infancy stages and requires validation and testing, these concepts will be used as a framework for assessing congruence in this research study.
Figure 3.2. MOHLTC Rural and North Health Care Framework

Figure 3.2 Proposed Stage 1 Framework/Plan outlining a vision, guiding principles, planning standards and decision guides, strategies and guidelines for the MOHLTC and Local Health Integrated Networks.
3.2 Quality of Care

An assumption underlying this research study is that if professionals are unable to deliver quality care as perceived by both themselves and their clientele, the services will be unsustainable. If services are unsustainable, retention of health care professionals will be problematic and these services may be underutilized if users do not trust or value the services. In order to deliver quality care professionals must be skilled and competent.

3.2.1 Donabedian’s Model of Quality Care

Donabedian’s Model (figure 3.3) was used in this study to assess the quality of care through the exploration of the professional competence of the nursing staff working in the emergency departments in rural hospitals. According to Donabedian (2005) one way to measure quality of care is by monitoring patient outcomes through patient attitudes and satisfaction. The study suggests outcomes can equally be measured through attitudes and satisfaction of health care professionals; although outcomes might indicate good or bad care in the aggregate, they do not give insight into the nature and location of the deficiencies or strengths to which the outcome might be attributed (p. 694). This statement suggests a further means of evaluating outcomes is to examine the process of care, which can be achieved by studying behaviours and opinions and making inferences about quality, which supports the design of this study.

Campbell and colleagues (2000) recommend the use of access and effectiveness to define quality of care while moving away from assessing economic principles in health care which are often based upon utilitarian values (Ryan-Nicholls, 2004). In a systematic review of quality of care in general practice in the UK, Australia, and New Zealand, Seddon and colleagues (2001), expanded the two concepts of quality identified by Campbell et al. (2000) including access and effectiveness, to four concepts: access, professional competence, equity, and efficiency.
According to the Ontario Health Quality Council (2009), access is only one dimension of health care quality; however, quality of care can only be accomplished when patients have access to health care services. In an article discussing how to assess the quality of health care, Donabedian (1988) suggests there are two measureable elements in competent practitioners: technical performance and interpersonal skills. These two elements are interconnected and practitioners who are highly skilled and have excellent communication skills are competent and able to deliver quality health care; these suggestions are congruent with the Dreyfus Model of Skill Acquisition (1986). Donabedian also identifies that the social distribution of care received by the whole community as an important factor in measuring quality of care. Social distribution of health care is a key determinant of health in rural communities. Those living further away from health care services may experience reduced access resulting from barriers such as lack of finances to travel and thus receive lesser access to health care. This inequality in access to health care services creates a low level of health equity for Canadians living in rural and remote communities.

According to The Canada Health Act (1985), all Canadians are privileged with equitable access to quality health care services, meaning all Canadians should have reasonable access to health care services. However, rural Canadians continue to have lower health status than those living in, or in close proximity to, urban health care services (Canadian Institute of Health Information [CIHI], 2006). Efficiency, the fourth concept in health quality, as identified by Seddon and colleagues (2001), can be illustrated in Donabedian’s Model of Quality Care. From a societal perspective, quality of care is the ability to access effective care on an efficient and equitable basis for the optimization of health benefit/well-being for the whole population (Campbell et al., 2000, p. 1622). The four concepts of quality (access, professional competence, equity, and efficiency) support the overall underpinnings in this study.
Figure 3.3. Donabedian’s Model of Quality Care

This model depicts a three step approach to assessing quality including: structure (material and human resources), process (activities such as the care delivery and coordination), outcome (effects on health status of individual) [Donabedian, 1988].
3.2.2 Dreyfus Model of Skill Acquisition

Acquiring and maintaining skills for nurses working in rural areas can be a challenge. Lack of accessible educational sessions, the inability to backfill shifts due to limited staff, and the lack of exposure to uncommon procedures required to maintain competencies hinder the ability of rural nurses to acquire new and maintain skills (Bushy & Leipert, 2005; Keahey, 2008; Newhouse, 2005).

Skill acquisition was initially studied by Herbert Dreyfus, a philosopher, and Stuart Dreyfus, a mathematician and systems analyst. They investigated the nature of knowledge and expertise by studying airplane pilots, automobile drivers, chess players, and adults learning a second language. They found skill acquisition in adults occurred through written or verbal instruction and experience. Based upon these observations, Dreyfus and Dreyfus concluded modelled instruction and experience has the potential to produce highly skilled behaviours in individuals and thus developed what is known as the Dreyfus Model of Skill Acquisition (1986)[figure 3.4]. In the acquisition and development of a skill, Dreyfus and Dreyfus suggested individuals follow a predictable path through five stages of competency: novice, advanced beginner, competent, proficient, and expert.

The novice, Stage 1, is given a set of context-free rules to follow. The novice can recognize context free features without the desired skill. They are given rules for determining actions on the basis of these features; a novice is task-focussed. The advanced beginner, Stage 2, with supervision and experience develops an understanding of the relevant context. The advanced beginner is beginning to identify patterns in similar situations. The competent, Stage 3, has more experience, as the individual advances, and is able to devise a plan or choose a perspective that then determines the elements of the situation or domain that must be treated as important and the ones that can be ignored. The proficient, Stage 4, with repeated experience in
multiple situations becomes proficient as knowledge is contextualized and gradually replaces rules for devising plans by intuitive situational discriminations, followed by calculated responses. The expert, Stage 5, develops intuition and the person is able to act without thinking. The expert not only sees what needs to be achieved, as does the proficient performer, but also, due to his or her vast experience can see immediately how to address a situation and achieve the desired results (Dreyfus & Dreyfus, 1986).
Figure 3.4. Dreyfus Model of Skill Acquisition

Figure 3.4 This diagram represents the five stages an adult learner passes through when acquiring new skills. Passage through these stages occurs in a linear fashion. Because the model is based upon experiential learning there are no timeframes associated with it. Used with permission (Appendix B).
Dreyfus’ model addresses the stages one passes through in learning new skills and roles. It is difficult to suggest a timeframe for passing through these stages because of individual characteristics and the availability of learning opportunities. The focus of advancement to the next stage is based upon an individual’s performance and measurable outcomes.

Patricia Benner explored the Dreyfus model and its application to clinical nursing in three studies between 1982 and 1997 (Benner, 2004). Her application of the model was limited in her approach as she studied situational experiences pairing the responses of novice nurses with their preceptors (experienced nurses) rather than observing nurses as they pass through the various stages identified in the model. One of the limitations of Benner’s research is the experienced nurses were not categorized according to Dreyfus’ stages of proficiencies despite their being paired with novice nurses.

Dreyfus’ model is used in nursing research describing the education and experiences of newly graduated nurses and their preceptors (Benner, 1982), skill acquisition and clinical knowledge in critical care nurses (Benner, Tanner, & Chesla, 1992), to analyze job descriptions (Gordon, 1986), and to structure a literature review on the experiences of graduate nurses in the emergency setting (Valdez, 2008).

Although formal testing of this model is limited, when used in nursing research it was shown to be effective in describing skill acquisition and knowledge development. For the purpose of this study Dreyfus’ model was used to identify the skill level of rural emergency nurses and an approximation of time required to acquire a required level of perceived competency and comfort working in a rural emergency department. As previously identified, nurses tend to leave when they feel they do not have the skills to work in a clinical area. The purpose of using Dreyfus’ model in this study is to provide suggestions for acquiring and/or developing, and maintaining skilled professionals in rural emergency departments.
3.3 Sustainability

Sustainability is a complex concept implying a need to balance economic, social, and environmental concepts with what is needed and what is available. Commitment to sustainability requires ongoing surveillance and the ability to adapt to changes that occur over time. The belief in this research is that although a community relies on health care services for health care and local economics, the services also rely on the community.

3.3.1 Troughton’s Model of Rural Sustainability

Rural communities have unique characteristics, values, and traditions. Although rural is a diverse term, many common attributes about employment trends in rural communities exist. Examples of common employment include agriculture, mining, tourism, and hunting (Ministerial Advisory Council on Rural Health, 2003). In rural communities in Canada, access to health care services is an important component in the self-sufficiency of a community and the local hospital may serve as a primary employer in the community (Capps, Dranove, & Lindrooth, 2009; Doeksen et al., 1990).

Grafton and colleagues (2004) describe healthy communities in the rural context as those having self-reliance, resilience, social cohesion, and the ability to manage social, political, and economic stresses. Troughton (1999) further expands on this idea suggesting not only do self-sustaining communities need to be able to provide employment, but they also need to have social and health services available to meet the needs of the residents in the community.

Although not designed for health care, Troughton’s Model for Evaluation of Rural Sustainability was used in this study to illustrate how the presence of a hospital and health care services in a rural community contributes to the ability of the community to be self-sustaining. Troughton (1999) proposed a model of sustainability based upon balancing the limited availability of resources in rural communities against what is needed. Troughton’s model
defines the need to use elements of agriculture, rural-system sustainability, and community-viability criteria to evaluate rural sustainability. It is important to recognize that although health services are vital to the well-being of the community; rural health care services also provide environmental, social, and economic health and stability. Consequently, a healthy rural community not only has accessible services, but these services provide economic stimulus within the community.

Although Troughton’s model (1999) has not been widely used in rural health service research, it mirrors other domains of evaluating sustainability within the rural context internationally including: historical, socio-cultural, ethical, legal, financial/economic, political, institutional, client, and workforce factors (Ryan-Nicholls, 2004; Sibthorpe, Galsgow, & Wells, 2005). Troughton’s model includes variables such as quality of life, social services, adequate number of goods and services, local employment, community self-determination, and agro-ecosystem sustainability and highlights the importance of having social services, such as health care, in rural communities because of both the need for the service and the economic stimulus it provides.

Although these domains of evaluating sustainability are comprehensive there is little evidence indicating that they are widely used. Using Troughton’s model as a framework to evaluate the sustainability of emergency services in the rural context is important because it examines and highlights the role of the hospital in the sustainability of rural communities and provides new insight for the use of this model in future rural health service research.
**Figure 3.5 Troughton’s Model of Rural Sustainability**

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<thead>
<tr>
<th>Troughton’s Model of Rural Sustainability</th>
<th>Community Viability Criteria</th>
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</thead>
<tbody>
<tr>
<td><strong>Elements of Agriculture and Rural-System Sustainability</strong></td>
<td><strong>Economic Structure:</strong></td>
</tr>
<tr>
<td>Agronomic Sustainability:</td>
<td>employment, income, investment</td>
</tr>
<tr>
<td>Ability of land to maintain productivity of food and fibre</td>
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<tr>
<td>Micro-Economic Sustainability:</td>
<td>Social Services:</td>
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<tr>
<td>Ability of farms to remain economically viable, as basic units of economic and social production</td>
<td>education, health welfare, housing</td>
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<tr>
<td>Social/Community Sustainability:</td>
<td>Distribution:</td>
</tr>
<tr>
<td>Ability of rural community to retain demographic and socioeconomic functions on relatively independent basis</td>
<td>goods and services, optimal population</td>
</tr>
<tr>
<td>Macro-Economic Sustainability</td>
<td>Community Self-Determination</td>
</tr>
<tr>
<td>Ability of national production system to supply domestic market</td>
<td>government, administrative decision making</td>
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<tr>
<td>Ecological Sustainability:</td>
<td>Quality of Life – Cultural</td>
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<tr>
<td>Ability of life support systems to maintain quality of environment while contributing to general sustainability objectives</td>
<td>variety, richness</td>
</tr>
<tr>
<td></td>
<td>Quality of Life – Environmental</td>
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3.4 Summary

In summary, sustaining emergency health care services is a multi-faceted complex issue requiring multiple sources of evidence and frameworks to evaluate, in essence, quality of care. Quality of care is an equally complex term. The overarching belief guiding this research, as depicted in Figure 3.1 is once emergency health care services are accessed, care must be delivered by competent and qualified professionals in order to be deemed quality care. Care delivery requires a constant level of quality as perceived by both the giver and the receiver in order to sustain the services. The frameworks and models presented in this chapter provide a comprehensive view of answering a very complex question.
Chapter 4 - Research Design and Methodology

In this chapter I will provide an overview of the research design and methods used for the study. Due to the nature of the type of and the complexities of the research, findings will be presented in the following chapters.

4.1 Study Design

The two-phase research study followed a mixed methods research design as described by Morse and Neihaus (2009). Mixed methods design refers to the use of two (or more) research methods in a single study, when one (or more) of the methods is not complete in itself (p. 9). For this research, the overall study was driven by qualitative research methods and the theoretical underpinnings are primarily inductive. Despite having a small component of quantitative data collection and statistical analysis, the project goal was exploratory and interpretive in nature, and the statistical analysis served only to inform and strengthen qualitative components of the study. The decision to use a mixed methods approach in this study was based on the desire to have a methodologically sound project upon completion. According to Creswell (1998), a notable author on qualitative inquiry and research design, incorporating both qualitative and quantitative research methods is an effective means of evaluation of health care services. Bushy (2008), a researcher on rural health issues, agrees that both qualitative and quantitative research methods are necessary to enhance the theoretical and empirical basis for rural research.

The mixed methods study was divided into two discrete phases. Phase One involved descriptive survey methods and Phase Two involved comprehensive case study methods. A mixed methods approach involves collecting and analyzing many forms of data in a single study (Loiselle & Profetto-McGrath, 2011; Morse & Neihaus, 2009). One of the challenges with a mixed methods approach in research is determining prior to data collection how the data will be analyzed. In this study the analysis of the Phase One data were used to select the study sites for
Phase Two, but was also used in developing recommendations during the data analysis of Phase Two study data. One of the advantages of using various data analysis strategies in mixed methods research is accomplishing methodological triangulation (Hussein, 2009; Morse & Neihaus, 2009; Thurmond, 2001). The methodological triangulation that occurs in mixed methods research strengthens a study through the use of a variety of rigorous research methods and data collection techniques to study a single problem (Cobb, 2000; Denzin, 2006; Gerring, 2007; Lincoln & Guba, 2000) thus enhancing both the validity and the generalizability of study findings.

This research follows a QUAL+quant mixed methods design, as described by Morse and Niehaus (2009), where a qualitative core component of the study is driven by inductive reasoning with the existence of a simultaneous quantitative component. The research used both empirical data and critical theory allowing for interpretation and blending of the objective and subjective study data. The enhanced level of interpretation increases the objectivity of the study findings and can lead to the developing theory reinforcing the ability to provide policy recommendations to stakeholders.

The use of triangulation can increase the credibility of research findings (Yin, 1994) improving both internal consistency and generalizability of findings through combining both qualitative and quantitative research approaches in the same study (Hussein, 2009). Credibility refers to the confidence in the truth of the data and the interpretations of them and includes activities that increase the probability that credible findings will be produced (Lincoln & Guba, 1985). Lincoln and Guba (1985) say ensuring credibility is one of most important factors in establishing trustworthiness. Both my time spent in the field throughout the research process and my ability to quickly adapt to the environment and understand the process due to my emergency
background, along with multiple sources of data contributed to maintaining credibility of the results.

4.2 Case Study a Schematic

Although not widely used in the publication of case study research, I came across an article by Rosenberg and Yates (2007) outlining the value of the use of a schematic representation of case study research designs. Given the confusion the pragmatic approach of case study research yields, a schematic representation of the concepts and process provides the reader with a map of the interrelated concepts of the overall study and gives an element of structure to the audit trail. The use of a schematic provides an element of procedural clarity (p. 447) and assists in the enhancement of rigour in the overall study.

Adapted and used with permission (Appendix C), I have constructed a schematic of this research study (Figure 4.1) based upon the original doctoral work of Rosenberg (2007). The schematic lends integrity and clarification to the elements of cases in Phase Two of the study.
Figure 4.1. A Schematic of this Research Study

Figure 4.1 Adaptation of case study schemata from Rosenberg (2007). Representation of the concepts and/or process and interrelated concepts of this study.
4.3 Phase One

4.3.1 Overview

Prior to the commencement of this study, in collaboration with my research team, a
thirteen question survey (Appendix D) was developed based upon recruitment and retention
issues identified in the rural nursing literature and Troughton’s Model of Rural Sustainability.
Phase One of this study began with a pre-test of a survey which resulted in a few minor changes
which were modified in the final survey (n=77 hospital emergency departments) which was then
circulated to all nurse leaders in rural emergency departments across Ontario. The results of this
descriptive survey were used to select possible case studies for Phase Two.

Phase 1: Description of rural emergency departments and nurse staffing patterns

Primary research question: What are the characteristics of 24/7 emergency departments in rural
and small town Ontario?

Objectives:

1. To describe current nurse staffing patterns and vacancies in emergency departments
   of hospitals in rural and small town Ontario

2. To describe important community characteristics in rural communities with
   emergency departments using the criteria described in Troughton’s Model of Rural
   Sustainability
4.3.2 Methods

4.3.2.1 Pre-Test of survey.

The Rural Emergency Health Care Services Sustainability Survey, a survey developed by the research team, was pre-tested with six volunteer rural leaders who were knowledgeable about various aspects of the subject matter. Participants included: a vice president of nursing, a staff development coordinator, a staff nurse team leader working in a rural hospital, an emergency nurse manager from an urban hospital in Ontario, an emergency nurse manager from a rural hospital in Nova Scotia, and a manager of air traffic services from rural New Brunswick. The choice to use a non-nurse for the pre-test was to determine whether or not the language of the survey could potentially be used by other disciplines. Air traffic services in a rural community have similar staffing patterns as rural emergency departments (high stress, 24/7/365 days a year operation, 12 hour shifts, high sick time, and high overtime hours).

Participants were asked to complete the survey as though they were participating in the study noting the length of time required to complete the survey (including reading the letter), the clarity of the questions, and the ease of completion. In addition to answering questions (data were not analyzed for study purposes) they were encouraged to write comments on the survey. Once the survey was completed, we spoke either in person or via telephone and the following questions were asked:

1. what was the survey asking?; was this adequately outlined (clear) in the accompanying letter;
2. given the context of ‘rural’ (workplace, hospital, staffing, community) is there anything that should be added or deleted; and,
3. was the length of the questionnaire adequate.

All of the participants were able to provide me with valuable feedback on ways to improve wording to enhance clarity, felt that it was a worthy study, were confident that the context of ‘rural’ had been captured, and should be able to ‘tease out’ (as one participant said) some of the
unique properties within a rural context. All of the participants found the survey clear, easy to understand, and were able to describe the purpose of the survey. One participant stated she asked herself after reading the information letter and prior to completing the survey what questions she would expect to see on the survey. She expected questions on the infrastructure of town, differences in rural communities, population, and how nurses are attracted to community. She felt confident the survey questions were relevant and congruent.

Three additions were suggested. The first two were to add the word other to question 7 and add municipal, military, and government to question 9; these suggestions did not affect the overall survey, but were able to yield more useful data and were incorporated in the final survey. One suggestion was to add a question about hospital budget to the survey which was purposely excluded as the focus of the study was not on economics. Seven minor spelling and grammatical errors were identified and corrected.

The time participants took to complete the survey ranged from 10 to 30 minutes. It is worth noting that the participants who took 25 to 30 minutes for completion were intent on providing me with very specific and helpful feedback. All agreed the survey was of an appropriate time and length to complete. Two participants expressed that although they firmly believed the study was worthwhile, were in support of my research and looked forward to the study findings, they ‘secretly hoped’ they would NOT be contacted for Phase Two as they had heavy workloads and participating in the research might add to their existing ‘issues’ and of their constant need to ‘juggle priorities’.

4.3.3 Phase One Study

Upon completion of the pre-test of the study, the suggested changes were made and the final survey was formatted and printed in color on high gloss paper and mailed to the managers
of emergency departments in hospitals that fit the criteria of *rural emergency department*. For the purpose of this study *rural emergency departments* were defined as having a 24/7 operating emergency department, having been identified as those fitting the Ontario Health Association’s (OHA) definition of small, and were located in a community identified by Statistics Canada as rural (see Appendix E for definitions). It is notable that the number of emergency visits per year was not a defining variable, but a cross-referencing database created by the primary researcher found that hospitals fitting the above criteria had >22,000 emergency department visits per year. This cross-referenced database had been developed by the primary researcher prior to the development of this proposal using publicly accessible Internet sources including Statistics Canada Community Profiles and hospital webpages. These hospitals (n=93) were further cross referenced with the MOHLTC classification of class C hospitals (<100 beds) but many of these hospitals (n=16) do not fit the OHA definition of small hospitals and were not situated in rural communities, primarily because they were associated with larger tertiary care centres (Appendix F).

Data from the first phase of the study was managed using SPSS/PASW 18.0 (SPSS Inc., 2009). The survey provided extensive, descriptive data which was analyzed by summarizing the data to answer research questions (including: staffing patterns in the emergency department, training, and self-sustaining factors such as local economics). The findings of the survey data were imperative in selecting three sites for Phase Two.

**4.3.4 Study Population and Sampling**

Seventy-seven Ontario hospitals were identified as having a *rural emergency department*. For Phase One of this research project, the entire population was sampled. All identified hospitals were used in the sampling frame and each survey included an invitation to participate in Phase Two.
4.3.5 Data Collection Methods

A letter of information/invitation to participate (Appendix G) was attached to the survey along with a self-addressed stamped envelope and was mailed to the nurse leader for the emergency department. A modified Dillman (2000) approach suggests sending potential participants a reminder postcard if the survey had not been returned within two weeks. Several of the returned surveys included questions about the logo and a request for a copy of the ethics approval. At this time I decided to send all the hospitals a letter, thanking those who participated and requesting those who had not to please complete and mail their survey. This letter included a description of the development of the logo (Appendix H) and a copy of the ethics approval document (Appendix I). Approximately four to six weeks after the initial mail-out, if a hospital had not responded, I phoned and invited the nurse leader to participate by completing and mailing the survey as soon as possible, or completing it over the phone at that time or at an alternate time. If the nurse leader did not wish to participate or was unreachable after four phone calls, there was no other means of recruitment employed. One of the limitations of this method is that the study findings did not reflect the perspective of hospitals that chose not to participate.

4.3.6 Data Analysis

Data from the first phase of the study was managed using SPSS/PASW 18.0 (SPSS Inc., 2009). The numerical data were coded and entered into the database. Themes and patterns from the narrative data were extracted. The survey provided extensive, descriptive data which were analyzed by summarizing the data to answer the research questions (including: staffing patterns in the emergency department, training, and self-sustaining factors such as local economics). Data were analyzed solely for the purpose of describing the current nurse staffing patterns and vacancies in rural and small town Ontario and important community characteristics in rural communities with emergency departments; no correlations were made between study questions.
The findings of the survey data were used to answer the research question for Phase One and to select three sites for case study in Phase Two.

4.4 Phase Two

Phase 2: In-depth analysis of rural emergency departments using case-study methodology

Primary research question: How can emergency health care services be sustained in rural and small town Ontario?

Objectives:

1. To describe and evaluate the community utilizing the criteria described in Troughton’s Model of Rural Sustainability
2. To evaluate the sustainability of emergency health care services using factors in the MOHLTC framework (access and human resources)
3. To develop recommendations for skilled acquisition and maintenance for emergency nurses working in rural hospitals using Dreyfus Model of Skill Acquisition

4.4.1 Case Study Methodology

Case study is a useful study design for nursing research and ideal for situations that cannot be studied with traditional qualitative or quantitative methods (Anthony & Jack, 2009; Casey & Houghton, 2012; Yin, 2009). Case studies are the preferred research design when the answers to how or why questions are sought, the researcher has no control over the events, and when the focus of the research is on a contemporary phenomenon within a real life context (Yin, 2009).

Although case studies were commonly described as qualitative research (Creswell, 2009; Lobiondo-Wood & Haber, 2009) case studies are now more commonly described as
incorporating varied data collection and analysis strategies associated with both qualitative and quantitative methods (Burns & Groves, 2011; Loiselle & Profetto-McGrath, 2011). Case study methods rarely incorporate stringent analysis of numerical data, such as in quantitative studies, nor do case study methods follow the same rules and guidelines as traditional qualitative methods. One could argue that case study design is quite similar to traditional qualitative methods with data collection and a desire to discover and interpret aspects of the phenomena under study, however, case study relies on data from both concrete and abstract sources.

An integrative review on case study methodology in nursing research by Anthony and Jack (2009) suggested the use of case study for nursing research is a suitable form of inquiry because of the increasing complexities of health care in the real life context of nursing practice. Corcoran and colleagues (2004) agree case study is a valuable research design as its end product can be used as a mechanism to transfer knowledge and improve practice.

### 4.4.1.1 Case Study Versus The Case

When using case study as a research design, it is important to differentiate between the case study (the research method) and the case (the unit of analysis). Bergen and While (2000) suggest the multiple varying definitions and assumptions about the term ‘case study’ leads to questionable strength of the research. The confusion in nursing (and in medicine) stems from the commonly occurring use of a retrospective case study (i.e. a patient case study) as a teaching strategy to educate health care professionals who review various aspects of patient care as an opportunity for learning rather than as a method of research (Casey & Houghton, 2010). In this study the case (unit of analysis) is comprised of three individual communities presented in the following chapters. Each case was analyzed independently then subsequent patterns, themes, and descriptive similarities and differences amongst the three were analyzed to develop overall study findings and meet the objectives for this study. These three cases represent the case study.
4.4.2 Maintaining Rigour

Many authors caution novice researchers using a case study methodology to ensure steps towards establishing the trustworthiness of the study are followed, for example, the use of multiple data collection methods and a variety of sources for triangulation (Bergen & While, 2000; Bryar, 2000; Yin, 2009; Zucker, 2001). To ensure the approach is reliable and valid, a clear definition of the case, the case study, and appropriate conceptual frameworks must be apparent at the beginning of the study (Bryar, 2000).

Multiple qualitative data collection methods were employed throughout the study including: review of publicaly accessible web pages and documents, interviews, community surveillance, participant observation, archival records and documents, and physical artefacts. The method of case study research employed in this study followed that recommended by Yin (2009). Case study is a research method which allows for an in-depth examination of events, phenomena, or other observation within a real time context. The data collected can be used to provide a comprehensive description of the ‘case’, or be used for theory development and testing, or as a tool for learning (Yin, 2009). Case study research is useful in this context because it provides rich, raw material which can be used to advanced theoretical ideas, such as how to sustain emergency health care services, using context-dependent knowledge rather than purely theoretical knowledge. The use of context dependent knowledge is less restrictive than other methods and provides a qualitative advantage in the learning process (Yin, 2009).

Yin’s method gives researchers and readers confidence in attaining trustworthiness which is congruent with Guba’s (1981) principles of truth value, applicability, consistency, and neutrality. These are achieved by following a manner outlined by Koch (1994) through the use of an audit trail, peer examination, reflexivity, and triangulation.
Sharp (1998) alludes to another commonly occurring problem in using case studies in nursing research as being the underestimation of generalizability in this type of research, likely pertaining to the use/misuse of the terms. Sharp further suggests that even if concrete relationships cannot be made between studies, generalizability of case studies, although arguably limited, can be used as a basis for theoretical premises. In this study, attention was paid to the potential generalizability of the study findings in two distinct ways: 1) It was felt (by the research team) that geographically Ontario was representative of Canada in that it has varying climates, and residents live in all types of areas similar to those use to define Rural Canada (i.e. remote, rural remote, small town, urban); and, 2) The cases were chosen after careful analysis of Phase One study data and the size of the towns was comparable (~4000), and the populations were primarily middle class, Caucasian, English speaking families wide, and the age distribution was representative of the majority of the Canadian population according to Statistics Canada 2006 population data.

### 4.4.3 Case Study Design

In designing a case study, development of the study questions and methods of data collection are elucidated prior to the case study. However they can remain flexible through the study due the emerging nature of the design. Study questions determine the strategy of the case study design. Due to the depth of the proposed research, the case study followed three types of case study described by Yin (2009) including explanatory, descriptive, and exploratory. The study questions reflected these three design types.

An explanatory approach in case studies allows the research to answer *how* and *why* questions, or *cause and effect* relationships in a real life context (Lobiondo-Wood & Haber, 2009; Yin 2009). Through participant observation, data were collected in real time and were used to answer questions such as *how do nurses organize their workload?*. The descriptive case
study provides a complete, detailed description about a phenomenon and an exploratory case study often serves as a precursor to further studies by defining questions for future research (Lobiondo-Wood & Haber, 2009). Through the addition of both a descriptive and an exploratory approach, this research was able to describe the culture and sequence of events under study while answering what and who questions. In addition to description and exploration of the phenomenon under study, the research project was exploratory in nature and its findings have identified questions that would benefit from further research. Together, these three approaches allowed for an in-depth, comprehensive case study.

Study questions evolved through five levels including those asked of: 1) specific interviewees (i.e. demographics); 2) the specific case; 3) patterns of findings across multiple cases; 4) an entire study (i.e. going beyond what is found in the study but using other literature or published data); and, 5) policy recommendations and conclusions (Yin, 2009). Each of the questions incorporated a variety of sources of evidence. Although the overall findings of this study incorporated all of the data from all of the study sites, as suggested by Yin (2009) the focus of each study site was based on the second level of questioning and incorporated evidence from many sources and is presented individually by comparing and contrasting the varying facets between study sites. The six sources of evidence suggested by Yin include: documents, archival records, interviews, direct observation, participant observation, and physical artefacts. Sources of evidence in this study varied slightly and are described above. Data collection in Phase Two began with an extensive Internet search identifying all publicly accessible descriptive information about both the hospital and the community (see sample questions Appendix J) which was enhanced and validated during the site visits.
4.4.4 Methods

The survey data yielded rich, descriptive data, but as initially thought, was limited in answering the questions associated in this study, therefore case study was warranted. From the analysis of Phase One of this research study, specific hospital emergency departments were selected for a more in-depth case-study. From the pre-test, it was feared there would be a very limited number of hospital managers who would be willing to participate in Phase Two, but in fact the opposite occurred and 88.4% (n=38) were interested!

Using a strategy described by Gerring (2007), data collected from the survey were analyzed using descriptive statistics and of the sites willing to participate in Phase Two, variables that showed distinct differences were examined as potential study sites. An example of a variable that showed distinct differences was expected recruitment time for current job vacancy (question 5). This response area was open-ended and permitted a narrative response. Responses were categorized in three distinct time frames: less than 3 months, 3-12 months, and ongoing. One site from each of these categories was chosen. Also of importance to ensure the ability to compare study sites, a list of similarities was developed which included annual emergency department visits and community population. As the data were further analyzed the similarities and differences clearly contributed to some of the findings of this study.

After a review of the data from all study sites a list of three hospitals was made. It was agreed these sites would be contacted before identifying other potential sites as it was felt these sites would yield a valuable comparison. Within a week of this analysis the key person identified in the survey was contacted and two agreed to participate. The nurse leader of the third potential study site had left her position and her replacement was not due to start for another few weeks. Given the potential value of this site, it was agreed to not contact an alternative and determine the appropriateness of awaiting the arrival of the new leader, which
was acceptable. Within a week of the arrival of the new nurse leader, she agreed to participate in the study. The need to include other hospitals deemed appropriate for case study was halted and it was decided that upon completion of the data collection of the three participating sites it would be revisited. Upon completion of data collection and a careful evaluation of the similarities and differences in the three emergency departments it was decided by the research team the process had yielded ample evidence to evaluate sustainability of services using the frameworks described in this study. It was decided no further sites would be recruited, but that all sites would receive a newsletter thanking them for their support and sharing the study findings (Appendix K).

4.4.5 Study Population and Sampling

According to Yin (2009) sampling for case study research needs to be flexible. Although at the onset it was thought two case studies would be conducted and analyzed prior to selecting further cases to study allowing us to purposively select additional cases the data analysis from Phase One clearly identified three valuable study sites which agreed to participate in the study. We were flexible in that if a site did not yield fruitful data that further sites would be considered.

4.4.6 Data Collection

Study questions evolved through five levels and included: participant observation, informal communication (everyone I encountered was told I was a researcher and my primary purpose was to collect data), informal focus groups, individual interviews, document analysis, and a community assessment. I also had the privilege to live in two of the three communities for the duration of the data collection at the study site which gave me maximum exposure to the community and culture for a short time. All of these methods of data collection gave me a variety of sources of evidence which enhanced my analysis. The overall findings of this study incorporate all of the data from all of the study sites. Yin suggests focussing on each study site as a unique entity before developing comparisons and contrasts.
Once a site agreed to participate in Phase Two, data collection began with an extensive Internet search identifying all publicly accessible descriptive information about both the hospital and the community. This information was enhanced and validated during the site visits. As much online information as possible was gathered and documented prior to the site visits which allowed me to focus on the emergency department during my site visits. Two to three weeks of onsite activity was negotiated with each site and post study this was deemed ample time to gather the data required to meet the objectives of this study.

Participants were purposively recruited from the emergency department in the participating hospitals. The sample size was limited to the number of staff available and how many were willing to speak with me formally or informally. Prior to site visits, an information letter (Appendix L) introducing myself and outlining the purpose of my study was sent to the participating hospitals to inform staff about the upcoming visit. I offered to attend a staff meeting or provide an information session to allow for questions and concerns to be addressed and one of the three sites invited me to a staff meeting, one was welcoming the minute I entered the department, and I was introduced to the other by means of an education session. In order to be identified as a researcher/visitor I wore my photo university student identification card and at one site I was given a hospital photo ID, at another a visitor ID, and the other accepted solely my student ID. Initial consent was acquired by asking potential participants if they approved of my presence. When a participant objected to my presence or if the department was really busy, I left and returned for the next shift. I completed the participant observation and kept hand written field notes to record my findings. Interviews and focus groups were audio-recorded and transcribed verbatim. Written consent was obtained for those wishing to participate in participant observation, the interviews, and focus groups. Field notes and other relevant documents will be scanned electronically and shredded. All study data will be stored on a
password protected USB and kept in a locked cabinet in the office of my supervisor, Dr. J. Medves for a period of 5 years.

4.4.7 Data Analysis

Analysis of case study data followed procedures described by Yin (2009): examining, categorizing, tabulating, and testing to draw empirically based conclusions. The priority data analysis for this study includes the sustainability of emergency health care services with a focus on the environment and qualified health care professionals (primarily nurses). Case study data are descriptive in nature and will be used to inform policy makers about the current state of emergency health care services in rural Ontario and provide recommendations for sustaining these essential services. The analysis of the case study used the MOHLTC Rural and Northern Health Care Framework (2010).
4.5 Protection of Human Participants

Throughout all aspects of data collection there were no foreseeable risks or dangers to participants. In Phase One, surveys were mailed addressed to the Emergency Department Manager; consent was implied when participants returned their completed data. For those interviews that were conducted via telephone (n=5) I introduced myself as a PhD student conducting research for my dissertation and informed them I had mailed a survey a few weeks prior. If they had time to speak with me and were interested in participating, the overview of the study was read over the phone, objectives were explained, and questions were addressed. Participants were asked directly, Do you consent to participating in this survey?. For those who responded ‘yes’ data were collected by reading the survey questions as they are presented on the paper - all participants had recalled receiving the survey, had intended to complete it, but had forgotten. At the end of the survey, Phase Two was explained and the participant was asked if they would like to be considered for possible participation in Phase Two.

Prior to my entering the hospital as a researcher, staff were notified of my upcoming visit by the senior nurse leader of the organization. With each visit staff were reminded about my role and reason for the visit and written consent to be observed and to engage in informal communication was obtained. Because of experience and knowledge as an emergency nurse and how it conflicted with my role as a researcher, I was quickly able to ascertain when my presence could be perceived as adding to the workload of a nurse. Not wanting to burden the nurses, I would quietly leave the department. This happened a few times at each site and was directly related to patient acuity or workload.

Out of the hospital, emergency service personnel were unaware of my presence and purpose in the community. I was very fortunate that in all but one community every person I contacted was supportive and willing to participate. After careful explanation of my study,
written consent was obtained. All study participants were given a blank copy of the consent form to keep in their records. All study documents will be stored for a minimum of five years after successful defence of this dissertation will be kept in a locked cabinet in the office of my supervisor, Dr. J. Medves.

Ethical approval was obtained from the Health Sciences Research Ethics Board at Queen’s University, Kingston, Ontario, and all participating hospitals.

4.6 Summary

This research study was a two-phase mixed methods study poised to answer the question ‘How can emergency health care services be sustained in rural and small town Ontario’ and the first phase surveyed all Ontario emergency departments in hospitals fitting the definition of ‘small rural hospitals’. Through careful analysis of the data and considering the population census of Canada (for purposes of enhancing generalizability of the findings) three sites were chosen as case for Phase Two, the case study.

The study incorporated multiple sources of evidence identified by Yin (2009). Using multiple conceptual frameworks, data analysis was a highly iterative process using multiple strategies including identifying patterns and common themes, describing the case, and developing recommendations for various stakeholders. The results for this study are presented in chapters five and six.
Chapter 5 – Phase One Study Findings

The findings from Phase One are presented in this chapter. Phase One was the thirteen item descriptive survey developed by the research team. The survey was based upon recruitment and retention issues identified in the rural nursing literature and Troughton’s Model of Rural Sustainability. These findings were used to select the study sites, develop areas requiring further exploration during the data collection, and analyse of Phase Two study data. Because of the initial intent of the survey, complex statistical analysis of the variables was not conducted therefore meaningful predictive patterns between variables was not determined. The goals for Phase One were to provide a description of 24/7 rural emergency departments and nurse staffing patterns including vacancies and recruitment time, and to describe important community characteristics in these rural communities, using the criteria described in Troughton’s Model of Rural Sustainability, for emergency departments in rural and small town Ontario.

5.1 Design

This descriptive survey used a cross-sectional design to understand and describe community characteristics and nursing staffing patterns of 24/7 emergency departments geographically located in rural communities throughout Ontario. Cross-sectional designs are beneficial in allowing the researcher to collect data at one time period (Loiselle & Profetto-McGrath, 2011). Data were collected through the use of self-report open and closed-ended questions resulting in both narrative and numerical responses.

The use of descriptive surveys and cross-sectional designs are a cost effective method for small scale studies (Neutens & Rubinson, 2010). The use of both narrative and numerical responses strengthens the analysis as it combines naturalistic and positivist paradigms, enhances validation, and provides explanation about quantitative data. The design was chosen for this study because, prior to undertaking a comprehensive multi-site case study design, it was felt it
would be beneficial to get a ‘snapshot’ of the current state of small town emergency departments and validate whether or not the challenges and concerns derived from the literature review (including recruitment and retention of nurses) were congruent. This method also provided all emergency departments in rural Ontario equal opportunity for selection, developed awareness about this study, and allowed for a careful choice of study sites to complete Phase Two, rather than a random selection of study sites that may or may not have yielded meaningful and comparable data for analysis.

Although the use of cross-sectional designs and self-report data can be critiqued as being a weak method of study design, the findings from this phase were used to inform data collection for Phase Two.

5.1.1 Population and Sample

The population for this study included 77 emergency departments in rural Ontario whereby the unit managers were asked to complete the survey and indicate their willingness to participate in Phase Two. All identified hospitals fitting the criteria outlined in chapter 3 were used in the sampling frame and each questionnaire package included an invitation to participate in Phase Two. Of the eligible 77 departments, 35 completed the survey, returned it in a timely manner using the enclosed self-addressed envelope, three requested and replied via email, and an additional five were completed during the follow-up telephone call, for an overall response rate of 56% (n=43). Of the 43 emergency department managers who completed the survey 88% (n=38) were interested in participating in Phase Two of the study.

5.1.2 Survey

The thirteen-question researcher designed survey was used for the data collection of this phase of the research study. The survey asked respondents to describe the various staffing
patterns in their emergency department and characteristics associated with being an economically sustainable community. Although all questions were easy to read and required short responses, the questions varied in how they were designed to collect data. Six questions required a check mark or a one-word response; one asked for numbers of current staff; one question asked to describe their recruitment strategy; two questions required a check mark and asked one or two questions to elaborate on their response; one question required a ranking from 1-9; one question had eleven statements and respondents were asked to agree based upon a five-point scale (1-5) where 1 indicated strongly disagree, 2 moderately disagree, 3 neutral, 4 moderately agree, and 5 strongly agree; and the final question was open for additional comments.

5.1.2.1 Validity of the survey.

Validity refers the degree in which an instrument is able to measure what it is supposed to measure (Loiselle & Profetto-McGrath, 2011). Within the context of this study, the survey was developed from topics highlighted in the literature review as being relevant to rural nursing. Explanations were obtained for a variety of items which assisted in checking the congruence of the quantitative data. Once developed, the survey was pretested with five non-study participants and validated for accuracy, comprehension, clarity, and ease of completion. It was determined by the research group, upon adoption of the suggestions made by the pre-test group participants that the survey was measuring what it intended to measure.

5.2 Study Findings

5.2.1 Characteristics of Respondents

Of the 43 hospitals who responded to the survey, geographical location was validated using a postal code which was requested on the front page of the survey (one survey was returned with no postal code). Data collected from the publically accessible community websites, including population demographics, annual number of patient visits and kilometres to the closest tertiary
care facility were used to describe the characteristics of the respondent rural hospitals. Population of the towns ranged from 1,209-25,500, annual visits ranged from 500-34,000, and the distance to the closest tertiary care facility ranged from 30-837 kilometres.

Half of emergency departments were located in communities with a population of less than 6,000 (50.8%; n=23), had <22,000 annual patient care visits (74.4%; n=32), and lived equal to, or less than, 200 kms from a tertiary care facility (81.4%; n=35). Only one of the communities with a population <6,000 had more than 22,000 annual patient care visits (see Table 5.1). Initially there was question as to whether the high number of annual patient care visits was an error in the self-reporting of the data, but the data were verified with the respondent.
Table 5.1 Community and Hospital Demographics

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<td>≤6,000</td>
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<td>42*</td>
</tr>
<tr>
<td>6,001-10,000</td>
<td>12</td>
<td>28.6%</td>
<td></td>
</tr>
<tr>
<td>10,001-15,000</td>
<td>4</td>
<td>9.5%</td>
<td></td>
</tr>
<tr>
<td>≥15,001</td>
<td>3</td>
<td>7.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Annual Visits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤10,000</td>
<td>13</td>
<td>30.2%</td>
<td>43</td>
</tr>
<tr>
<td>10,001-22,000</td>
<td>19</td>
<td>44.2%</td>
<td></td>
</tr>
<tr>
<td>≥22,001</td>
<td>11</td>
<td>25.6%</td>
<td></td>
</tr>
<tr>
<td><strong>KMs to Tertiary Care</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤100</td>
<td>24</td>
<td>55.8%</td>
<td>43</td>
</tr>
<tr>
<td>101-200</td>
<td>11</td>
<td>25.6%</td>
<td></td>
</tr>
<tr>
<td>≥200</td>
<td>8</td>
<td>18.6%</td>
<td></td>
</tr>
</tbody>
</table>

*One respondent did not answer the question*
5.2.2 Characteristics of Non-Respondents

Of the 34 sites which did not return the survey, demographic data and nursing vacancies were collected through publically accessible databases. The majority of these emergency departments were located in communities with a population of less than 6,000 (73.5%; n=25), and approximately one third were located equal to, or less than, 100kms from a tertiary care facility (32.4%; n=11). These findings contrast with those who participated in the study. Although no reason for the differences in findings is available, one possible explanation for this finding is the lack of resources available at small hospitals to complete non-essential tasks such as research surveys. Other demographic variables, including RN vacancy rate were similar (see Table 5.2).
Table 5.2 Community and Hospital Demographics of Non-Participants

<table>
<thead>
<tr>
<th>Population</th>
<th>n</th>
<th>%</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤6,000</td>
<td>25</td>
<td>73.5%</td>
<td>34</td>
</tr>
<tr>
<td>6,001-10,000</td>
<td>6</td>
<td>17.7%</td>
<td></td>
</tr>
<tr>
<td>10,001-15,000</td>
<td>2</td>
<td>5.9%</td>
<td></td>
</tr>
<tr>
<td>≥15,001</td>
<td>2</td>
<td>5.9%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Annual Visits</th>
<th>n</th>
<th>%</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤10,000</td>
<td>2</td>
<td>20%</td>
<td>10*</td>
</tr>
<tr>
<td>10,001-22,000</td>
<td>5</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>≥22,001</td>
<td>3</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KMs to Tertiary Care</th>
<th>n</th>
<th>%</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤100</td>
<td>11</td>
<td>32.4%</td>
<td>34</td>
</tr>
<tr>
<td>101-200</td>
<td>12</td>
<td>35.3%</td>
<td></td>
</tr>
<tr>
<td>≥200</td>
<td>11</td>
<td>32.4%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RN Vacancies</th>
<th>n</th>
<th>%</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 (yes)</td>
<td></td>
<td>47%</td>
<td>34</td>
</tr>
<tr>
<td>18 (no)</td>
<td></td>
<td>53%</td>
<td></td>
</tr>
</tbody>
</table>

*annual emergency department visits not available on publically accessible databases for 24 hospitals
5.2.2 Nursing

5.2.2.1 Nursing Staff Working in Rural Emergency Departments

Respondents were asked to identify by number how many RN, RPN, and other (including NP, APN, and CNS) were on staff and to distinguish between full-time, part-time, and casual employment. Also included in this question was the number of vacancies for each group of nurses, and all student placements per year (see Table 5.3).

All respondents employed a minimum of three full-time registered nurses to a maximum of 18. The median number of full-time registered nurses was eight. More full-time registered nurses were employed in the emergency departments with >22,000 visits per year, and these departments were also more likely to employ registered practical nurses. The majority of rural emergency departments (62.8%; n=27) did not employ registered practical nurses. Four departments used nurse practitioners as part of their regular staffing. Thirty departments had ongoing nursing (RN and RPN) student placements available each year.

Fifty-eight percent (n=25) of respondents have nursing staff vacancies with the majority of postings for part-time registered nurses (84%; n=21). One site located approximately 100kms from a tertiary care facility reported needing seven part-time nurses and their current recruitment strategy was ongoing with a recruitment time greater than two years. The demand for full-time nursing staff in these emergency departments was low. Survey findings indicated, five (20%) respondents had vacancies for full-time registered nurses and one for registered practical nurses.
Table 5.3 Nursing Staff, Vacancies, and Expected Length of Recruitment

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
<th>Median (range)</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nursing Staff</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE RN</td>
<td>8</td>
<td>3-18</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>PTE RN</td>
<td>5</td>
<td>0-14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE RPN</td>
<td>0</td>
<td>0-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTE RPN</td>
<td>0</td>
<td>0-12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual RN</td>
<td>3</td>
<td>0-17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual RPN</td>
<td>0</td>
<td>0-6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nursing Staff Vacancies</strong>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE RN</td>
<td>0</td>
<td>0-2</td>
<td>43</td>
<td></td>
</tr>
<tr>
<td>PTE RN</td>
<td>1</td>
<td>0-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE RPN</td>
<td>0</td>
<td>0-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTE RPN</td>
<td>0</td>
<td>0-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vacancy Time</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-6mths</td>
<td>12</td>
<td>48%</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>&gt;6mths</td>
<td>13</td>
<td>52%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Expected Recruitment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>15</td>
<td>36.6%</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>1-4mths</td>
<td>7</td>
<td>17%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ongoing</td>
<td>19</td>
<td>46.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Percent Eligible to Retire</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;10%</td>
<td>11</td>
<td>25.6%</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>10-25%</td>
<td>15</td>
<td>36.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26-50%</td>
<td>10</td>
<td>24.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51-75%</td>
<td>5</td>
<td>12.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76-100%</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hire a New Graduate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>12</td>
<td>28.6%</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>28.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maybe</td>
<td>18</td>
<td>42.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reasons Not to Hire a New Graduate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No positions</td>
<td>18</td>
<td>85.7%</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Lack of experience</td>
<td>13</td>
<td>61.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of education</td>
<td>9</td>
<td>42.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of mentor</td>
<td>3</td>
<td>14.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>4</td>
<td>19%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ideal Yrs of Experience prior to Hire</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1</td>
<td>21</td>
<td>52.5%</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>15</td>
<td>37.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;2-4</td>
<td>2</td>
<td>5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *expressed as median and range
5.2.2.2 Vacancies and Expected Length of Recruitment

Question three asked if you currently have any vacancies, on average how long have these positions been vacant?. Twenty-seven (62.8%) respondents had vacant nursing positions (RN [n=23] and RPN [n=4]). The majority (88.5%; n=23) said their vacancies had been vacant for more than one month, with 48% (n=12) ranging from one to four months and with 52% (n=13) of those vacancies being greater than one year. Question five followed up on the length of current vacancy question and asked participants to estimate how long the emergency department manager estimated the recruitment phase would last. The expectation to fill these vacancies ranged from four months or less (26.9%; n=7) to greater than one year/ongoing (73.1%; n=19). There was no clear indication from the data why recruitment was greater than one year in the majority of emergency departments. The inherent characteristics of rural nursing including fewer nurses available in the community, lack of full-time employment, and low turnover, may be contributing factors. In this sample, the majority of respondents for whom the recruitment time for nursing staff was greater than 12 months (n=19) described their community as not being a self-sustaining community (68.4%; n=13).

5.2.2.3 Recruitment Strategy

Of the 40 responses (3 surveys did not provide an answer to this question), 60 percent (n=26) of the emergency departments had vacancies and were actively recruiting nurses. A plethora of recruitment strategies were identified including: in-hospital posting (n=14), newspaper advertising (n=9), online advertising (including hospital websites and recruiting websites such as Health Force Ontario [HFO] and Workopolis) (n=19), job fairs (n=7), and through student placements (n=11). It was evident that a large majority of respondents relied on the New Graduate Initiative (NGI) through the HFO website (n=19)
[http://www.healthforceontario.ca], and only four stated the tuition reimbursement through the MOHLTC as an incentive for recruitment of newly graduated registered nurses.

### 5.2.2.4 Current Nursing Staff Eligible to Retire in the Next Five Years

Respondents were given five options of current staff eligible to retire in the next five years: less than 10%, 10-25%, 26-50%, 51-75%, or 76-100% (n=41). The majority of responding emergency departments had less than 50% of their current nursing staff eligible to retire within the next five years (87.8%; n=36). Eighty percent (n=4) of the departments with 51% or more of the current nursing staff eligible to retire in the next five years (n=5) had ongoing vacancies and recruitment. The other departments stated they currently had no vacancies and were not actively recruiting at the time of the survey.

### 5.2.2.5 New Nursing Graduate Employment in the Emergency Department

The survey question asked whether or not the respondent would consider hiring a newly graduated nurse. The available responses were: yes, no, or maybe. The ‘maybe’ was derived from the pre-test survey where one of the participants explained that there may be special circumstances whereby a newly graduated nurse would be employed in the emergency department. If a respondent answered no, they were asked to complete two further questions asking to select reasons for not considering employing a new graduate. All respondents were asked to suggest how many years of experience they felt was appropriate for a nurse to have prior to working in their emergency department.

The majority of respondents (71.4%; n=30) responded yes or maybe that they would hire a newly graduated nurse in their department, many added reasons for their choices, primarily if they had completed their final clinical practicum in the department and/or were supported financially through a mentorship program such as that offered by Health Force Ontario.
Although 12 (28.6%) responded they would not hire a new graduate to work in their department, 21 respondents (48.8%) completed the following questions asking to select reason(s) why they would not hire a new graduate. Respondents were encouraged to check all the reasons that applied. The reasons cited included: lack of experience (85.7%; n=18), lack of specialty education (61.9%; n=13), lack of available staff to mentor new staff (42.9%; n=9), lack of available positions (19%; n=4), and other. Three respondents selected other and stated a new graduate could not work in their emergency department because RN staff worked alone and it would not be safe given the new graduate’s lack of knowledge and experience.

Respondents were asked how many years of nursing experience they felt were ideal for a nurse to begin working in their emergency department. The majority (52.5%; n=21) said one to two full years of experience was appropriate. The departments with the highest number of full time registered nurses said the ideal number of years to work in their emergency department was lower (~1 year) than their counterparts who had a small number of full time registered nurses who most frequently responded at least two years. This finding may be attributed to the lack of staff to mentor new nurses (cited as a response by almost half of respondents [42.9%, n=9] who would not hire a new grad [n=21]), the lack of resources to education their nurses (57%, n=24), and the inability to schedule a new grad on evenings or nights because they can’t work alone. The need to work independently and alone is frequently cited as reasons for not hiring a newly graduated nurse, or as a major cause of nurse attrition in rural hospitals (Bushy, 1999; Eldridge & Jenkins, 2003; MacLeod, 1999; Scharff, 2006).
5.2.3 Community

5.2.3.1 Place of Residence of the Nursing Staff Working in the Emergency Department

One survey question asked if the majority of the nursing staff working in the emergency department were currently living in the community. The majority of respondents (90.7%; n=39) answered ‘yes’ to this question. This finding supports what we already know about rural nurses; most of them live and work in the community and have strong family ties to the area (Bushy, 2002; Hegney et al., 2002; Lea & Cruickshank, 2005). This finding recognizes the need to recruit nurses from local communities. A suggestion in future recruitment strategies is to target pre-university students living in rural communities to consider a career in nursing.

5.2.3.2 Local Employment

Respondents were asked to rank the contribution to the local economy of eight areas of employment commonly found in rural Ontario. These were: health care, manufacturing, retail, agriculture, mining, forestry, government, and military. These categories were determined by the research team based upon our collective knowledge of rural Ontario and previous research completed in the province (Bollman & Alasia, 2012). There was also an option for an open response, labelled ‘other’.

Analysis of this question occurred by identifying the top three areas of employment indicated by each survey respondent then tabulating the results. Healthcare was reported as the highest ranking area of employment in rural Ontario (87.2%), followed by agriculture (73.3%), and manufacturing (60.7%). Others included in this list were retail (56.8%), mining (26.9%), forestry (25%), military (20%), government (19.4%), and other (18.8%). Responses to the open question ‘other’ included: nothing (commuter town), trucking, and tourism.
These findings are consistent with a table located in a Statistics Canada report on self-employment in rural communities (Bollman & Alasia, 2012) which identified 16 industry sectors and compared the number of employees in each sector with those who were self-employed in the same sector. Although self-employment was not captured in the current survey, the reported numbers by category of employment in rural and small town Canada were similar to findings of this study. Specifically, the ranked findings from the Statistics Canada report list trade (wholesale and retail), healthcare, manufacturing, agriculture, and mining and forestry (grouped with fishing and oil, or gas extraction) as part of their top six employers. Military and government were not included on the Statistics Canada list.

5.2.3.4 Community

Respondents were asked to describe their community using one of four provided descriptors to assess population demographics (see Table 5.4). The four choices included: retirement, cottage, commuter, and other. Thirty-one percent of respondents (n=13) described their community as a retirement community, 12 percent (n=5) as a cottage community, and 19 percent (n=8) as a commuter town. Twenty-six percent of respondents (n=11) described their community as ‘other’ and responses included: agriculture (n=3), no response (n=3), young growing community (n=2), railway town (n=1), isolated First Nations (n=1), and mining (n=1). This question allows for the possibility of identifying the health care needs of a community. The delivery of emergency services in rural communities must be based on the needs of that community (Allan et al., 2007; Wakerman et al., 2008; Wakerman, 2009). It was agreed by the research team that comparing a cottage community to a retirement town might not yield ample data for comparative analysis in this type of study.

Respondents were given the following sentence: Self-sustaining implies that a community has the necessary resources to function independently and asked if they would describe their
community as self-sustaining. A yes or no response was solicited and there was an opportunity to explain their response if desired.

Fifty-six percent (n=23) of respondents stated they lived in a sustainable community. An opportunity to comment on their choice was available. Respondents living in a self-declared sustainable community gave reasons such as: their town had jobs, shopping, recreation, education, reasonably priced housing, industry, employment opportunities, banks, pharmacies, and beautiful outdoor life. A few (n=4) said their community was sustainable but that it was dependent on one or two major employers, which, if they stopped functioning, the community would be vulnerable to becoming dependent on others, population migration, or economic collapse.

Forty-four percent (n=18) of respondents stated they did not live in a sustainable community. An opportunity to comment on their choice was available. Respondents not living in self-declared sustainable community gave reasons such as: there was a need to import goods to support local businesses, lack of retail shops, lack of employment opportunities resulting in the lack of a strong tax base, the need for increased hospital services for a retirement (aging) community, seasonal employment/population, and the need to leave the community for work (commuter towns). For those living in commuter towns, the need to leave the community for work increases the likelihood that those individuals conduct their business in that community which, in turn, impedes the local economy in their home town (Harris, Alasia, & Bollman, 2008).
Table 5.4 Community Characteristics of Participants

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>%</th>
<th>Total n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Live in Community</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>39</td>
<td>92.9%</td>
<td>42</td>
</tr>
<tr>
<td>No</td>
<td>3</td>
<td>7.1%</td>
<td></td>
</tr>
<tr>
<td><strong>Type of Community</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retirement</td>
<td>12</td>
<td>28.6%</td>
<td>42</td>
</tr>
<tr>
<td>Cottage</td>
<td>5</td>
<td>11.9%</td>
<td></td>
</tr>
<tr>
<td>Commuter</td>
<td>8</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
<td>28.6%</td>
<td></td>
</tr>
<tr>
<td><strong>Self-Sustaining Community</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>56.1%</td>
<td>41</td>
</tr>
<tr>
<td>No</td>
<td>18</td>
<td>43.9%</td>
<td></td>
</tr>
</tbody>
</table>
5.2.4 Trends in Rural Health Care Services and Local Community

Eleven Likert-scale statements were included in the survey to elicit opinions about local health care services and their community. Statements included five about whether or not the nursing shortage will affect their department, as well as issues about recruiting and educating nurses, and six about the services in the community. Respondents were asked to choose the response based upon a five-point Likert scale (1-5) where 1 indicated strongly disagree, 2 moderately disagree, 3 neutral, 4 moderately agree, and 5 strongly agree. For analysis, strongly disagree and moderately disagree were grouped, likewise for strongly and moderately agree; categorically neutral was distinguished between agree and disagree.

There were some trends that were apparent in these findings (see Table 5.5). The majority of respondents (69%; n=29) were concerned that the pending nursing shortage would affect their emergency department and recruitment is a current challenge for most hospitals in rural Ontario. This implies that a worsening shortage of nurses compromises the recruitment of nurses which in turn, may lead to the inability to properly manage and operate rural emergency departments. The underlying premise of an objective of this research to evaluate quality of care is that there is a need to have accessible services and care delivered by qualified health care professionals. In this context the high prevalence of unease around recruitment is of great concern.
Table 5.5  Reported Factors Influencing Emergency Department Sustainability in Participating Hospitals

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Neutral</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am concerned that the emergency department in this hospital will be</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>20</td>
<td>9</td>
</tr>
<tr>
<td>affected by the nursing shortage. (n=42)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recruiting emergency nurses is a challenge for this hospital. (n=42)</td>
<td>0</td>
<td>9</td>
<td>4</td>
<td>12</td>
<td>17</td>
</tr>
<tr>
<td>We have adequate resources to educate our nurses. (n=42)</td>
<td>8</td>
<td>16</td>
<td>5</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Emergency nurses have to travel outside our area for educational</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>purposes. (n=41)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have an adequate number of nurses to cover for other nurses requiring</td>
<td>13</td>
<td>12</td>
<td>6</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>leave for educational purposes and/or vacation. (n=42)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People can meet all of their shopping needs in my community. (n=42)</td>
<td>14</td>
<td>6</td>
<td>7</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>People leave the community daily for employment purposes. (n=42)</td>
<td>2</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>People can find work in my community. (n=41)</td>
<td>6</td>
<td>14</td>
<td>12</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>People in my community have adequate primary health care services.</td>
<td>1</td>
<td>4</td>
<td>10</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>(n=41)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People in my community use the emergency department for non-urgent</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>29</td>
</tr>
<tr>
<td>health care issues. (n=41)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Goods from my community are exported. (n=39)</td>
<td>8</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>4</td>
</tr>
</tbody>
</table>
Ongoing nursing education is a key component of retention of emergency nurses. In order to safely work in this critical care area, there is a need for nurses to have an advanced skill set. For those working in rural communities, problems in obtaining and maintaining such skills are related to difficulty in accessing courses, associated costs, and availability of replacement staff. Many of these courses require regular updates to maintain certification. Fifty-seven percent of respondents (n=24) stated they did not have adequate resources to educate their nursing staff, 76 percent of respondents (n=31) said nurses had to travel outside their area for educational purposes and only 26 percent (n=11) had adequate staff to cover nurses for educational opportunities or vacation time.

Community characteristics are important components for people living in the community. Only 36 percent of respondents (n=15) stated that residents could meet all of their shopping needs in their community and 55 percent (n=24) of communities were commuter towns where the majority of residents travelled daily to other communities for employment purposes. Twenty-two percent (n=9) of communities had employment opportunities available close to home (data about why employment was not available in these communities was not obtained).

Healthcare services are an important commodity for community viability and sustainability (Troughton, 1999). Sixty-three percent (n=26) of respondents said there were adequate primary health care services in their community, yet 93 percent of respondents (n=38) agreed their emergency department was used for non-urgent patient care issues. More than half of emergency room visits in Canada are non-emergency (Canadian Institute of Health Information, 2005). Emergency departments are often used for non-urgent health issues which can be problematic as non-emergency cases can increase waiting times and create a backlog of services, in rural and small communities depending on the funding model of the hospital, these cases, in a fee-for-service model, may be what maintains a physician’s salary.
The final statement in this survey section was whether goods were exported from their community. Export of goods implies the existence of manufacturing or farming which can be congruent with a sustainable economy through employment of local residents and their contributions to the local economy. This question did not yield any meaningful results as 36% stated their community did not export goods, and 41% stated their community exported goods, there was no meaningful relationship between exporting goods and sustainability of the community as some communities were sustainable for other reasons other than exporting goods.

5.2.5 Additional Comments

Only six respondents chose to provide additional comments on the survey. Individual surveys were sent to each physical site identified as a potential study site, one additional comment was provided by a manager who stated they managed two of the potential study sites, both of which serviced a very large geographical area (>2500km²). Three stated that smaller hospitals have recruitment challenges because of their inability to provide full-time employment, their hospitals require nurses to work in multiple areas, there are a lack of resources that nurses in larger facilities become accustomed to such as laboratory services, other diagnostics, and other health care professionals such as respiratory therapists and, in some cases, an on-site physician. These challenges are well documented in rural literature (MacLeod, 1999; MacLeod, Browne, & Liepert, 1998).

In discussing the challenges associated with recruitment and retention, one respondent wrote, *you invest in them and they leave; then we lose.* Another comment was *nurses need training in how to work in areas of low volume/ high stress* and the respondent suggested multi-site organizations should partner with smaller hospitals so staff can be shared with their partnered locations. One respondent wrote of the importance of the hospital in the community and how fundraising led to a hospital expansion.
5.3 Factors influencing the choice of Phase Two study sites

Three study sites for Phase Two were chosen from the Phase One survey data. The initial inclusion criteria for choosing a site included a willingness to participate in Phase Two. On the reverse side of the survey, participants were asked if they were willing to participate in the second phase of the research study which would include multiple site visits over a negotiated period of time and open access to emergency department staff and documents. From those participants indicating a willingness to participate in Phase Two (n=38), 27 indicated they had current vacancies. Current vacancy was a required criterion for selection of sites for Phase Two. Other variables were examined including: population, vacancy time, estimated recruitment time, and distance to tertiary care services (see Figure 5.1).
Figure 5.1 How study sites were chosen based upon criteria selected by the research committee:

Shaded boxes indicates decision path; the numbers in brackets represent the 3 sites chosen and the final boxes indicate the number of kms from tertiary care

*missing data

** range (average)
It was determined by the research team that it was necessary to have comparable sites, but also to have sites that geographically represented the province of Ontario and reflected differing referral tertiary care centres. Using community sustainability as defined by Troughton’s model, sites were assessed to be similar communities in terms of population and economic viability. This was important as with differing economic structures other variables could influence the Phase Two study findings; in particular lower socio-economic status is associated with poorer health and has been reported to increase the reliance on emergency services (CIHI, 2006; Roos, Walld, Uhanova, & Bond, 2005). The three communities were predominantly white Caucasian middle class with the majority of residents employed and living in the community of work. All three sites were accessible by provincial highways making transportation of critically ill or injured individuals possible by road. Staffing patterns and vacancies were similar; however, at the time of the survey, one site had a vacancy and said it had no challenge in recruiting qualified nurses to their department (by the time I had negotiated Phase Two of the study with this site, the vacancy had been filled). Of the three study sites, one site was located in Eastern Ontario, one in South-Western Ontario, and one in Northern Ontario (see Table 5.6 for comparison of study sites).
Table 5.6 Summary of Selected Case Study Sites and Emergency Department Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Site 1</th>
<th>Site 2</th>
<th>Site 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2011)</td>
<td>2,482</td>
<td>4,785</td>
<td>3,333</td>
</tr>
<tr>
<td>Distance from tertiary care services</td>
<td>50</td>
<td>50</td>
<td>330</td>
</tr>
<tr>
<td>Annual visits</td>
<td>23000</td>
<td>10000</td>
<td>5400</td>
</tr>
<tr>
<td>Clinic in community (Offering primary and secondary health care services)</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>FTE RN</td>
<td>8</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>PTE RN</td>
<td>6</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Vacancies</td>
<td>2(ongoing;4NGIs*;big issue is part-time have no schedule and no guaranteed hours)</td>
<td>1 (filled quickly; historically do not have a recruitment challenge)</td>
<td>2(ongoing; only part-time)</td>
</tr>
<tr>
<td>Percent eligible to retire within 5 years</td>
<td>&lt;10% (but &gt;50% in 10 years)</td>
<td>10-25%</td>
<td>&lt;10%</td>
</tr>
<tr>
<td>Major employer</td>
<td>Health Care</td>
<td>Farming</td>
<td>Mining</td>
</tr>
<tr>
<td>Community ranking of hospital as major employer</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Staff live in community</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Self-Sustaining community</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*NGI-New graduate initiative through HealthForce Ontario
5.4 Summary of the Survey

Overall, I was pleased with the number of respondents in Phase One and surprised by the large number of respondents wanting to participate in Phase Two given the results of the pre-test study. I felt that this validated the worthiness and timeliness of my study. The participating hospitals were representative of rural hospitals in Ontario and study findings support reports from other investigations in both Canada and other countries, which increases the likelihood of generalizability of my study findings.

Currently, there is considerable discussion and debate about a pending nursing shortage in Canada stemming from lack of graduates and looming retirements. Although the majority of respondents were concerned the nursing shortage will affect their emergency department (69%), the majority of the job openings were for part-time RNs (84%), and only a small number predicted a large number of retirees in the next five years (8%). Overtime hours and sick time hours were not captured in this study. These two variables may have provided information about current staffing patterns and enhanced the study findings. The majority of emergency departments would consider hiring a newly graduated nurse (71%), and it was clear that government funding initiatives and appropriate mentoring were key factors in building competencies in this group.

The data in the survey were adequate in allowing the research team to identify patterns and trends in rural emergency departments, which subsequently allowed us to choose three sites for Phase Two. These sites were comparable to the majority of study respondents and representative of rural communities and emergency departments in Ontario.
Chapter 6 - Results of Phase Two

The findings of Phase Two are presented in this chapter. Phase Two was a multiple-case study following the research method as recommended by Yin (2009).

6.1 Reporting the Findings

Yin (2009) does not suggest any one correct way to report study findings. Anonymity may or may not be maintained. He states, the most desirable option is to disclose the identities of both the case and the individuals, within the constraints of protecting human subjects (p. 181) as it allows the reader to learn more about a particular case, especially when there is other research about that individual case. In this study, the identity of the case or of any of the individual participants will not benefit the reader in learning more about the findings of the study as the purpose of the study was to make generalized findings that can be used for rural emergency departments and not just those that participated in this study. Yin states, anonymity is necessary on some occasions (p. 181), such as using case study methods as a means to portray an ideal type to illustrate a situation in which the identity of individuals serves no purpose.

It is important to determine how findings will be reported at the onset of the research study. For multiple-case studies, such as this, Yin recommends reporting the findings using a cross-case analysis to protect the identities of those who participated in the study. In reporting the study findings, sites will not be labelled as A, B, and C, nor will reporting of the findings follow a format in which each site can be identified as the first, second, or third, but will be concealed in the following topics of discussion. In conforming with traditional research, I decided prior to data collection there was no benefit in identifying study sites or participants involved in the study and thus all were assured the identity of the individuals, the organization, and the community would be protected. To minimize the possibility of discovering participants, all identifying data and references are omitted from this thesis. However, to assist with putting
some of the quotes into context, nurses with less than 10 years of emergency nursing experience will be referred to as ‘younger nurse’, those with 10 to 20 years as a ‘mid-career’ nurse, and those with more than 20 years as an ‘older nurse’.

In accordance with the study findings the three sites had differing characteristics relating to the study which influence the overall findings. These characteristics include: recruitment challenges; retention issues; perceived quality of care; accessible education opportunities; and organizational climate (Table 6.1). The three sites are labelled A, B, and C, and to protect the anonymity of the sites and participants, do not correspond with sites 1, 2, and 3 as presented in Table 5.6.

Site A has recruitment challenges, have nurses who claim to be seeking other employment opportunities balanced with nurses who plan to stay until they retire, have varying levels of perceived quality of care (which is correlated with the patient volume and available staff), have access to educational opportunities, and describe their organizational climate as negative. Site B has recruitment challenges, have no retention issues, have positive levels of perceived quality of care, have varying access to educational opportunities, and describe their organizational climate as positive. Site C has no recruitment challenges or retention issues, have positive levels of perceived quality of care, have access to educational opportunities, and describe their organizational climate as positive.
Table 6.1 Characteristics of Study Sites

<table>
<thead>
<tr>
<th></th>
<th>SITE A</th>
<th>SITE B</th>
<th>SITE C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recruitment Challenges</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Retention Issues</td>
<td>+/-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Perceived Quality of Care</td>
<td>+/-</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Accessible Education</td>
<td>+</td>
<td>+/-</td>
<td>+</td>
</tr>
<tr>
<td>Organizational Climate</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>
6.1.1 Summary of Site Visits

It is important in this type of study to gain an intimate working knowledge of the emergency department and build a rapport with study participants. The challenge at the onset was pre-determining the length of time to spend at each study site, and when and how long to remain. Ample time was required to integrate with staff, develop a working knowledge of the emergency department, and gain access to the community. More time was spent at the first site which allowed me to fully develop the types of informal questions that would result in meaningful data to meet the objectives of the study which, in turn, allowed me to use my time at the other sites more efficiently. Due to the locations of the sites, I was required to relocate to two communities for a specific time period. In both locations, I was residing in close proximity to the hospital and had access to a vehicle so I was able to maximize my time in these communities, thus optimizing the data I was able to collect. (See Table 6.2 for summary data of these visits).
Table 6.2 Summary of Site Visits

<table>
<thead>
<tr>
<th></th>
<th>SITE 1</th>
<th>SITE 2</th>
<th>SITE 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours of participant observation</td>
<td>107</td>
<td>72</td>
<td>60</td>
</tr>
<tr>
<td>Number of interviews</td>
<td>7</td>
<td>13</td>
<td>8</td>
</tr>
<tr>
<td>Types of documents reviewed</td>
<td>Policy and procedure manuals, job descriptions &amp; postings, documentation tools, websites, town library archives, local newspapers, visitor information booklets</td>
<td>Policy and procedure manuals, job descriptions &amp; postings, documentation tools, websites, town library archives, local newspapers, visitor information booklets, published book on the town history</td>
<td>Policy and procedure manuals, job descriptions &amp; postings, documentation tools, websites, town library archives, local newspapers, visitor information booklets, published book on the town history</td>
</tr>
</tbody>
</table>
6.1.2 The Communities

The three communities in the study were similar in their population demographics and available services. Two of the sites were rich in history and local residents were keen to share stories with me and lent me old, prized documents to learn more about their town. All three towns have namesakes dating back to the original settlements (early 1800s for two, and the mid-1900s for one).

The first town was initially a very large geographical settlement in the early 1800s and a stopping place for stagecoaches on their way to larger towns. By the mid 1800s the town had a few small businesses including a general store and some businesses relating to farming. By the late 1800s and with the establishment of the Canadian Pacific Railway (CPR), there was a hotel, a post office, and a few local businesses and the official township was established. The official hospital complex was opened in the 1940s. The town currently has approximately 2,500 predominately white middle class residents, and relies on healthcare and farming as its main sources of employment. There are employment opportunities within the community; however, some residents travel to nearby communities, including a larger city, for employment. As one participant said of this town, you were either born and raised here, or met and married a [type] farmer who was born and raised here.

The second town in my study was initially habited by Aboriginal peoples with the first English settlers migrating to the area in the early 1800s. It was a small community that served as the halfway point for two larger neighbouring towns. The settlement allowed people a place for reprieve when travelling as it is situated at a crossroad for many neighbouring communities and by the 1830s had a saw mill and a hotel with illicit alcohol being served. For those who decided to settle in the area, the ground was fertile and farming remains the major employment in this community.
Consisting of one main street in the late 1800s, the town had a school and was quite prosperous, having many businesses including: seven groceries, two post offices, a blacksmith, a cabinet maker, coppersmith, a tavern, hotel, woodworkers, three banks, six physicians, and two drug stores. Although by the early 1900s the town relied heavily on the railway, the town was well-established prior to the building of the railway. The railway did allow for the export of goods and passenger travel. The official hospital complex was opened in the 1950s. The population of this town is approximately 4,500 predominately white middle class residents with a large number of older farmers and retirees. There is also a small migrant farming population, many of whom do not speak English, who access the services of the community.

The third town in my study was an Aboriginal community for centuries prior to the arrival of immigrants. With the building of the CPR in the late 1800s construction workers were the main residents of the town. Geographically situated along the northern railway, in the 1930s the census population was below 25. In the 1940s a pulp and paper mill was built, and although now closed, the population grew to approximately 2,500 in a very short time; it was during this time that schools, a bank, a hotel, a theatre, and the hospital was built. By the 1980s mining was, and remains, the major source of employment resulting the population doubling in size. However, with the closure of some of the mining operations the population is currently about 4,000 with almost 75% of the residents less than 45 years of age. Although predominately a white middle-upper class community, there are two First Nations Communities that access the services of this community. Unlike the other two communities, the majority of residents in this community are from away and have family in the south. Most people were drawn here for the low cost living expenses, miners get paid big bucks, housing is cheap, and it is an easy place to save money, or they came for a two week visit, got a job, met my husband, and stayed.
6.2 Meeting the Study Objectives

Using the concepts access, quality of care, and sustainability, the findings of this study have led to the development Hogan’s Model of Rural Emergency Health Care Service Sustainability (Figure 6.1, found at the end of this chapter). The following sections will discuss how these objectives were met and illustrate the development of this model using the conceptual model to illustrate the framework of this study and the various models and frameworks as described in Chapter 3.

6.2.1 Access.

The first concept underpinning this research is access. Challenges associated with physically accessing emergency health care services have been identified as one of the major barriers for those living in rural Ontario (MOHLTC, 2010). In this study, the rural communities have accessibility to emergency services.
**Figure 6.2. Conceptual Model Illustrating Access**

Out of Hospital Services
- First Responders
- Primary Health Care Practitioners

In-Hospital Services
- Rural Emergency Departments

Discharge Services
- Tertiary Care
- Secondary Health Care (OTN)

**Figure 6.2.** This diagram represents the concept of access. Access to emergency health care services implies that in order to access services, they must exist and people must be able to get there. For rural communities these services include: out of hospital care, in hospital services, and discharge services.
6.2.1.1 Emergency services in rural and small town Ontario.

The objectives of the study were to:

- Describe existing emergency services in rural and small town Ontario
- Evaluate accessibility of emergency services in rural and small town Ontario (availability and distance)

Like the majority of Canada, most Ontarians will access emergency health care services in one of two ways: 1) through the activation of 911 (not available in First Nation Communities [see below]); or 2) arrive at an emergency department in person. Congruent with principles of sustainable health care services, this initial access must be available and accessible to rural Ontarians within a reasonable time period and link with the provision of quality care by qualified and competent health care professionals.

In support of a MOHLTC (2010) vision stating, “A health care system that provides appropriate access and achieves equitable outcomes for rural, remote and northern Ontario” (p. 7) the suggested guidelines state, 90% of residents in a community or local hub will receive emergency services (24/7/52) within 30 minutes travel time from their place of residence (p.7). This guideline is consistent with that of the Ontario Health Coalition (2010) which states hospital services should be no more that 20 to 30 minutes from a resident’s home.

911 Activation.

All three study sites were accessible to 911. 911 activation included access to fire, police, and ambulance services. Once activated, if able, the caller is asked to identify the nature of the emergency and which of the individual or combination of services is required. If the caller is doubtful or unable to respond, all three services may be dispatched. In emergency services, these services are referred to as ‘First Responders’ (Rawlinson & Crews, 2002). First responders
are an integral part of emergency health care services because they are often the patient’s first point of contact after injury or emergency illness and they provide time-sensitive pre-hospital care.

_Time_.

911 services were not central in the town, but were located as much as 350 kms away from the community and therefore may or may not have had any intimate knowledge of potential transportation barriers such as terrain or weather which may influence transport time. According to first responder participants at all study sites, time is a key predictor of outcomes. For example, police safety may be compromised if they require back-up and the next closest cruiser is 100kms away, long response times for firefighters correlates to the amount of damage during a fire, and longer response times from paramedics in critical medical events are associated with poorer health outcomes.

_Who is involved in emergency health care services._

Emergency health care services is a continuum of services including: pre-hospital medical services (provided by first responders including: paramedics [EMS], police, and fire), services provided in an emergency department, and those coordinated by external persons including 911 operators and people in larger care centres (Rawlinson & Crews, 2002). The perspectives of EMS, fire, police, nurses, students, physicians, senior management, and technicians working in rural communities are represented in this study.

EMS is the critical link between emergency care in the community and the hospital emergency room. EMS services in rural communities can include other responders such as police and firefighters. This can be further described as the time from activation (911 call, where available) to the arrival at the hospital. The elapsed time from the activation of EMS services to
in-hospital treatment can be critical to patient outcomes and survival. The first hour from the incident to appropriate medically necessary treatment is critical to patient survival. Although there is a lack of research on what is referred to as The Golden Hour (Lerner & Moscati, 2001) it is widely accepted amongst emergency health care professionals. The Golden Hour means EMS have 20 minutes to get to the patient, 20 minutes to prepare for transport, and 20 minutes to get that patient to a hospital. Delayed or prolonged response times in rural communities may contribute to an increase in mortality rates (Rawlison & Crews, 2002). One means of ensuring adequate pre-hospital care and safe and timely transport is the establishment of highly skilled paramedics who have direct access to medical directives and can thus initiate immediate treatment (IOM, 2005; Knott, 2003; Wong & Levy, 2005).

Although traumatic injuries occur in both rural and urban areas, many rural residents engage in hazardous occupations, including farming and mining, and have an increased risk of severe traumatic injuries (Rawlinson & Crews, 2002). Prompt access to emergency services can be a matter of life or death. Caring for patients with severe and life-threatening injuries in rural hospitals require more resources than are immediately available and these critically ill patients often require stabilization and timely transport out of rural hospitals in favour of specialized teams in larger tertiary care hospitals. Timely pre-hospital patient care may be further compromised when a patient requires transportation to a distant tertiary care centre as the ambulance leaving the area may be needed for other emergencies (Baker, 2009; Holleran, 2010).

Findings of this study indicated these links were present in all study sites and the need for timely, skilled care was a priority for both the health care workers and the community. Residents of the communities value their front line workers and the services they provide. In two of the communities the volunteer fire fighters working in local businesses were able to leave work to
respond to a 911 request for fire department assist. This was in part due to the limited resources, but also *it could be my house or one of my own* (family member) they are saving.

### 6.2.1.2 Incidental finding (First Nations communities).

Although evaluating access to health care services in First Nation communities was not part of the original study, one of the study sites serviced two neighbouring First Nation communities. Despite not including patient care during my observation, there were several incidents where nursing and physician participants openly discussed health care challenges experienced by those living in First Nation communities and how it influences the services they provide. Despite findings of this study and ICES data (2011) suggesting that emergency health care services are accessible in a reasonable timeframe, ICES (2011) identifies there are approximately 47,940 Ontarians who experience a disparity in access to emergency health care services as 185 communities in Ontario with small populations (less that 5,000) have more than 30 minutes of travel time to emergency services and an additional 55 communities are more than 60 minutes from emergency services.

#### 911 services in First Nations communities.

The two First Nation communities who accessed services in the community at one site did not have access to 911 services, instead they were required to call a 1-800 number to request ambulance, fire, and police. According to the nursing staff in the emergency department, people living on the reserve should have a *fridge magnet with that number, but most don’t know it*.…. *they always call here when something goes wrong*. When asked if they would call the hospital for fire and/or police two staff said *probably* in unison. One can assume that due to media and public education the majority of persons living in developed countries are aware of 911 (or similar number) services.
During my site visit, there was an incident when a person on the reserve experienced a cardiac arrest. The family relentlessly called 911 only to get a message saying the service was not available. After several attempts, the family called the local hospital, who in turn, used another line to call 911 (geographically located 350kms away from the site) and were told the one community ambulance was on another call and the next local ambulance would have a response time of approximately one hour! The outcome of this incident was not favourable and the patient died. Reflecting upon the incident with staff made me recognize the disparities in access to rural emergency health care services that are not captured in this study. Perhaps this is the key to improving the access disparities and improving the health of those residents living in the 240 communities in rural Ontario who do not readily have access to emergency and other health care services.

Upon hearing of this situation, the patient’s family physician broke into tears. It was clear to me that there is a sense of belonging and acceptance in rural communities. She explained that she had a connection with this person as she does with many of her patients and death always made her feel a sense of loss.

**Obstetrical Care in Rural & First Nations Communities.**

Access to obstetrical services was not an objective of this study, but as with qualitative research, at the onset one cannot be aware of all of the findings the research will unveil.

The first insight into the current state of affairs with obstetrical care in rural Ontario came during my visits at the first site. It was recognized by senior management that their obstetrical program was threatened with closure unless they were able to actively recruit qualified nursing staff. The emergency department staff (manager, physicians, and nurses) identified that should the program not be functioning there would likely be an increase in mothers arriving at the emergency department and birthing there. Although emergency staff are educated and prepared to deal with the birth of a baby, the staff at this site worried, *what if something goes wrong* and
identified, *we are a busy department and babies being born uses all of our resources.* Staff also worried that they were not competent to help women deliver babies and thus *hope(d) they find someone.*

On one of the weekends during my site visit in the community where the First Nations communities are serviced, the obstetrical program was closed because the physician was away and a locum was covering. During the early part of the weekend, a young Aboriginal woman was in early labour and was advised to go to the closest birthing centre (a 3+ hour drive) and wait. Needless to say, she arrived at a local health centre and was advised to come to the emergency department. At this site, the nurses are cross-trained in obstetrics but admit their comfort level is not great, *I do not feel that I am an expert or even a competent nurse. I still feel like I am learning... I am not confident in reading strips and really seeing when women are transitioning, I probably jump the gun and call the doctor to come in and check* (older nurse).

Nurses rely heavily on their physicians and having locums who are unfamiliar or uncomfortable with obstetrical care creates a need to close this service. However, when a woman presents in active labour there is no time to safely transfer her, and babies will be born in rural hospitals. A woman in active labour creates a need to call in extra staff to provide labour and birth support which is an ongoing challenge. In this case, the woman safely gave birth to a healthy baby, but the process generated much discussion and anxiety among staff.

Problems that were identified included: lack of resources (mainly human), and fear of something going wrong. Other problems that were identified included: a) emergency/maternity nurses felt that the women in the First Nations communities did not have access or chose not to access prenatal care including ultrasounds which could identify potential problem areas during labour; b) the need for women to travel to a neighbouring birthing unit (at their expense and where the road conditions may also compromise safety); and, c) the lack of culturally sensitive care. The nurses were comfortable only with textbook birthing plans, fetal monitoring, using a
birthing bed, and not open or competent to do weird stuff for fear of compromising patient safety. According to descriptions by participants, weird stuff included cultural rituals, birthing in bath tubs, or other non-traditional, as viewed by the Western medical culture, birthing techniques.

In a study of the experiences of care providers in four rural communities in British Columbia that lost or were at risk of losing their maternity services, researchers identified the challenge in recruiting health care professionals and safety issues in birthing low numbers resulted in a lack of experience and ability to develop competencies, thus compromising service delivery (Grzybowsk, Kornelsen, & Cooper, 2007). These findings are similar to those of MacKinnon (2012) who found nurses were concerned about their ability to provide safe, appropriate, and timely care for labouring women in rural hospitals.

In order to have sustainable rural communities, there is a need to continue to have babies being born locally to maintain population demographics. According to Troughton’s Model of Rural Sustainability, population growth and the availability of supportive health care services is essential to community sustainability (Troughton, 1999). For participants in this study, maternity services are currently at risk of being closed. The low number of births in these rural communities resulted in feelings of decreased comfort and skill competence for nurses, which threatened the quality of care expected. The lack of qualified professionals threatens availability of services. Similar to the findings about emergency services, maternity services are possibly affected by similar variables, meaning these study findings have the potential to cross into other specialty care areas in rural hospitals.

6.2.2 Quality of Care

The second concept underpinning this study is quality of care. Evaluation of quality of care was done without the perspective of the patient, but relied solely upon the views of the health care professionals who participated in this study (Figure 6.3).
Figure 6.3. Conceptual Model Illustrating Quality of Care

This diagram builds upon the previous diagram and represents the concept of quality of care as per the findings of this study. Once services are accessed they need to be provided by qualified health care professionals who have available resources.
6.2.2.1 Donabedian’s Model of Quality Care

Study Objective:

- Evaluate quality of care (having accessible services and care delivered by qualified health care professionals)

Using Donabedian’s Model (described in Chapter 4) for assessing quality (2005) this section will present study findings describing the delivery of care through the exploration of the professional competence, attitudes, and satisfaction of the nursing staff working in the emergency departments in rural hospitals. In this study, this was done through the examination of the process of care and by studying behaviours and opinions of the emergency health care process then making inferences about quality. Retention of health care professionals and utilization of services are two such measures that relate to overall quality of care and sustainability of services. Health care services are not sustainable if users do not trust or value the services. In a literature review exploring trust and trustworthiness in nursing (Dinc & Gastmans, 2012) findings indicate trust is an important concept in caring for patients and it is not always easily attained and therefore requires time to establish. MacLeod and colleagues (2004) acknowledge the need to establish trusting relationships between nurses, patients, and their communities.

One nurse explained the privilege of caring for people in her community, *it is rewarding and I think they get comfort in that because everyone has to get back here if they have been sent away for surgery or something. They are happy to get back and see that familiar face and they learn to trust you. You have cared for them; you have that role and it’s just that comfort zone* (younger nurse). Another shared a story about going that extra mile, like giving freezies to the kids, or just having a minute to talk about the farm (older nurse). Caring for friends often everybody seems to be related in this community, as well they are cousins of somebody that came
here together. So most nurses in here look after people that they know and they may just be your neighbor that you know or someone you go to church with or whatever. But you know them (older nurse).

Nurses working in rural hospitals are recognized by their role in the community as well and have possible challenges with privacy and confidentiality (Bushy, 2002; Lee, 1998; MacLeod et al., 1998). One site felt the physical layout of their department compromised patients privacy as two of their stretchers could be seen from the waiting room. There was a curtain available, but many of the nurses expressed not wanting to make people feel closed in by the curtain if you’re not in there. This was a major stressor for nurses working in this site. Nurses working in all three sites recognized the overlap in their personal and professional lives and were very cognizant about ensuring patient privacy and maintaining confidentiality. Caring for friends and family was seen as a favourite part of the job. It’s rewarding... for sure, I cannot imagine myself doing anything else (mid-career nurse). Nurses working in rural hospitals are not able to separate their role as a nurse from their personal lives (MacLeod, 1999; Scharff, 2006).

At all sites, the nurses’ awareness of their resources and the limitations in provision of health care, they were in constant surveillance for a sick patient. When a potentially sick (or gravely injured) patient arrives the transfer process is initiated very early in their care, we don’t let things sit, because of the possibility that transport will be delayed, the patient’s condition will decline suddenly, the inability to access other staff members for assistance, and the potential for another sick or injured patient to arrive. We bring them in right away, we get everything done as quickly as possible because you never know what is going to happen. So we try to get things done in a timely manner, and you really have to know your stuff because you don’t have a team to back you up. It is one nurse and one doctor in emerg, I find our skills are really up-to-date (younger nurse).
Nurses who were not from the area were less likely to be committed to the organization and less likely to come in when called back, *my time is my own*, and then said *I resent being called in all of the time* (younger nurse), despite knowing their colleagues may be dealing with a crisis. Of the nurses who are committed and work long hours, *I worked 100 hours in the past two weeks. My schedule is only for 30* (younger nurse). The concern is these nurses are always getting burnt out (mid-career nurse). The lack of available nurses and the inability to staff for what-if scenarios contributes to overtime hours at all three sites. One nurse felt this was unfair due to the unpredictability of the department and the potential need for assistance; *look at firefighters in the city, they get paid to wait for something bad to happen* (younger nurse). The workload demands in an emergency department are unpredictable; much of the work in rural hospitals is anticipating problems and protecting the safety of patients making staffing demands nearly impossible to determine (MacKinnon, 2012).

**Professional competence.**

Donabedian (1988) suggests there are two measureable elements in competent practitioners: technical performance and interpersonal skills. These two elements are interconnected and practitioners who are highly skilled and have excellent communication skills are competent and able to deliver quality health care; these suggestions are congruent with Dreyfus Model of Skill Acquisition (1986). Donabedian also identifies that the social distribution the care received as a whole community is an important factor in measuring quality of care.

In addition to how nurses cared for the people they know in the community, I noticed a deep sense of respect for marginalized populations (First Nations, addicts, and migrant farm workers) living in or near the community. Although direct patient care was not observed, nursing tasks away from the bedside was. In one site, *he’s one of the local town drunks, lives just over* (location). *Comes here a lot, just for a nice meal and a warm bed. Especially when it’s*
cold. I’ll call (name) from my church to come get him and bring him home in the morning (older nurse). At another site, a migrant farm worker with a moderate ability to communicate in English, arrived by bicycle to speak with a particular nurse about his diabetes as he was unable to afford supplies. The nurse had left, but the unit clerk listened to his concern and another nurse checked his blood glucose level, reassured him, gave him a few supplies, and asked him to return the following day.

A physician is not always on site, or may be sleeping nearby. The physician is only a phone call away. If they are not here, they are on their way at that first ring, we can always manage the ABC’s [airway, breathing, and circulation] until they get here (mid-career nurse). Nurses described how they are always able to make do with what you have. When explaining how to deal with a challenging workload or a very seriously ill or injured patient, the nurses described how they break it into steps, so that the care and tasks follow one another systematically. This method is effective because there’s no one helping you, you are on your own and you can only do one thing at a time (younger nurse).

The challenge is learning how to cope with no resources (this was said by nurses of all ages). Working with limited resources is part of the experience of rural nursing. I was initiating CPR and looking around to see who was going to help me, because there is no one around. I actually paged and got no response (mid-career nurse). Nurses in this study recognize the lack of resources compared to the city as part of the job and felt that it was a major factor in determining if an individual is a right fit for rural nursing as often it was one of the major reasons new nurses leave. You don’t have enough hands and I think that is what scares people from staying here (mid-career nurse).
6.2.3.2 Nursing

Across the study sites, nurses were able to differentiate between things that were deemed essential to their professional practice in order to feel safe and to remain working in the emergency department. These components were identified as: the ability to obtain and maintain skills, have safe and functioning equipment, and access to resources. Other components were desired but not essential to their practice and were identified as: recognition, a supportive working environment, a minimum guarantee of a 0.6FTE, and paid education. All of these components influenced job satisfaction and retention for nurses who participated in the study.

Essential Components.

Nurses in the study identified several factors they considered were essential to their ability to provide safe and competent nursing care in the emergency department. These components are identified as: the ability to obtain and maintain skills, have safe and functioning equipment, and access to resources. These components are unique to the needs of the clinical area and were present in varying degrees in all study sites. My opinion and immediate requests for feedback was continuously sought at all three study sites. What do you think?, and What do you do in the city? were questions that were frequently asked. Feedback about my observations was given to the unit manager upon completion of my study. Areas for potential improvement identified during my site visits that could enhance the nurses’ ability to meet these requirements were promptly brought to the unit manager’s attention upon completion of data collection and resources (such as clinical skills texts, and helpful documents) were sent to her. Areas or processes enhancing nurse satisfaction and patient safety were also highlighted.
Obtaining and maintaining skills.

Working in the emergency department requires nurses to advance their education through courses focussed on the unique patient care needs in this clinical area. In addition to having a valid College of Nurses’ of Ontario registration and Cardiopulmonary Resuscitation (CPR), other qualifications preferred by hospitals to work in an emergency department include: Advanced Cardiovascular Life Support (ACLS), Trauma Nursing Core Course (TNCC), Pediatric Advanced Life Support (PALS), Emergency Nursing Pediatric Course (ENPC), and an emergency certificate from an accredited organization. Other courses such as Neonatal Resuscitation Program (NRP) and MoreOB® are considered assets to the job.

The tuition for these courses is high and other than the emergency certification program, they are typically offered over a 2-3 day weekend. Typically nurses work every other weekend so taking these courses was seen as a sacrifice to my family time (mid-career nurse). Once initial certification in these courses is obtained, re-certification is required, typically every 2-3 years. In all three sites, the cost of the course and the travel expenses were the responsibility of each individual nurse, I just can’t afford to re-certify (all ages of nurses). Nurses did not want to undergo this training alone, but preferred to do it with their colleagues, You have to juggle around your schedules, and you don’t want to go alone. If you’re lucky someone else can get the time off and go with you (younger nurse). One of the major barriers to obtaining education for rural nurses is cost (Curran, Fleet, & Greene, 2012; Kenny & Duckett, 2003); time and money were perceived as being the biggest barrier to acquiring and maintaining skills in all three sites.

During one of my site visits, an ACLS course was being provided at the hospital. An instructor travelled to the community and provided the course for staff. Due to the low numbers of staff available and the high cost of the program, other participants from neighbouring hospitals were invited to participate. Nurses at all sites described similar education opportunities
and expressed gratitude and feel supported by (senior administration) [younger nurse]. Nurses expressed frustration about the need to have these specialty courses with no compensation, but felt valued when an effort to provide education was made by the senior administration team. *It’s nice when they value our education* (mid-career nurse). Nurses said they were more inclined to participate when the education is provided at their facility and they can take the courses with their peers. *We run codes together, we should practice these skills together* (younger nurse).

Typical comments from participants include: *RNAO has funding for education, but you are not guaranteed to get reimbursed.* You have to pay all costs upfront, and pray you get some of your money back, it’s a max of $1500, that’s like one course or two, and it takes months to hear back (mid-career nurse). Nurses felt the lack of guaranteed funding impeded their ability to pursue further educational opportunities, *I might do it (TNCC) once, but no way am I recerting [sic] every few years* (older nurse). One participant said she loves the RNAO funding as she was usually successful with being reimbursed and when the cheque arrived in the mail so much time has passed that she felt like she won the lottery (older nurse).

According to the RNAO website, funding for the Nursing Education Initiative is not guaranteed and requests must be submitted after the course has been successfully completed. There are no indications about which courses receive priority funding. It is my belief that given the financial barrier associated with obtaining specialty education in rural hospitals, this should be addressed.

Findings of an Australian qualitative study exploring issues relating to the ability of rural hospitals to provide quality care indicated one of the biggest recruitment challenges is the need for nurses to work autonomously and thus appropriately educating nurses with the advanced skills required for rural practice is paramount (Kenny & Duckett, 2003).
Online learning.

There is a potential value of using e-technology to develop nursing skills (Montour et al., 2009). Of the three sites I visited, the two with the lowest patient visits identified the need to keep our skills up to date ... we never know when we are going to need to use them (mid-career nurse). When not busy, one site spent part of their night shift dedicated to learning through online courses, reviewing equipment manuals, and testing equipment. Online resources are a major component of skill and knowledge development. I can review these modules anytime (younger nurse). The benefits of using online learning resources are the ability to get up-to-date information and current best practice guidelines, and the great videos. Many of the participants said the problem with having resources online is that unless you have Computers on Wheels (COWS) one cannot bring them to the bedside. Many participants preferred to have hands-on learning activities where they can touch the equipment and practice in a non-threatening environment, or bring the book with the pictures (clinical skills manual) to the bedside. Curran and colleagues (2012) explored factors influencing resuscitation skills retention and performance and found nurses prefer hands-on learning for highly technical skills like resuscitation, but e-learning was also a valued method for obtaining skills. Nurses at this site recognized how important it was for each of them to be highly skilled on an individual level due to the lack of a team approach to patient care, you’re it. Nurses at all sites spoke of the importance of knowing your s*** because there was no room for error.

Safe and Functioning Equipment.

Safe and functioning equipment along with the ability to use it was associated with giving good patient care and a fundamental must have for nurses working in rural emergency departments. Routine maintenance and checks to ensure the equipment was safe and ready to
use in an emergency was part of the culture at all three sites. *You don’t want someone crashing and find out your defib* (defibrillator) *doesn’t work* (mid-career nurse).

One of the identified downfalls in the emergency department is that many pieces of equipment are often not regularly used. Although attempts were made *sometimes* for nurses to be shown how to use and set up equipment properly and safely by company representatives, it was nearly impossible for all nurses to attend all education sessions. (No one identified the ability to watch a video about equipment despite being available on the Internet in many cases). Nurses identified that it was their individual responsibility to familiarize themselves with how to set up and use equipment, and for several nurses their first exposure occurred in the height of a stressful emergency situation. It was identified by some nurses that safety checks may not be routinely done and that can potentially compromise a patient outcome if the equipment does not work when needed. It was further acknowledged that equipment checks should be everyone’s responsibility and the process should be formalized and embedded in their routine, *like the narcotic count* (which is completed at the onset of every shift change).

*Budget* was identified as a barrier to having desired equipment. Desired equipment included both necessary equipment and *luxury items*. Necessary equipment was described as objects nurses felt they needed to keep *patients alive* such as a ventilator. *We have to bag* [manually ventilate] *patients until we get to the city*. *We take turns with the paramedics. It’s tiring look at my biceps* (older nurse). *Luxury items* were identified as items that could enhance patient care or diagnostics, such as a CT scanner, an intraosseous infusion set, and a more private patient care area.

One part-time nurse said procedural equipment may be located throughout the environment creating a *game of hide and seek* during an emergency situation. Specifically, infrequently used equipment such as pediatric equipment was often more difficult to locate. Two
of the sites used tote boxes which kept procedural equipment, such as chest tube insertion, all in one easy to access location. When required, these totes boxes were brought to the patient bedside and replenished after use. *It's all right there when you need it.* While observing a newly hired nurse and her mentor reviewing the locations of equipment and examining the contents, both expressed the ease and user friendliness of this method. This is an example of one of the processes that enhanced patient safety and was shared with other hospitals upon completion of site visits.

Safe and functioning equipment is a vital component influencing how health care professionals are able to do their job and may directly influence patient outcomes. All participants in this study described this as being an important factor in working in rural emergency departments. To the best of my knowledge, this is one of the few studies to find a link between safe and functioning equipment, job satisfaction, and retention of nurses. Other studies (Eisenberg, Bowman, & Foster, 2001; Manahan & Lavoie, 2008; Newhouse, 2005; Penz et al., 2008) acknowledge a link between job satisfaction and equipment and correlate job satisfaction with retention.

*Access to Resources.*

Access to resources was identified as a need by all participants at all sites. The type of resources varied greatly including access to human resources (i.e. extra help), having the ability to liaise with external health care professionals, supportive educational and clinical networks, readily available equipment, a variety of information sources, and professional development opportunities. In a secondary data analysis of workplace empowerment and Magnet hospital characteristics, access to resources was the most important empowerment structure for nurses working in rural hospitals (Laschinger et al., 2003).
Non-Essential Components.

Although not required for professional competence, nurses in the study identified several factors that were categorized as desired, but not essential to their professional practice. Nurses often identified these factors as reasons they would consider leaving their current workplace in search of employment elsewhere. These factors were often described as, *it would be great if..., I wish we had..., wouldn’t this be a great place to work if..., it would be easier to recruit staff if..., and in an ideal world....* Unlike essential components, not all of the nurses in this study identified these components, but when they were identified it was suggested by participants that their presence influenced their desire to remain working with the organization. For example, *the reason I relocated to this community was to be closer to my [friend] but I would not come for anything less than a guarantee of a 0.6 part-time, my manager is easy to talk to, and we are a good team* (older nurse but new to rural emergency). From the study, when these components were present, there was a high level of job satisfaction and a low level of nurse migration. These were identified as: recognition, a supportive working environment, minimum guarantee of a 0.6FTE, and paid education.

Recognition.

Nurses want recognition for their efforts from management, each other, and receiving organizations. Nurses identified recognition as a motivator and a fostered a sense of pride in their work and workplace.

One nurse described how after 30 years of hard work, she was feeling burnt out and had no desire to come back to a casual nursing position when she is able to retire. She said she felt this way because her work and commitment to the organization was under-valued. It is unclear why she stayed at this facility for that length of time when there were other nursing opportunities available in nearby locations. The majority of nurses who were getting close to retirement age
voiced the same view. This is an area of concern as many nurses return to their workplace as a casual employee post retirement. The retention of older nurses has been identified as a key factor in decreasing the effects of a nursing shortage (CNA, 1998; RNAO, 2000). When older nurses leave the workplace, they take their knowledge, expertise, and contribution to patient care with them (O’Brien-Pallis et al., 2004). I believe the inability to retain these older nurses in the workforce may compromise the sustainability of emergency nursing care in rural hospitals.

Many of the nurses expressed an it’s us versus them perception with the management team and felt decisions were made without valuing their input or the work they do, it’s all about the budget, and they have no idea how hard we work. In meeting with several members of the management teams, it was clear to me that the work efforts and commitment of these nurses were valued by the upper echelon of staff, but somehow this message was not communicated. The ability to communicate with senior management teams is a key component of job satisfaction (Montour et al., 2009).

The majority of nurses felt valued by their team. Their team included all hospital staff and examples were cited using volunteers, housekeeping, clerical, other nurses, and physicians. Most of the examples of recognition occurred after a major event (death of a co-worker, pediatric trauma, patient complaint) that challenged their skills and available resources. Recognition occurred through touch she patted me on the back, she just hugged me and wouldn’t let go, words you did a great job, helping without being asked or a normal part of the role, she (the housekeeper) just took it upon herself to make sure the family was comfortable and together while we worked on their dad, and follow-up she stopped by to make sure I was ok. Being recognized and valued by others increased the likelihood of recognizing and valuing others, in this study, this fostered a sense of belonging and camaraderie amongst staff.

An Australian study examined 91 factors related to nursing turnover in eighteen rural and remote health service districts and one of the top three retention predictors was to include them
as part of a team; the other two were job satisfaction and the rural lifestyle (Hegney et al., 2002). Several studies support the importance of teamwork as it has been shown to lower the risk of high levels of occupational stress and burnout and it contributes to a healthy work environment (Borrill, West, Shapiro & Rees, 2000; Boykin et al., 2004; Helps, 1997; Kelly, 2005; Parsons, Cornett & Burns, 2005; Zwarenstein, Reeves & Perrier, 2005). Findings also indicate that team cohesion and interpersonal relationships were listed by emergency nurses as both a source of stress and a source of satisfaction (Helps, 1997; Kelly, 2005; Parsons, Batres & Golightly-Jenkins, 2006).

Another common finding in literature about rural research is the lack of recognition of hard work and patient care efforts by receiving facilities (Crooks, 2004); \textit{they look down on the rural nurses, you guys are from hick town} (mid-career nurses). Nurses in this study expressed a very strong desire to have follow-up on cases when a patient is transferred to a tertiary care facility, such as the patient outcome, but expressed the only way it happens is if the family (or patient) sees them in the community and provides them with an update. Patient care follow-up was viewed as an important part of reflection and provided nurses with an affirmation that they \textit{did all that we could with what we had}.

Recognition in the workplace is correlated with high levels of job satisfaction and productivity and links to a supportive work environment. In a report examining the interrelationships between variables thought to influence patient, nurse, and system outcomes findings indicated the likelihood of burnout in nurses increased by 242% when nurses felt undervalued (O’Brien-Pallis et al., 2004).

\textit{Supportive working environment.}

Having a work environment where nurses felt valued and appreciated by the management team was viewed as an important factor in retention of emergency nurses. This was apparent in
one site where the community felt a sense of entitlement when accessing the emergency
department they feel like they own this place. They raised all this money to build a new
expansion, and they don’t understand we have processes (older nurse). One nurse explained
how a community member did not feel he should have to wait to be seen by a physician because
he donated lots to this place. It was agreed by many of the nurses that this sense of entitlement
complicated by the high patient visits and the inability to always provide low wait times created
a continuous supply of complaints against the nursing staff. These complaints created feelings of
finger-pointing at individuals, they are always blaming the nurses, rather than evaluating the
processes of care delivery (high patient volume). I am always looking elsewhere, it won’t be
long [until I leave] (mid-career nurse).

In one organization the senior nurse leader was highly involved and committed to her
staff on a professional and personal level. This leader also lived in close geographical proximity
to the nurses working in the emergency department. She just stops by to say ‘Hi, how’s it
going?’. That’s really nice you know (mid-career nurse). Nurses in this department expressed a
high level of job satisfaction, were committed to their organization, team, and community, and
were more likely to be willing to help when asked or come in on days off to attend short
meetings or education sessions. The opinions of these nurses for operational decisions and
equipment purchases was regularly sought and supported.

Simple gestures made by management towards frontline workers seen at all sites were
acknowledged by staff. For example, having a free lunch offered at an educational session was
perceived as a caring gesture from management, she’s good to us, she does her best to get us
what we need (younger nurse). Efforts were made at all three sites to have an annual ACLS
course available to nursing staff. Nurses were grateful to have opportunities for advancement
and professional development made available to them.
All three sites declared a need for the emergency nurses to work in other clinical areas and had different approaches to how they managed the need for emergency nurses to work in these areas. Working in other areas is common practice for rural hospitals (Baumann et al., 2012), and in this study it was evident that working in other areas was often viewed as punitive and demoting for many nurses. One hospital had an informal process that management did not intervene with because it works. At this site, some of the nurses liked to work in the other patient care areas because it was a different skill set (outpatient clinics) and I do it for the patients. No one is deserving of a nurse who doesn’t want to be here (older nurse). In the other two hospitals, working in multiple clinical areas was a requirement based upon organizational need. However, the organizational climate was different in these two hospitals.

In one hospital, due to the low number of registered nurses, admissions, and patient care visits, there was a need for the emergency nurses to work on the inpatient medical unit and be skilled in maternity care. In this hospital, most of the nurses did not like having to take care of maternity cases because each nurse felt (s)he did not have enough experience to feel completely confident, but this was lessened by the fact the hospital provided paid for online (and ongoing) education through MoreOB® and provided adequate resources to build confidence and competence. This included a bedside flip chart to support nurses when caring for a labouring woman and her newborn. These nurses also felt afraid of caring for labouring women because if something goes wrong we are far away from a big centre, and they have less than 25 births per year; but yet they felt highly supported by the physician group in recognizing their perceived lack of experience with maternity care and with teamwork they managed quite well. The need to be competent in maternity and working on the medical unit was viewed as part of the job and was not a deterrent for working in this community because as one older nurse said, you owe it to your community to be competent.
The third site mandates emergency nurses float back and forth between the emergency department and an inpatient unit. Nurses working in this hospital felt being mandated to work in the inpatient unit was unnecessary because *our emerg is always very busy* and they had adequate staff for both departments. These nurses felt working in other areas was a source of contention and a primary reason why several of their nurses *left [full-time jobs] and went to the city emergs* or are actively *looking for work* elsewhere. This was viewed as a major indicator for senior nurses leaving or experiencing burn out, junior nurses not staying, and their ongoing vacancy needs. These nurses felt a great sense of pride in their experience and *extra* education required to be an emergency nurse, felt their skills were not adequately used in the other clinical area and thus did not want to work there.

In this study, going *below* their level of expertise is a major threat to leaving their current positions which in turn threatens the number of skilled professionals. Requiring nurses to work in other clinical areas has been cited in previous research studies as a reason to leave a current position in nursing (Lea & Cruickshank, 2005) and was more apparent in newly graduated nurses who were trying to adapt to their current transitioning role. However, going above their current level of expertise and providing nurses with the resources required to maintain patient safety and competent nursing care may be seen as a welcomed challenge.

*Part-time commitment.*

Lack of full-time jobs in rural communities is a frequently cited problem in recruitment and retention of rural nurses (Pong & Russel, 2003). Findings of this study were in agreement: *we have lost two [nurses] to the city because we could not provide full-time employment for them and we have one that is staying part-time hoping desperately to get full-time. We are not providing enough work for them* (older nurse).

Participants were asked if they were the recruiter for their emergency department what their recruitment strategy would be. This question generated many ideas including: *come for the*
lifestyle, we are a close knit community, you have a lot of autonomy and you grow quite quickly as a nurse (mid-career nurse). However, it was evident that the lack of full-time work was a barrier to recruitment and the most viable option that would entice new staff to commit to moving and working in their emergency department was the guaranteed minimum of a regularly scheduled hours…none of this being called in at the last minute (younger nurse) and a need for a minimum 0.6FTE was the repeated requirement throughout all three sites. The opportunity to have paid education to develop professional skills was viewed as a major factor influencing recruitment.

Based upon a 37.5 hour work week, a 0.6 FTE would be the equivalent of 22.5 working hours. The current top hourly rate for part-time nurses working under the Ontario Nurses Association [ONA] union April 1, 2013 (www.ona.org), including in lieu of benefit pay is $49.28 (this does not include shift premiums). The annual salary for a full-time nurse is $85,039.50 (1950 hours). A nurse working 22.5 hours per week can be guaranteed a minimum annual salary of $57,657.60 (1170 hours), which was agreed by all participants, was an acceptable minimum salary. Nurses acknowledged that all basic needs could be met on this salary and the opportunity to work extra shifts and overtime was highly probable in these emergency departments.

Overtime hours are paid at one and one half times the normal pay rate. For example, one overtime hour will cost the organization a maximum of $74.92, or in other words, 770 hours (0.4FTE) of overtime or the equivalent of one 0.6FTE! All of the participants in this study agreed there were many opportunities to get called back to work overtime hours. The most frequent cited reasons were patient acuity you get a big trauma…you and the doc can’t deal with it alone…other people come in too, if they are really sick, they need one-to-one care (older nurse) and the need to accompany a patient on a transfer to a tertiary care facility, you can always count on getting called back to transfer a patient out (younger nurse).
During one of my site visits a very ill patient came in and transportation was delayed due to weather conditions. The emergency staff had to care for this patient for an extended period of time. Multiple attempts were made to request staff assistance, but local staff were exhausted because of the continuous need to work overtime hours and multiple days in a row, *I feel like I am never home, I may as well live here. I have a family, you know* (older nurse). I learned the following day that an individual from the senior administration team drove around the community and knocked on the doors of the nurses in an attempt to *order us in*. I spoke to the nurse who came in and they replied they did not mind coming in, they understood the need to help their team, but needed some rest first.

Working long hours and the continuous need for nurses to work overtime was a source of frustration amongst nurses in this study. Many felt *tired, burnt out, and not able to give anymore*. A decrease in satisfaction with work hours (schedule) is a strong predictor of intent to leave their current position (MacLeod et al., 2004) and the need to work overtime hours increased the stress level of nurses (Venire, 2000).

*Paid education.*

Nurses living in rural areas face challenges in obtaining education and maintaining competencies (McCoy, 2009). Nurses across the three study sites faced similar challenges. One of the biggest challenges was that nurses are responsible for their own education meaning they must find accessible courses and all costs incurred are the responsibility of the individual nurse. Highly specialized courses cost >$500, and are rarely offered in rural communities, thus requiring nurses to travel outside their home community to access them. Educational travel is further associated with uncompensated financial implications such as food, gas, and lodging expenses, and unpaid time off work. For many nurses this was a barrier to advancing or maintaining certification in courses that build capacity and competence in emergency nurses. Many acknowledged the opportunity to apply to RNAO’s Education Initiative but were less than
enthusiastic that they were responsible to pay the costs upfront, were only able to be
compensated if the course certification was successfully obtained, funding was not guaranteed,
and when it was provided, it was months after the course had been completed. Another barrier
identified by participants was the inability to have time off due to the lack of available
replacement staff. These findings are congruent with those of Bushy and Leipert (2005),
Keahey (2008), Curran, Fleet, and Kirby (2006), and Newhouse (2005), who found geographical
isolation, poor technology, finances (travel, and course costs), the lack of accessible educational
sessions, the inability to have shifts replaced due to limited staff, and the lack of experience to
maintain competencies hinder the ability of rural nurses to acquire and maintain skills.
Facilitators for continuing education include: tele-education programming, self-learning
modules, and employer sponsored initiatives/financial support (Curran et al., 2006).

Opportunities to have advanced skills and knowledge are essential to the well-being of
nurses and patient safety (Baumann et al., 2001). Partnerships with larger urban centres would
be beneficial to both parties, the establishment of a mentoring partnership through the
collaboration of professionals could include academic mentors, urban health care professionals,
and experienced rural nurses. Nursing staff from eight rural hospitals in New South Wales
indicated mentoring that was tailored to the needs of those who participated was effective in
advancing professional development in nurses (Gibb, Anderson, & Forsyth, 2004).

Although nurses in this study were able to identify recognition, a supportive working
environment, a minimum guarantee of a 0.6FTE, and paid education as wants, it was clear in
speaking with them that fulfilling some or most of those wants was related to higher levels of job
satisfaction and resulted in not having plans to seeking employment elsewhere. By contrast,
those feeling a disconnect with management it’s us versus them and they don’t care about us
were more apt to have low job satisfaction and a desire to seek other employment opportunities.
These wants are possibly associated with retention, however, given the nature of this research, all nurses who participated were still working and thus their intent to leave was merely suggestive. Many of the nurses with low job satisfaction were less likely to work overtime, have a commitment to their team, and a sense of pride in their organization. These findings are consistent with those of Blegen (1993) whose meta-analysis of data from 48 studies with a total of 15,048 participants found that organizational commitment was highly associated with job satisfaction.

6.2.3.3 Ministry of Health and Long-Term Care Rural and Northern Health Care Framework

Study Objective:

- Incorporate study findings to evaluate the sustainability of emergency health care services according to the MOHLTC Rural and Northern Health Care Framework

Using MOHLTC Rural and Northern Health Care Framework (2010) this section will validate a small aspect of this not yet validated framework. To the best of my knowledge, this is the first study to do so.

For the scope of this research, the focus is on the scarcity of human resources and how this influences sustainability of health care services in rural and small town Ontario. Although the Rural and North Health Care Framework (MOHLTC, 2010) is comprised of nine guiding principles, the two principles incorporated in this study are valuing health care professionals and the desire to have sustainable solutions. This includes addressing the limitations in resources, and the pending nursing shortage and how it may affect quality care in hopes of improving access to health care services in rural Ontario. Estimates indicate there is already a current shortfall of 22,000 nurses (CIHI, 2010). The premise for using this framework is based upon the
belief outlined at the onset of the study that without qualified health care professionals, the quality of and the existence of health care services are threatened.

The Rural and Northern Health Care Panel suggests achieving sustainable health care means the development of new initiatives which provide solutions that include maintaining and improving access through financial, human, and other resources. In order to improve and maintain these essential services in rural communities, innovative and proactive recruitment and retention of qualified professionals is necessary (MOHLTC, 2010). Although this framework requires validation and testing, concepts embedded in the framework were used to evaluate the sustainability of emergency health care services in this research study.

6.2.3.4 Dreyfus Model of Skill Acquisition

Study Objective:

- Evaluate skill acquisition and maintenance for emergency nurses using Dreyfus Model of Skill Acquisition

Using the Dreyfus Model of Skill Acquisition (1986) this section will present study findings describing how emergency nurses follow a predictable path of skill-acquisition through written or verbal instruction and experience with modelled instruction and experience passing through five stages of proficiency: novice, advanced beginner, competent, proficient, and expert and subsequently producing highly skilled behaviours. This model addresses the stages one passes through in learning new skills and roles. The focus of advancement to the next stage is based upon an individual’s performance and measurable outcomes.

The Novice, Stage 1.

The novice nurse is given a set of context-free rules to follow and is very task-focused. A novice can recognize context free features without the desired skill and are given rules for
determining actions on the basis of these features (Dreyfus & Dreyfus, 1986). A novice nurse was described in this study by several participants as *a deer in the headlights*. Or a novice nurse is a nurse that has her education completed but does not have the life skills yet that provides the experience to be a nurse (mid-career nurse).

All new nurses come prepared with an undergraduate nursing degree and have the ability to function within an entry level nursing position. Challenges in working in a rural hospital include: the need for nurses to be cross-trained in other areas (Baumann et al., 2010), the need to work with minimal resources, and the ability to work alone and make autonomous decisions (Andrews et al., 2005; Baker, 2009; Baumann et al., 2008). These issues are exacerbated in areas, such as emergency whereby additional skill sets and advanced levels of critical thinking are desired making it impossible for a newly graduated nurse to work in this area.

Safety in the workplace and lack of support causes nurses to leave. Every nurse new to rural nursing requires a comprehensive orientation, or is vulnerable to leaving (Hunsberger et al., 2009). The amount of orientation required to work in an emergency department varies depending upon how much previous experience the new hire has. Proehl (2002) recommends no less than one month for those with previous critical care experience and at least 3-6 months for nurses without critical care experience and new graduates. With the nursing shortage, Proehl cautions hospitals not to rush new hires through the orientation period as this is creates feelings of frustration and compromises patient safety which in turn, causes nurses to leave their workplace (Santos, 2002).

Participants suggested the only acceptable way to integrate a newly graduated nurse into their department was through a structured program such as the New Graduate Guarantee (NGG) funded by Health Force Ontario (HFO) which allows new nursing graduates (both RN and RPN) funding for temporary, full time, above staffing complement positions for 26 weeks (HFO,
2011). Many of the nurses who participated in this program and were from the community developed an adequate skill set and comfort to be able to work in the emergency department. Ideally nurses who were chosen for the NGG had completed their final nursing school clinical integrated practicum in an emergency department giving them some level of experience to draw upon. MOHLTC has paid tuition reimbursement (only two new nurses and one manager mentioned it). In April 2013, the federal government initiated a Canada Student Loan forgiveness program where nurses are eligible for up to $4,000 per year to a maximum of $20,000 over five years (Government of Canada, 2013). However, this program was not available at the time of data collection.

*The Advanced Beginner, Stage 2.*

The advanced beginner is starting to identify patterns in similar situations and with supervision and experience develops an understanding of the relevant context (Dreyfus & Dreyfus, 1986). The advanced beginner was commonly the result of the NGG, but also described nurses who were new to emergency and/or new to rural emergency; *I have been a nurse for 30 years… I know that I have never known everything. There is always something to learn, but I thought I had a good, broad base with my experience, but no, I need to keep on going and learn a lot more. It is surprising; I thought I knew more than I do…. I feel overwhelmed…different than when I started as an emergency nurse with 20 years of experience…and it took me two solid years before I could say okay I am not too scared* (older nurse new to rural emergency). At this point in the trajectory of learning the advanced beginner is able to function as a team member, is beginning to make decisions, but unless the task was routine the advanced beginner consistently sought the approval of more senior staff members prior to proceeding.
This is also a critical time when new nurses leave the department. Feeling unsupported, even for the most seasoned nurse, they leave within a year of hire. One of the limitations of this study was that the perspective of nurses who left in this critical time period was not captured.

Participants recognized that rural nursing is a specialty care area of its own and is not a right fit for all nurses. After the orientation period, when the nurse recognizes the conditions in which she must work (i.e. no lab at nights, no team, physician may or may not be on site, to name a few) they leave. Not all nurses want to work in rural and I know I have seen probably six or seven new grads come in and we may retain one (older nurse).

*The Competent, Stage 3.*

The competent nurse has more experience; as they advance and are able to develop a plan or choose a perspective that then determines the elements of the situation or domain that must be treated as important and the ones that can be ignored, such as having the ability to prioritize care needs which is paramount in an emergency department (Dreyfus & Dreyfus, 1986).

Participants said reaching a level of competence in emergency nursing was highly dependent on previous experiences (i.e. what type of illness and injuries seen and how frequently) and took approximately two years of working full-time to attain. Participants said the development of critical thinking was apparent by then and it was clear if nurses were a right fit or not.

Participants were also asked when they knew they were competent to work in their emergency department. Although many struggled with the exact moment, I think it’s a gradual thing. I cannot remember an exact time or event (mid-career nurse), it often occurred retrospectively when they realized they had successfully managed a critical patient incident.
The Proficient, Stage 4.

The proficient nurse has repeated experience in multiple situations becoming proficient as knowledge is contextualized and gradually replaces rules for devising plans by intuitive situational discriminations, followed by calculated responses. The majority of the nurses interviewed for this study fit here. They could identify if a walk-in patient could safely wait until morning, or if they required some interventions, or if they needed to call the physician immediately; they were able to identify signs of deterioration and the upcoming need to transfer a patient to a tertiary care centre.

The Expert, Stage 5.

The expert nurse develops intuition and the person is able to act without thinking. An expert not only sees what needs to be achieved, as does the proficient performer, but also, due to their vast experience can see immediately how to address a situation and achieve the desired results (Dreyfus & Dreyfus, 1986). Participants in all study sites were asked to describe an expert nurse. This posed a challenge for many of them, especially those who were identified as experts by their peers. For those that responded, an expert nurse was described as: they are comfortable and they are competent. You do not see them get ruffled or nervous. They just feel prepared and they can deal with it, her knowledge base and her caring for patients just stood out to me, I had a lot of respect for her (mid-career nurse). Many older nurses said, there is no such thing as an expert nurse, we have really good nurses, but you can never become an expert. One nurse suggested the rural environment did not allow anyone the opportunity to achieve expert status; you can become an expert in a specialty area, like in an urban area, but not in a rural emerg. There is just too much here (older nurse).

No one identified themselves as an expert nurse. There were a few nurses I observed, who may have fallen into that realm, but when I asked them about expert nurses, they laughed.
These nurses were respected by others, knew where to find things, how to use things, or who to ask, yet felt that was *just part of the role* as a rural emergency nurse.

Formal testing of this model is limited. Nurses in this study were able to identify three different stages of nurses: novice, competent, and expert. Their definition and descriptions of a competent nurse were aligned with those of Dreyfus and Dreyfus’ description of proficient and was the skill level required to continue working in this environment. Given my experience and the data collection for this study it is difficult to suggest a timeframe for passing through these stages because of individual characteristics and the availability of learning opportunities.

Findings from Benner (1984) indicate that a competent nurse takes approximately two-three years of clinical experience, and not all nurses will become experts, and therefore there is no predictive time period in which this will occur.

The majority of nurses working in these emergency departments felt their transition into emergency nursing was a *sink or swim* experience. Many felt they were rushed through (or witnessed nurses being rushed through) the orientation process either due to need to be used as a staff member or the lack of available time (*budget... you only have so much funding*) to offer a comprehensive orientation. Also the skills and knowledge acquired during this time was dependent upon the cases that arrived in the emergency department. Orientation was viewed by all nurses as being one of three key components in the successful retention of nurses (the others being schedule and suitability). *I would have left, but I wanted to stay in this community. I was rushed through, and the expectations were high. I still resent that* (mid-career nurse).

Nurses will leave their job when they feel they do not have the skills to work in an area. The stress of expectations, such as rushing through a mentorship program contributes to a high attrition rate for newly graduated nurses during their first year of employment (Balitmore, 2004). Many participants shared stories of nurses (both newly graduated and those who came with some
experience) who left because of the demands in the work place, not developing a level of comfort, and the need to work with little resources. Skill acquisition cannot be rushed but must be acquired in a supportive environment. Nurses who are rushed through the on-the-job learning and expected to become competent practitioners without proper orientation and experience are more apt to leave their current place of employment (Almada et al., 2004; Casey et al., 2004; Proehl, 2002; Santucci, 2004).

### 6.2.4 Sustainability

The third concept, sustainability, was also the overarching concept driving this research. The primary research question asked, *How can we sustain emergency health care services in rural and small town Ontario?* Two factors were found to be predictors of whether or not nurses will stay working in rural emergency departments: community viability and organizational leadership. Nursing retention is directly related to quality of care (Figure 6.4). The following sections will provide my interpretation of my findings in response to the research question.
Figure 6.4. Conceptual Model Illustrating Sustainability

This diagram builds upon the previous two diagrams and represents the concept of sustainability as per the findings of this study. External factors such as organizational leadership and community viability are required in order to sustain emergency health care services in rural communities.
6.2.4.1 Troughton’s Model of Rural Sustainability

Study Objective:

- Describe role of hospital and community sustainability using Troughton’s Model of Rural Sustainability

Using Troughton’s Model of Rural Sustainability (1986) this section will present study findings describing the role of the hospital and community sustainability. This model is based upon balancing the limited availability of resources in rural communities against what is needed and is able to illustrate how the presence of a hospital and health care services in a rural community contributes to the ability of the community to be self-sustaining.

In rural communities in Canada, access to health care services is an important component in the self-sufficiency of a community and the local hospital may serve as a primary employer in the community (Capps, Dranove, & Lindrooth, 2009; Doeksen et al., 1990). The presence of a hospital is a sign of prestige and provides the community with a sense of identity (Grafton et al., 2004) where practitioners and local hospitals are perceived by rural residents as the most important elements of their rural health system (p. 157). During my site visits I witnessed many examples of the importance and prestige of the hospital in the community. At one site, someone called to inquire about the easiest way to travel to a nearby community given the current road and weather conditions and prior to ending the call, the caller asked for the phone number of the taxi company in the other community; unbelievably the nurse answering the phone call gave the caller all of the answers! Knowledge and recognition of persons living in the small community was apparent. I was recognized in both of the communities I lived in for a short time as an outsider and quickly became the ‘nurse researcher’.
Although not fully captured in the study, people in the community were quick and eager to share their wonderful stories about the hospital and the nurses, who was related to whom, and how proud they were of the hospital and its services. Grafton and colleagues (2004) identified residents in rural communities want to be cared for in their home community and were willing to provide the local hospital with money and donations to enhance health care services. All three sites had very active volunteers working in the hospital in various capacities including running a gift shop, offering student bursaries, and fundraising for much needed equipment.

Elements included in healthy sustainable rural communities include self-reliance, resilience, social cohesion, and the ability to manage social, political, and economic stresses (Grafton et al., 2004). Troughton (1999) further expands on self-sustaining communities as those which are able to provide employment and have social and health services available to meet the needs of the residents in the community. ‘We’re survivors! Our (major employer) closed and you would think our community would have died, but we were able to move forward. We stuck together during those tough times’ (older nurse).

Of the three sites, one site was self-described as not being a sustainable community. During my site visits, a community assessment was undertaken using Troughton’s criteria, and I found that all three sites could be described as sustainable as they are all able to meet an individual’s basic needs. Needs is a key word, as residents in all three sites could meet their basic needs in their home community including: banking, entertainment, shopping (groceries, appliances, and clothing) and recreation. However, participants in all three sites preferred to leave the community for shopping, primarily for clothing and household items, as other, large centres ‘have more choices than what is available’ in the local community (and at a lower cost for some items). Local business in all three communities were more than likely to meet more than one need of residents, and this also allowed for economic stability for their business. For
example, in one geographical area, it was common to see a coffee franchise, coupled with both a
pizza and a gas franchise; or to have community services police, fire, and library in the same
building.

Troughton’s model defines the need to use elements of agriculture, rural-system
sustainability, and community-viability criteria to evaluate rural sustainability. It is important to
recognize that although health services are vital to the well-being of the community, rural health
care services also provide environmental, social, and economic health and stability.
Consequently, a healthy rural community would not only have accessible services, but these
services provide economic stimulus within the community.

Although Troughton’s model (1999) has not been widely used in rural health service
research, it mirrors other domains of evaluating sustainability within the rural context
internationally including: historical, socio-cultural, ethical, legal, financial/economic, political,
institutional, client, and workforce factors (Ryan-Nicholls, 2004; Sibthorpe, Galsgow, & Wells,
2005). Troughton’s model includes variables such as quality of life, social services, adequate
number of goods and services, local employment, community self-determination, and agro-
ecosystem sustainability and highlights the importance of having social services, such as health
care, in rural communities because of both the need for the service and the economic stimulus it
provides.

The three study sites had all of the variables identified in Troughton’s model. However,
choices were limited to what was available or community residents could choose to meet their
needs elsewhere. For example, in the northern community where shopping needs are very
limited, nurses were keen to do one-way medical transports so they could use the time spent
awaiting a return to their home community to shop. This community also relied heavily on mail
order for items like specialty coffees, jewellery, clothing, and gifts.
Local health care services were limited, especially in the area of diagnostics. This was a big source of frustration for all nurses (and other staff) working in these hospitals as care was often delayed and the need to transport a patient out for a CT scan taxed their limited resources. Nurses in the study did not suggest this lack of resources was a factor in determining whether or not to work in rural hospitals, but rather accepted it as a part of nursing in a rural emergency department.

Findings in this study suggest sustainable rural communities balance on a fine edge between being sustainable and not-sustainable. These communities are extremely vulnerable as the loss of one element in their community, whether caused by economic shutdown or disaster can have reciprocal effects on other elements and threatens the ability of residents to meet their needs in their community and their ability to be self-reliant.

**Organizational leadership.**

Organizational leadership was identified at all three sites as an influencing factor in job satisfaction, willingness to stay, and a commitment to the organization. The three sites had different organizational climates.

Nursing retention is enhanced when a collegial, supportive relationship exists between staff and the organizational leaders (Almada et al., 2004). This was highly apparent in the emergency department where recruitment was not a challenge. Despite a recent change in nursing leadership, the emergency nurses described a loyalty to the organization, *I can’t imagine ever leaving this place* and to the community, *this is my home*. The overall atmosphere of all staff working at this site was very positive and welcoming. The unit clerk took special attention to ensure I had access to documents, people (both in the hospital and in the community), and all resources required to ensure I was able to meet my objectives and maximize my time. Even the
Chief Executive Officer took time out of their busy schedule to learn about my study and share their perspectives about the hospital and the community.

The culture of *it’s us versus them* was mentioned by several nurses at different sites. This perception included descriptions of an oppressive type of leadership model where the nurses did not feel as though they were valued. For example, one site felt that due to fundraising efforts, the community felt a sense of entitlement to quality (and fast) care when they arrived at the emergency department despite the reason for their visit. The nursing staff is highly committed to providing such care and felt a sense of failure when they were not able to which was highly correlated with the workload. According to these nurses, an increase in wait times made patients feel as though they were not properly cared for which lead to patient complaints to management. Nurses felt that both administrators and patients did not acknowledge workload demands, instead *they always blame the nurses* for the inability to provide quality (and fast) care.

Findings suggest when the organizational climate is favourable and the entire team feels valued, the retention rate is high. This was evident in one site who stated they had no recruitment challenges and low turnover, *12 years before somebody got full-time. It took 12 years, so there is virtually no turnover which is great because it says something about this facility* (older nurse).

In summary nurses working in rural emergency departments are more likely to have an increased job satisfaction and subsequent willingness to stay if they perceive they are able to provide quality of care. This finding is similar to that of O’Brien-Pallis and colleagues (2004) who found nurses are 159% more likely to rate high levels of quality of care if they are satisfied. Factors in this study found to influence quality of care include the ability to care for patients, positive organizational leadership, and working in one’s home community. Findings of a literature review on nurse turnover (Hayes et al., 2006) indicate when nurses are not able to
provide quality care they are more apt to leave their current job. Factors identified in this study that may affect attrition in rural emergency departments include being mandated to work in other clinical areas, a lack of resources, and oppressive organizational leadership.

6.3 Summary

In examining ways to sustain emergency health care services in rural and small town Ontario, the staff nurses in this study identified many parts of their job that were relevant to their ongoing viability including needs and wants of nurses and the community at large. Intrinsic and extrinsic factors are required in successful recruitment and retention of nurses. Intrinsic factors such as a right fit with the rural lifestyle, a desire to learn, and the ability to cope with limited resources, along with extrinsic factors such as the ability of an organization and the community to meet and support the needs of nurses and residents are essential factors to ensure sustainability of emergency health care services.

In summary there is a fine line between sustainable and unsustainable, like a game of TOPPLE ® if one checker is removed, the entire plate will fall. If you’re sustainable, say on a scale of 0-10, we are sustainable at a 3. We are just enough to say that if we lost one resource, we would not be able to do it (mid-career nurse). Access and the availability of emergency health care services in rural and small town Ontario does not appear to be problematic in this study, the issue for ensuring sustainability is guaranteeing that there are adequate numbers of qualified health care professionals who are able to provide quality care to patients. Given the number of nurses who are eligible to retire in rural emergency departments the need to develop the expertise of younger nurses in this important clinical area needs to be highlighted. Strategies to ensure that young nurses are drawn to rural nursing and succession plans, including education and mentorship opportunities, needs to be a priority for rural emergency departments.
Figure 6.1. Hogan’s Model of Rural Emergency Health Care Service Sustainability represents the findings of this study. Once services are accessed they need to be provided by qualified health care professionals who have available resources. These two concepts are required to ensure sustainability of services, but sustainable services are also dependent upon external factors including organizational leadership and community viability.
Chapter 7 - Discussion

The purpose of this study was to extend the evidence in rural nursing and to develop a proactive approach to sustaining emergency health care services in rural and small town Ontario. Areas of focus include: recruitment and retention of rural nurses, how the pending nursing shortage can affect rural health care and emergency health care services, and evaluation of community sustainability centering on health care services. To the best of my knowledge, this research study is among the first to study how to sustain emergency health care services in rural Ontario. Traditionally, health care decisions are based upon economic structures rather than a comprehensive view of what is best for the community. Findings of the study advance our current knowledge on multiple levels including: the provision of nursing knowledge; identification of future directions in nursing and other areas of health care and priority areas for future research; and the ability to provide strategic direction for recommendations for rural health policy without using economics as a focal point. In this final chapter, I will review the major study findings, provide an overview of the study’s strengths and limitations, discuss future directions for research, and make recommendations for policy development.

7.1 Major Study Findings

Employment opportunities have changed drastically in the past 20 years. In the early 1990s hospital-based schools of nursing were closing, the employment opportunities were scarce, and many nurses migrated south of the Canadian border, where, in the United States of America, full-time nursing opportunities and the potential for professional growth were plentiful. Data from a mixed method study of 651 nurses working in North Carolina indicated that nurse migration from Canada to North Carolina escalated in the 1990s (27% migrated to the USA between 1990 and 1994, and 34% between 1995 and 1999)[McGillis-Hall et al., 2009].
The importance of addressing sustainability of services serves as a proactive approach to prevention of hospital closures and addressing future health care needs in rural communities. The current study findings suggest that many opportunities exist to obtain, train, maintain, and retain nurses working in rural emergency departments. Three principal findings were: one, in recruiting nurses to rural communities there are inherent essential components that must be met in order to obtain (secure) a nurse; two, the importance of providing and obtaining education and building competencies influences quality of care and job satisfaction; and three, community sustainability is a very vulnerable phenomenon in rural Ontario. Additional findings include: critical times in the trajectory of hiring a nurse where nurses are most likely to leave their place of employment, the benefit of maximizing scope of practice amongst health care professionals working in rural communities (namely EMS and RPN), the existence of health care disparities in First Nations communities, and the ongoing need to highlight the differences within rural communities.

The study used multiple frameworks to enhance our knowledge about issues in rural nursing. It was the first to study the MOHLTC Rural and Northern Framework and validated a link between sustainability and qualified professionals. Other contributions to the literature include: validating Troughton’s Model of Rural Sustainability which previously has had little ‘publicity’; validating Dreyfus Model of Skill Acquisition in rural emergency nursing; and using Donabedian’s Model of Quality identified a link between nursing competency and quality of care which has previously mainly relied on patient satisfaction. All of the objectives set forth at the onset of the study were achieved and the frameworks and models were appropriate in answering the research question.
7.2 **Strengths and Limitations**

7.2.1 **Strengths**

This study has both conceptual and methodological strengths. Conceptually, this study advances many of the topics outlined in the objectives in several ways. This is one of the few studies that explored these issues in rural emergency departments. Research in both rural nursing and emergency nursing is limited; thus it is further narrowed when the two topics are combined. Currently, the effects of a nursing shortage are being seen in many hospitals; Canadian Registered Nurses work almost a quarter of a million hours of overtime every week, the equivalent of 7,000 full-time jobs per year (Canadian Labour and Business Centre [CLBC], 2002). A nursing shortage by default implies that nurses who require additional skills to work in specialty care areas are even harder to acquire. The high vacancy rate in rural hospitals, intertwined with a lack of specially trained nurses further complicates recruitment. This study reported 60% \((n=25)\) had vacancies in their emergency departments. This study highlights what nurses in rural hospitals *need* to be recruited in order to work in rural emergency departments versus what they *want* in order to be retained which may very well keep them there!

In addition to the above, my experience as a person who has lived in rural and isolated remote communities and my experience as an emergency nurse enabled me to interpret the data from both an emic and an etic perspective. Although not an ethnographic study, many of the principles of ethnographical research were inherent in this study, namely gaining access to the community and trust of the participants, and analysis of the data. Gaining access and trust are fundamental components of qualitative research (Shenton & Hayter, 2004). My ability to integrate into the community and interact with participants influenced the quality and amount of data I was able to collect. Despite the cross over into the methodological aspects of the research,
my addition to rural literature and the integrity of my data allowing me to develop Hogan’s Model of Emergency Health Care Service Sustainability were strengths of the study.

In addition to the conceptual strengths of this study, methodologically, there are many factors that enhance the credibility of the findings. The response rate in Phase One (56%) was very high given the small population to draw from (n=77). The use of multiple data collection strategies and analysis in the mixed methods design allowed for methodological triangulation which enhances the credibility of the study findings. The willingness to participate in Phase Two (88.4%) suggested this was a timely and relevant research study.

While this study was being undertaken, unbeknownst to me, a similar study conducted by Sawatzky and Enns (2012) was being conducted in Manitoba to identify the key influencing and intermediary factors that affect emergency department nurses and their intention to leave their current position. Two hundred and sixty-one nurses working in rural, urban community, and urban tertiary care hospitals were surveyed exploring the relationship between influencing factors and intent to stay working in their current position. Twenty-three percent of nurses working in rural centres intended to leave their current position in the next year in comparison to 43% of those working in tertiary care centres. Engagement was a key predictor of a nurse’s intent to leave their current position (p < 0.001). Influencing factors that may predict intent to leave were identified as organizational climate and person factors. Organizational climate included: professional practice; staffing and resources; nursing management; nurse/physician collaboration; nursing competence; and positive scheduling climate. Although not conducted solely in the rural context, findings such as how job satisfaction, staffing, organizational climate, and professional development affected the retention of emergency nurses were similar to mine and thus inherently enhanced the validity of my study findings. These findings are congruent with Donabedian’s Model of Quality Care in that they highlight the need to have appropriate
structures and processes of care in order to have the delivery of quality care. These results were not surprising as the emergency department with the most cohesive organizational climate had no challenge in recruiting and retaining nurses, which contrasted with one site where the nurses felt a disconnect with the management team and several of these nurses spoke of leaving their current position in the near future.

Since the completion of this study an American book was published using examples of practice models from North America, New Zealand, and Australia that addresses issues of nurses transitioning from urban based education or practice to a rural setting (Molinari & Bushy, 2012).

### 7.2.2 Limitations

As with all research studies there are limitations to the study findings. One of the limitations in this study was the use of self-report measures (survey, focus groups, and interviews). Self-report measures may be influenced by participant behaviours, feelings, social desirability, and the ability to recall which creates concern about the validity and accuracy of the data (Loiselle & Profetto-McGrath, 2011). Another limitation of this study is the findings only represent those who responded to the initial survey and the three study sites in Phase Two.

The cross-sectional nature of the data limited the ability to interpret and make long term predictions about the findings. For example, predicted vacancy time was captured, but is arbitrary as there is no data that supports its veracity. Changes over time are not captured in cross-sectional case studies meaning the use of a longitudinal study design would provide meaningful insight into the topic. In order to better understand recruitment and retention strategies in rural hospitals, identification and authentication of some the critical needs and wants necessary to secure a new nurse are missing from this study. An investigation of the process and follow-through of a new hire would provide meaningful insight into this issue.
Other study limitations include:

- Most health care decisions are based upon economics and this viewpoint was purposely absent in this study, making the economic perspective in need of further investigation.
- Although first responders identified as: EMS, fire, and police, were involved in the study, the opportunity to capture their perspectives were limited and thus require further investigation.
- The perspective from the patient was not incorporated in this study. This limitation was identified as the link between first responders and in-hospital nursing care. There were no findings indicating that first responders had any influencing effects on emergency nurses, yet their professions are entwined.
- The perspective of physicians was not investigated.

Despite these limitations, valuable information was generated and provides insight into priorities for action in the sustainability of emergency health care services in rural and small town Ontario.

7.3 Future Directions

The findings from this study have direct implications for nursing research, policy development, education, and practice. Other disciplines, such as human resource planning and economics, could benefit from the findings of this study. The potential exists to use these study findings in the global context of rural nursing. Because much of the current evidence across developed countries have similar issues as those identified in Canada, findings could be generalized to these countries, namely the USA, Australia, and Great Britain.

Using multiple existing frameworks, this study provided a foundation for examining current issues in rural emergency health care service delivery, rural nursing, and rural
community sustainability. While understanding these issues provided an advancing level of knowledge development this study raised a number of issues that require further development. First, more research is needed for the development and investigation of recruiting and retaining nurses using an economic model involving guaranteed scheduling and overtime utilization.

Second, this study provides the impetus to petition policy makers to highlight the unique needs in educating rural nurses to ensure quality of care is not compromised. Third, the need to guarantee nurses a minimum of a 0.6FTE was a significant finding. Future research in hiring and staff ratios, balanced against sick time, overtime, and vacation time could be used to develop staffing models and economic balancing which could affect health care delivery across emergency care providers. Fourth, to counterbalance an aging workforce, recruitment strategies need to target younger nurses. Recruiting younger nurses in rural hospitals is a key component in sustainability of health care services (Montour et al., 2009; Stewart et al., 2005). Recruitment of newer nurses in rural emergency departments must be done with caution. One of the challenges for a new grad is the unique practice of a rural nurse being beyond the scope of practice of a beginning registered nurse (Lea & Cruickshank, 2005) and therefore lengthy mentorship and educational needs must be a priority in rural emergency departments.

Fifth, although first responders provide a vital link to timely patient care and access to health care services, the link between their services and care provided in the emergency department was not a major finding. Perhaps this is because the journey of the patient was not included in this study. There was no identified dependency on the relationship with other emergency response professionals (fire, police, and EMS) that affect the recruitment and retention of emergency nurses (including the ability to perform their work).

In speaking with first responders and hospital staff it is challenging to link their services to this study. What is missing from the study design is the perspective of the patient including
needs assessment, outcome evaluation, and satisfaction. Although the obvious link between first responders and emergency departments is timely access to patient care, evaluation and recommendations for improvement are minimal. However, given these conversations and my observations, two recommendations are worthy of further consideration:

1) Town paramedics are underutilized and educational opportunities for them are limited. I would suggest developing a health care model whereby they can be used to their full scope of practice assisting to meet primary and secondary health care needs in the community that employs them. As they have much down time between calls, there is ample opportunity to address their educational needs (and wants) to help improve their skill level and maximize their scope of practice.

2) The potential for disasters involving multiple causalities and limited resources was present in all communities (mining and farming). As seen in one site, regularly occurring ‘Mock Codes’ provide a valuable link between professionals and generates valuable learning for all those involved. My recommendation is this option should be considered for all hospital sites and can be developed based upon community risk factors such as large scale farming accident (i.e. hay ride rollover and railroad derailments involving multiple ages and injuries).

And finally, the findings of this study have enabled me to develop Hogan’s Model of Emergency Health Care Service Sustainability. Future directions in research could focus on further development of, and the validation, of this model in other settings.

In summary, although the study has contributed to the literature and achieved the objectives set forth at the beginning, there are many areas worthy of further development. I hope that this research serves as a catalyst for future research in a variety of disciplines.
7.4 Recommendations for Policy Development

This research highlights the ongoing need to advocate to policy makers and other stakeholders at all levels of government in order to view rural as a unique entity with unique needs, highlight and prioritize education needs that affect patient safety and outcomes in rural emergency departments, decrease barriers in accessing these educational opportunities, and provide incentives for nurses who are committed to caring for Ontarians residing in rural communities. Although rural-urban comparisons have not been a focal point of this research, those living in rural communities have disparities in their health care in relation to their urban counterparts. Policy development in this critical area of health care service delivery is about maintaining the same level of health service quality in rural Ontario as in urban Ontario.

7.4.1 Organizational Policy

Nurses in this study suggested hospital decisions are solely based upon the available budget. While there is truth in this statement, hospital administrators need to recognize the importance of having available resources in order to retain their nurses. These resources were identified as safe and functioning equipment, proper schedules, and available and paid education opportunities. My suggestion is when allocating hospital budget monies, these items need to be priority items, and consideration of these resources can be balanced against attrition, overtime, and sick time costs.

7.4.2 Government Policy

In Canada, each province and territory is responsible for its own health care system. Two issues identified by participants are the need to have no less than a 0.6FTE and reimbursement of educational costs. Providing funding for secure 0.6FTE positions in rural hospitals may be beneficial to dealing with the pending nursing shortage by attracting new nurses. Decreasing the barriers to accessing education includes having guaranteed and secured funded spots in advanced
education training programs and tax incentives. A dollar value cannot be placed on the value of having nurses highly skilled and competent to provide a large range of vital life saving skills to all age groups. Both of these solutions have the potential to decrease attrition and staffing costs, in favour of nurses with high levels of job satisfaction and quality of care in rural emergency departments.

We already know that many new nurses prefer an urban lifestyle, but for those who are rural at heart, returning to their rural roots is typically part of their long term goals. If rural born nurses plan to return, perhaps a partnership with a large tertiary care centre can develop competencies in younger nurses and include a plan to return to their home community as an experienced nurse.

Nurses working and living in rural communities need to be a ‘right fit’, therefore there is a need to promote health care professions to today’s youth living in rural communities. This would potentially create an awareness of the challenges inherent in working in a rural community. Programs such as summer employment opportunities for students living in rural communities who may want to pursue a career in their home hospital are beneficial and possibly decrease the incidence of attrition in newer nurses. Provincial programs such as the MOHLTC tuition reimbursement and the new federal Canada Student Loan forgiveness program are not widely known. Increased marketing efforts need to be initiated. This funding should be guaranteed and implemented at the organizational level rather than through the current application process. The HFO NGG mentorship program and RNAO education funding for rural communities especially in specialty care areas should be a priority, guaranteed, and widely encouraged.

Federal health care spending overlaps with provincial health care for First Nations people, inmates, and veterans. While the latter two were not part of this study, it was evident
that First Nations people living in rural communities or neighbouring reserves are at a higher risk for not having accessible services or quality health care. Perhaps federal health care dollars could be directed towards sustaining emergency health care services in neighbouring communities who provide care to these areas.

The viability of rural health care services is directly related to the maintenance of a stable, efficient and well-educated workforce (Kenny & Duckett, 2003, p. 613). Decisions about how much and where to spend health care dollars is inherently based upon values (CNA, 2000). The question is: whose values?. Policy solutions are varied but focus on the central theme of educating emergency nurses to build competency and subsequently deliver quality care. The needs of rural communities are unique and those living in these communities deserve access to quality care.

7.5 Research in Rural Hospitals

Nursing research in the rural context is limited (MacLeod et al., 2004). During my site visits it was apparent some nurses had limited, if any exposure to previous nursing research. I was more readily accepted by nurses who had completed their bachelor’s degree than those who had not. Many of the older nurses were diploma prepared and were leery about my presence and worried that I might have a hidden agenda or that I was a spy for senior management. With time, I felt that all but one nurse throughout my three site visits were responsive to my presence and trusting that I was open and honest about my study purpose. Demographics of Canadian nurses working in rural hospitals indicate 9.2% are degree prepared (CIHI, 2002).

Olade (2004) surveyed 106 rural nurses from various practice areas and found that research utilization was low (20.8%) in rural hospitals and this was primarily undertaken by nurses with bachelor’s degrees. One of the barriers to research utilization was the lack of
nursing research consultants. The use of advanced practice nurses and clinical nurse specialists have the potential to increase the use of research into clinical areas, but due to budget and availability, this is not feasible for most rural hospitals.

Having conducted research in several rural communities I believe having a researcher who is cognizant of the rural lifestyle and of the topic being studied is important. It is equally important that the research not be rushed as it takes time for the members of a tight knit community to gain trust in the researcher. Having both an intimate knowledge of rural lifestyles and emergency nursing enhanced my ability to conduct research in this context.

7.6 Recruitment Challenges

At the time of Phase One, my study sites reported three different vacancy and recruitment rates. All three had current vacancies; one reported not having a challenge recruiting a qualified nurse, and two reported recruitment strategies were ongoing. It was not clear from the survey data why this might be the case. Initially it was thought that distance to a tertiary care facility may be directly related, however upon further analysis, it was found that one site with no challenges was the same distance from a large city and tertiary care facility as the one which reported having ongoing recruitment challenges. Despite this finding, all three were concerned about the pending nursing shortage and the known challenges in recruiting nurses in rural hospitals. All three senior nurse leaders recognized the need to be a step ahead of the game and to always be on the lookout for potential nurses. Being a step ahead in the game meant watching for upcoming maternity leaves, planned relocation, retirement, and unhappy employees. One nurse leader said this was easy in a small community because you know everyone, but more importantly, it was to ensure there was communication between the frontline nursing staff and those in management.
Being on the lookout for potential nurses was two-fold. In the largest of the three hospitals, it meant looking at new nurses on other units who demonstrated characteristics that would fit with our emerg. These characteristics include calmness, the ability to handle stress, assertiveness, and a desire to advance their skills. In the smallest of the three hospitals, it meant ensuring that teens living in the community who express a desire to pursue a career in health care have opportunities to work, volunteer or are paid, in the hospital in hopes of them returning once qualified. In this hospital I had the opportunity to speak with two students and one nurse who had been employed in various roles during the summers of their post-secondary education. One student said he was planning to stay in the city for a few years to get some experience and be close to amenities, but in 10 years, I’ll be back in a rural community. Might not be this one, but I’ll definitely be rural.

7.7 Summary and Conclusions

At this end of this journey, my contributions to the existing literature in rural nursing, geography, and health policy have the potential to provide the impetus for advancing strategies focussing on rural health and future research in a variety of areas. The uniqueness of my research approach to a current and significant issue in health care can provide stakeholders with multiple levels of data which can be incorporated in variety areas of policy development.

The sustainability of emergency health care services in rural Ontario is dependent upon the needs of the community and having the resources available to meet these needs. Although members representing all professionals in the emergency health care team were accessed for this study, the majority of the study focussed on nursing human resources and recruitment and retention strategies based upon the belief that in order to have sustainable services, they must be accessible and have qualified professionals. Nurses work in rural communities for different reasons; for some it may be home and others may be drawn to the lifestyle. Whatever the reason,
it is important that each individual nurse is a ‘right fit’ for the community, the lifestyle, and the place of employment. Emergency nurses working in rural hospitals recognize and accept the way of life and work place challenges that affect their job performance and the care they are able to provide. Emergency nurses wanting to work in rural communities need to recognize there are inherent characteristics in the community and in the workplace that are unique and create a new specialty within the realm of emergency nursing.

There is a link between skilled competent professionals, quality of care, timely access to services, and better patient outcomes in emergency situations. It was very clear in this study the participants recognized how their enhanced skill level (acquired both through training and experience) was paramount to their ability to feel competent, continue to work in their field, and provide quality care. These nurses were able to identify factors that were essential to their survival, including: safe and functioning equipment, the ability to obtain and maintain enhanced skills, and accessible resources. Other factors that were desired were also critical to the retention of nurses, including: recognition, a supportive working environment, a minimum guarantee of a 0.6FTE, and paid education. Nurses in this study were able to identify a critical time period in the trajectory of adaptation of a new nurse in a rural emergency department whereby these factors may influence whether or not the nurse will stay or seek employment elsewhere.

Emergencies are going to happen and despite the best education and resources, one cannot control or anticipate daily departmental needs. If rural hospitals and emergency departments close, the alternative is an increase in transportation times which may result in decrease in patient care outcomes (i.e. increased morbity and mortality rates). Emergency services in rural and small town Ontario varies. Incidental findings have resulted in a whole new set of questions that are worthy of further research. Developing and executing these research
questions has the potential to develop new strategies that can target the health care disparities that exist in rural and small town Ontario.

This research and its findings highlight the need to provide more support in the professional development of emergency nurses working rural hospitals to maintain a high level of quality of care for patients seeking assistance in rural emergency departments. Rural emergency departments are not just band-aid stations but are able to provide high levels of quality and complex care across the lifespan. There is a need to continue to advocate to policy-makers that rural communities are not mini-urban centres and health care decisions need to reflect the uniqueness of rural communities. The health and future of rural Ontarians is dependent upon this.
Post-Script

I think it is interesting to note that I entered into this study with the notion I would find an innovative way to recruit nurses like myself (mid-career nurses with a solid emergency skill set, and confidence to practice autonomously) to rural communities. I knew firsthand this would be a mighty challenge given all of the ‘extras’ that come with relocating at my age including: securing employment for my spouse, the academic and social needs of my children, and my aging parents.

Much to my surprise, I have found that people are either drawn to rural lifestyles or not. Those enticed by financial incentives leave once their obligation is complete. Living and working in a rural community provides a unique opportunity and the desire to do so cannot be created but must come from within the individual and the family unit. Those who do not embrace the rural culture do not stay in rural communities and for rural emergency departments whose services are potentially at risk without committed and stable individuals, recruiting such individuals would be counterproductive. It is very much about having a ‘right fit’.

It is with great honour that I conclude this study and being a ‘rural girl’ myself, I can say I learned a lot. The bottom line in this study is there is no magical message in how to recruit and retain nurses for rural emergency departments, but the need exists to highlight and share the joys of a profession as wonderful as nursing to today’s youth living in rural communities (and elsewhere) in hopes that they will enter into the professional and continue to provide quality emergency health care services to people living in rural communities.
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*Journal of Trauma-Injury Infection & Critical Care, 51*(6), 1037-1041.


Appendix A Other Findings

*Telemedicine.*

One way of improving access to health care services in rural communities is through telemedicine. Telemedicine offers rural communities access to health care providers in other communities (Rawlinson & Crews, 2002). In rural areas, it is not practical to keep specialists on site 24/7 nor do rural hospitals have immediate access to expensive diagnostic or technical equipment (Pong & Russel, 2003). Telemedicine is a method of health care delivery that provides the rural provider with immediate access to specialists which gives patients access to timely diagnosis and intervention that enhance patient outcomes and survival without the need to travel to larger centres. Various forms of technology are used including telephone and computer videoconferencing.

Telemedicine is a useful model of health care delivery for rural hospitals. It can be useful in the emergency department as it can link rural physicians to specialists in real time with the ability to assist during trauma care (Heath et al., 2009; Lafti et al., 2005; Lafti et al., 2009; Rogers et al., 2001). These technologies enable remotely located physicians to diagnosis conditions such as stroke (Shuaib et al., 2010; Waite et al., 2006) and myocardial infarction (Keeling, Hughes, Price, Shaw, & Barton, 2003; Yagi et al., 2009) which leads to prompt treatment. Telemedicine has also improved care delivery (Brennan et al., 1999; Schafermeyer, 1997) through managing consults (Dharmar & Marcin, 2009; Ellis, Mayrose, & Phelan, 2006; Lafti et al., 2009; Rogers et al., 2001), teaching (Salerno et al., 2009), evaluating conditions such as burns (Saffle et al., 2009) and COPD exacerbation (Jenkins & White, 2001), avoiding transport of patients (Hicks et al., 2001), and decreasing emergency department visits (Serrano & Karahanna, 2009). However, none of the study sites used telemedicine.
Currently, the province of Ontario uses a two-way videoconferencing (Ontario Telemedicine Network [OTN]) to care for patients located throughout the province. This service is aimed at reducing disparities in health care delivery primarily for rural and small towns. Telemedicine provides rural emergency departments with access to specialists in other areas which may improve a patient’s access to care and treatment times which may subsequently improve patient outcomes. The Ontario Telemedicine Network currently offers emergency telemedicine services including: Ontario Telestroke Program, Teletrauma, Teleburn, and Virtual Critical Care (www.otn.ca).

This service also saves time and money as practitioners and patients can access the technology in their own homes. Two sites used this system regularly and one site employed a registered nurse whose role was to assist and coordinate patient care using the OTN. This was helpful for accessing primary and secondary health care needs, such as monitoring and managing chronic disease, for patients in their home community. The network was highly valued in these communities as it decreased travel and wait times and increased access to health care services. One nurse explained that patients in that community were unlikely to travel to the city because it was expensive and they may not have transportation which meant their condition was not monitored, and when they accessed the next point of entry into the health care system their condition was exacerbated.
First Responders.

Police.

All three study sites had a local police station with regular patrol of the Ontario Provincial Police. Police did not routinely respond to 911 calls nor did they routinely stop by the emergency department, but were always willing to go when requested and help in any manner required. For example, the police would respond to a request if there were any safety concerns, an escort was required, or to contact other services such as victim services or child protection.

One of the most common reasons police will work with emergency department staff is with the care of mental health patients. Police will stay in the emergency department if a patient is violent or if staff feel threatened. The police will only leave once a physician has said the patient is stable (mentally/safely) enough and the hospital staff no longer require police presence.

Ongoing issues surrounding psychiatric and violent patients were identified. These issues tax community and hospital resources. Mental health services were minimal in all three communities. All participants had examples of how the acute needs of a mental health patient exceeded the ability of staff working in the department. One example shared with me by several staff was a young aggressive man who was experiencing an acute psychosis and the local emergency department personnel were attempting to arrange admission to a psychiatric care in the closest facility. Due to a multitude of variables including a lack of beds, and (from the perspective of the staff) a lack of understanding of the urgency of this admission, the man remained under police supervision in the emergency department for six days. This situation affected in the entire community as there was no regular police patrol throughout those six days.

This study found a need to improve psychiatric care and safety in rural emergency departments. Although each nurse who participated in this study had a safety plan in their own
mind about what to do if a violent or aggressive person entered their department, there was no formal plan between the hospital and the rural emergency department. Although formal safety measures were in place in all three sites, not all sites adhered to them. For example, at night the emergency department was locked and patients are required to use a buzzer system to gain entry. Whether or not the department was locked or not was dependent on who was working. Smokers often breached the security system in two of the sites. The hospital entrance at one site was always locked as the emergency department was not located in close proximity to the main entrance. All facilities were in close proximity to the police department and response time was estimated to be no more than five minutes.

One police officer said they take a proactive approach and help to train and work with nursing staff so they do not have to routinely make visits to the emergency department. They provide support when requested, and work with teaching nurses basic self defence and de-escalation techniques; however not one nurse of those interviewed said they had attended. The police recommend that emergency department staff have personal alarm systems which, when activated, notifies on-site staff and the police department that assistance is required. The emergency departments in this study do not have on-site security officers, nor do they carry personal alarms.

Interestingly, one police officer identified the same issues in the police force as in nursing. The police force consists of some very young and over-eager new police officers and a couple of very well-seasoned, older, mellow officers. Her concern is she is missing the level-headed midcareer officers who can provide mentorship to her junior staff. She foresees problems similar to those which provided the stimulus for this study because all four of her senior staff members are able to retire in the next five years and the remaining officers have five or less years of police experience.
Nurses in this study did not identify the police as important for working in a rural hospital. They identified the police services as ancillary to their role and only required for mental health patients. Their presence in the emergency department was seen primarily in major accidents and when requested for mandatory reporting (gunshot wounds, abuse cases). Nurses did identify safety concerns when police services were needed for mental health patients or potential narcotic theft in the hospital emergency department.

First aid is part of their annual training blitz and Northern Ontario officers must leave the community for training purposes. Typically they go to a major city for a week long education session including first aid, the use of personal protective equipment, use of automatic defibrillators (AEDs), sexual assault training, defence strategies, and tactical measures. Police officers in all three sites were educated similarly and annual updates were part of their job requirements.

The police role in fatality or multiple injury accidents is mostly directed at the scene. Why did the accident happen? And once the paramedics have done their thing, we go to the hospital, we will follow that up and that is when we call victim services or a trauma management group for assistance. All of the sites had access to external victim services support. This was frequently provided in the emergency department in collaboration with the police force. Although this was mainly discussed by the police officers in this study, it was also mentioned in the emergency department by some of the staff. In a tragic event, the emergency department staff (or police) will access victim services to offer support to family members. This helps decrease the burden of workload on emergency staff and police. At one site, the victim services are in the community; there are three paid positions as well as approximately 50 volunteers. These services are shared throughout the county and like the other sites, may not be readily
accessible during off hours (nights, week-ends, and holidays), however, there is always someone on call who can arrange a time to be present or follow-up on a situation.

Fire.

All three study sites had a local Fire Station with one or two municipally paid positions and the rest of the crew were volunteers from the community. Fire personnel did not routinely respond to health related 911 calls but were always willing to go when requested and help with extrication from a vehicle, and lifts and transfers. All three sites have regular training, we run training sessions every Tuesday evening, for their volunteers. This helps maintain competencies and the functioning of the team. We mostly run through calls, we burn things to practice sequencing and time. Mock scenarios were the preferred manner to learn skills.

Response time, from initial call to departure of first ready vehicle, in all three communities is low. One site estimated the response time was approximately three minutes. In two of the communities most local employers allowed the volunteer firefighters to leave work when paged to respond to a 911 request. There is an unwritten expectation in the community that the first priority for volunteer firefighters would be to leave their workplace and respond to the fire. You never know, it could be your house or your family. For most of the volunteer firefighters they have chosen to be volunteer firefighters to give back to their community. Like nurses, many of the firefighters are from the community, which was identified as the toughest part of their job. Because they live and know everyone in the community makes responding to calls a very sombre experience. Especially when responding to accidents. Everyone one is really quiet on the drive there. Scared that it’s one of your own. All of the firefighters I spoke with had responded to calls where they have known the person or who they belong to. Although they are never certain how they will react, it was agreed that the job becomes very task focussed and the realization of who the victim was comes after the event.
Recruitment for the fire department varies. It is easier when the locals know of someone they can recommend to the fire department. It was identified by the Fire Chiefs I spoke with that given the nature of both the community and the type of work that it is essential that firefighters are a *right fit* with the team as well as have an understanding of the community. Recruitment of volunteer fire fighters is not routinely advertised formally but all sites make careful selection (including police checks) of qualified people known to other firefighters and the community.

The need to have team members be a *right fit* was also an unofficial job requirement for nursing staff as well. In fire and nursing, the similarities are: they often work together as a larger team and are predominantly working in their home community, whereas the police are provincial and may be relocating at frequent intervals. There was not ample data from EMS to make any assumptions about *right fit*; two sites used county EMS and one site had a very small number of paramedics.

*Emergency Medical Services (EMS).*

All three study sites had accessible emergency services for both pre- and in-hospital emergency health care. Tertiary care services were accessible within 30-60 minutes by land in two sites and more than three hours in one site. Land travel was usually not compromised by inclement weather conditions in any other season except winter. Although accessible by land, one site relied heavily on air transportation for tertiary care services. Air transportation in this site was highly weather dependent throughout the year with delays being caused by fog, wind, rain, darkness, and snow. The critical factor in all study sites was the perceived correlation between time and patient outcomes and the exhaustion of resources (equipment and human) when caring for a critically ill patient when the transfer was delayed.
Two of the study sites relied on county-based EMS, meaning the geographical span for the trucks was vast and there may be many crews with varying skill sets on the road. This provided no meaningful relationship with the nursing role in the context of the study. Patient care is the vital link from EMS to emergency department staff. As patient care was not a component of this study, the only meaningful finding was that nurses felt the county EMS were keen to bring them patients as their off-load times (time required for nurses to take over care from paramedics) were lower than that of neighbouring urban hospitals. Anecdotally, this finding was viewed as a major contributory factor to an increasing number of annual patient care visits. The steady increase of volume, estimated to be approximately three patients per day, equates to an increase of roughly 1,000 patient care visits per year.

One of the study sites had a small group of municipally paid individuals and the ambulance garage was situated on the hospital grounds. In addition to being friends or relatives of those working in the emergency department, there was a symbiotic relationship between the emergency department staff and the paramedics. Regular education opportunities were planned by the local physicians and local health care providers including the nurse practitioner from a local employer, EMS, and hospital students and staff were invited to participate. The education session I observed was a Mock Code and as the medical interventions were being done, an observing nursing student fainted requiring the limited resources be allocated to assist her (this was part of the planned exercise). Upon completion of the exercise debriefing occurred and each participant and observer was granted the opportunity to reflect and ask questions. It was very clear to me, as an observer that a culture was apparent in this department where the more junior (less experienced) nurses and other staff member were highly supported by senior staff and physicians in developing their role.
EMS provides a vital link to quality emergency health care services in rural areas. All participants agreed medically appropriate timely treatment and transport to and from the emergency department are critical factors in patient outcomes. Uncontrollable barriers, such as the inability to fly or the lack of adequate staffing of the transport crew, resulting in delay of transfer of an unstable, critically ill or injured individual taxed the resources of these three hospitals and created a sense of professional angst as these nurses and physicians were not prepared to care for these complex patient needs. *We’re not ICU nurses. We don’t even have an ICU., our job is to stabilize and transfer out, it safer for the patient, they (receiving hospital) have more people to help.*

Accessibility to these services in the communities participating in this study was congruent with the vision of the Ontario Health Coalition (2010) of the Ontario MOHLTC Rural and Northern Health Framework (2010) which proposes that 90% of rural residents will receive emergency services within 30 minutes travel time from their place of residence (MOHLTC, 2010). ICES (2011) findings indicate that 97.8% of persons residing in Ontario communities of less than 30,000 residents have access to emergency departments within 30 minutes. It was agreed by fire, police, EMS, and hospital staff that the majority of residents serviced by their emergency department were able to receive access to emergency health care services within 30 minutes. However, the following incidental finding is concerning and warrants further research.
Canadian Triage Acuity Scale (CTAS).

To thank those who participated in this study, I offered a Canadian Triage Acuity Scale (CTAS) version 2.4 2011 (adult and pediatric) education course for the nurses. The CTAS was introduced in 1997 to provide health professionals with a five-level triage scale that predicts how long a person can safely wait before seeing another nurse and a physician (Ontario Hospital Association [OHA], 2011). In 1999, the MOHLTC mandated the CTAS for emergency departments across Ontario (OHA, 2011). Although this course was desired at all three sites, only two of the three sites were able to accommodate my offer. Most of the course participants regularly triaged patients in their department despite not having had formal education on this skill. Patient triage by a registered nurse is mandated in emergency departments across this country. In speaking with the nurse leaders in this study, the ability to have an in-house trainer for CTAS is nearly impossible due to the high cost and the need to travel a long distance to obtain the initial certification and subsequent recertification.

Two nurse leaders agreed from their experience with other nurse leaders from rural hospitals in the province of Ontario that the majority of triage nurses in rural Ontario do not have formal education in CTAS. This finding differs from the Triage Project whose goals was to ensure that all emergency patients across Ontario are consistently and accurately assessed using the CTAS’s five levels of acuity. Findings of the Triage Project indicated 50% of the small hospitals reported 96% or more of their RNs had adult CTAS education and 13% had pediatric CTAS education (Sloan et al., 2005). The difference in data integrity is likely the reason for this discrepancy.

Anecdotal evidence from both triage courses indicated there are potential implications with the lack of formal education on CTAS. CTAS scores are a valuable piece of data which can be used as a workload measure, for funding, and an important variable in data collection.
The majority of the nurses in the triage courses felt they regularly under-triaged patients and did not understand the importance of the score, *I thought it was just a number*. One of the implications may include inadequate staffing due to the underrepresentation of workload and patient acuity and hospital funding.

Similar to the findings about the challenges in obtaining education several nurses wanting to participate in either of the courses were unable to find replacement staff and thus had to work. Nurses at both sites were *very upset* they were unable to make the education sessions. I was able to spend part of a night shift coaching two nurses on the important highlights of making triage decisions. The third site expressed an interest and a need to have CTAS education, but was unable to make arrangements for an education session.
One event that was ongoing throughout my site visits was the Sandoz drug shortage (http://www.health.gov.on.ca/en/pro/programs/drugs/supply/supply_faq.aspx). This was a source of concern with nurses between balancing resources with the needs of the patient causing an ethical dilemma over who is more worthy (i.e. the sickest) and most deserving of the precious resources.

In this study, participants were all accustomed to a regular supply of medications such as Toradol®, and were able to provide this to all of their patients when required. During the Sandoz shortage, many regularly used drugs were in short supply in all three hospitals. Nurses, and physicians, felt the need to judge whether or not the patient was truly in need of the short supply drug or would benefit from an alternative. Nurses were upset because frequently the patient was known to them and they felt they were not able to provide the usual high level of care they were proud of. These feelings resulted in frustration which led to a temporary dissatisfaction in their job. What little research available regarding moral judgements and health care professionals is focussed on when patient characteristics affect decision making and patient care (Hill, 2010). There is a lack of literature about how nurses, and other health care professionals, make moral judgments about patients needs when resources are scarce. A British study of 834 clinical nurses rated their ability to provide quality of care as a predictor of job satisfaction \( r=0.18, p<0.001 \) (Adams & Bond, 2000).

In summary, the perceived needs of nurses working in rural emergency departments who participated in the study are interconnected to patient safety and professional competence and subsequent quality of care. Traditional measures of quality of care include patient outcomes and processes of care (McHugh & Stimpfel, 2012) but in this study it was evident that measures of quality of care extend beyond these two measures. Nurses in this study were highly committed
to ensuring quality patient care as described by the need for safe and functioning equipment, the
ability to obtain and maintain skills required to work in a specialty care area, and having
accessible resources. These findings link the study objectives and are congruent with
Donabedian’s Model of Quality of Care which depicts a three step approach to assessing quality
including: structure (material and human resources), process (activities such as the care delivery
and coordination), and outcome (effects on health status of individual).
Registered Practical Nurses Working in Emergency

Only one of the three sites employed RPNs in their department. The use of RPNs in emergency is a new concept with a lack of published research about this role in this clinical context. With the increasing scope of practice and anecdotal information, an RPN can be viewed as an important team member in a busy, high volume emergency department.

In one hospital that employed RPNs in the emergency department, their presence was limited to a few hours two days a week. Nursing staff felt the lack of exposure to the emergency department did not allow the RPNs to reach a level of comfort with the workload, and staff; the RPN is kind of stuck in just doing housekeeping and the vital signs and they actually end up looking after just stabilized patients that are admitted. Limited hours working in the emergency department hindered their ability to become comfortable and competent in their role. It was not felt that this was an appropriate means of utilization of nursing hours. We didn’t want an RPN because we needed an RN, needed somebody able to go to resuscitation. We needed somebody to go to triage. We needed somebody with clinical skills to be able to function at a higher level…the RPN does vital signs, empties linen hampers, and helps with tasks, yes those things need to be done, but it was just a band-aid solution because we are drowning on Mondays and Fridays and it’s cheaper to have an RPN than an RN. Nurses at this site agreed that an RPN is most beneficial to the nursing team when there are high volumes of non-urgent cases and she can be designated to the cubicle area. However, there is not always an opportunity to designate a nurse to that area and there are many times when the RPN requires the support and assistance of an RN which creates feelings of frustration for both RPNs and RNs.

Given the limited resources in rural emergency departments and the need for an RPN to work in consultation with an RN (College of Nurses of Ontario, 2011) the RPN is best suited to a
high volume emergency department with a minor treatment care area where the patient care needs are best suited to their practice.
Appendix B  Approval to use Dreyfus Model of Skill Acquisition

You may use our model including a diagram in your thesis.

Sincerely,

Stuart Dreyfus

On Feb 29, 2013, at 10:47 AM, Robert Dreyfus <RobertDreyfus.ottawa.ca> wrote:

> Please resist.
> 
> Sht.
> 
> ----------- Original Message -----------
> 
> Subject: Dreyfus Model of Skill Acquisition
> 
> Date: Thu, 21 Feb 2013 16:13:59 -0500 (EST)
> 
> From: shane@ottawa.ca
> 
> To: dreyfus@berkeley.edu
> 
> Good Day Dr. Dreyfus,
> 
> I am a PhD nursing student from Queen’s University in Kingston, Ontario, Canada. My doctoral research is focused on how to sustain emergency health care services in rural and small town Ontario. A vital part of sustainability initiatives is having competent professionals. To achieve competency levels, I have used your model of skill acquisition.
> 
> Today I am writing to ask for permission to use your model (including a diagram) in my final thesis defense. I would be happy to share this with you at a later date if you are interested.
> 
> Thank you for your time.
> 
> Take Care,
> 
> Merry-like Rogers
Appendix C Permission to Adapt Case Study Schematic

Hello Kerry-Anne, no problem, the main purpose of putting the schematic out there was to offer it to others for consideration. Yes, an acknowledgement and citation is appropriate.

Best wishes for the successful conclusion of your PhD. It probably seems like it goes on forever, but once it's done, you'll hardly know what to do with your time! I'd be very happy to have a look at your methodologies chapter whenever it's appropriate to send it over. You seem to have successfully tracked me down, having moved jobs/cities/provinces in 2011, so john.rosenberg@calvary-act.com.au is your best bet.

I have some academic colleagues who have an interest in rural health and paramedicine, so I'd also be interested to see the finished product to pass onto them - do you have a Thesis Repository over there? We do in Australia - (almost) every doctoral thesis is registered and held on an academically accessible website. I'll advise them to keep an eye out for any publications too.

Again, thanks for asking, I'm glad my work has been some use!

Regards, John

Dr John Rosenberg RN PhD MACN
Director, Calvary Centre for Palliative Care Research
Senior Research Fellow, School of Nursing, Midwifery and Paramedicine (Signadou Campus), Faculty of Health Sciences, Australian Catholic University
Research Associate, National Centre for Clinical Outcomes Research, Australian Catholic University
Adjunct Senior Research Fellow, Faculty of Public Health and Human Biosciences, La Trobe University

john.rosenberg@calvary-act.com.au
Appendix D  Rural Emergency Health Care Survey

RESEARCH INVITATION

Rural Emergency Health Care Services Sustainability Survey

This survey asks 12 questions designed to provide an overview of your hospital Emergency Nursing Services as viewed by the managers of Emergency Departments in Rural Ontario.

I would like to thank you in advance for your participation and if you have any questions about the survey, please contact me at k.hogan@queens.ca

Please return this questionnaire within two weeks if possible.

POSTAL CODE: _______ _______

Confidentiality: Your responses will be aggregated with those of other rural emergency departments and will be reported and disseminated globally rather than individually.
1. Please describe your emergency department.

<table>
<thead>
<tr>
<th>Annual number of patient visits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate the number of kilometres to closest tertiary care facility</td>
<td></td>
</tr>
<tr>
<td>Kilometres</td>
<td></td>
</tr>
</tbody>
</table>

2. Please describe your nursing staff.

<table>
<thead>
<tr>
<th>Please indicate the number of:</th>
<th>RN</th>
<th>RPN</th>
<th>Other: NP, APN, CNS (please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTE staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTE staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FTE vacancies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PTE vacancies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casual staff vacancies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student clinical placements (per year)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. Please describe your vacancies.

<table>
<thead>
<tr>
<th>If you currently have vacancies, on average how long have these positions been vacant?</th>
</tr>
</thead>
<tbody>
<tr>
<td>____________</td>
</tr>
</tbody>
</table>

4. Please describe your recruitment strategy.

<table>
<thead>
<tr>
<th>Strategy (Please add insert if necessary, thanks)</th>
</tr>
</thead>
<tbody>
<tr>
<td>______________________________________________</td>
</tr>
<tr>
<td>______________________________________________</td>
</tr>
<tr>
<td>______________________________________________</td>
</tr>
<tr>
<td>______________________________________________</td>
</tr>
<tr>
<td>______________________________________________</td>
</tr>
<tr>
<td>______________________________________________</td>
</tr>
</tbody>
</table>

5. How long do you anticipate the recruitment phase for your vacancies to be?

| ______________________________________________|
| ______________________________________________|
| ______________________________________________|
| ______________________________________________|
| ______________________________________________|
| ______________________________________________|
| ______________________________________________|

Kerry-Anne Hogan RN MScN PhD student
Queen's University
School of Nursing
92 Barrie St, Kingston, Ont K7L 3N6
6. What percentage of your current nursing staff will be eligible to retire in the next 5 years.

- [ ] Less than 10%
- [ ] 10-25%
- [ ] 26-50%
- [ ] 51-75%
- [ ] 76-100%

7. Would you hire a new nursing graduate to work in your emergency department?

- [ ] Yes
- [ ] No
- [ ] Maybe (please explain):

  [ ]

  a) If no, please check all the boxes that apply:

- [ ] Lack of available positions
- [ ] Lack of experience
- [ ] Lack of specialty education
- [ ] Lack of available staff to mentor new staff
- [ ] Other (please specify)

  [ ]

  b) Approximately how many years of nursing experience do you feel is ideal for a nurse to begin working in your emergency department?

  [ ]

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92 Barrie St, Kingston, Ont K7L 3N6
8. Do the majority of the nursing staff working in the emergency department live in the community?

☐ Yes  ☐ No – The majority live outside the community.

9. The following items are areas of employment most commonly found in rural Ontario. Please rank the following terms with 1 being the most responsible and 9 being the least responsible. If an item is not relevant, please leave blank.

<table>
<thead>
<tr>
<th>Health Care</th>
<th>Manufacturing</th>
<th>Retail</th>
<th>Agriculture</th>
<th>Mining</th>
<th>Forestry</th>
<th>Government</th>
<th>Military</th>
<th>*Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranking (1-9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Other: (Please explain)
“Committed to Sustaining Emergency Health Care Services in Rural Ontario”

10. Please check the statement that best represents your community:

- My community can be described as a retirement community.
- My community can be described as a cottage community.
- My community can be described as a commuter town.
- Other: My community can be described as a ____________________.

11. Please answer the following questions by circling the scale provided.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Neutral</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am concerned that the emergency department in this hospital will be affected by the nursing shortage.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Recruiting emergency nurses is a challenge for this hospital.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We have adequate resources to educate our nurses.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Emergency nurses have to travel outside our area for educational purposes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>We have an adequate number of nurses to cover for other nurses requiring leave for educational purposes and/or vacation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>People can meet all of their shopping needs in my community.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>People leave the community daily for employment purposes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>People can find work in my community.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>People in my community have adequate primary health care services.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>People in my community use the emergency department for non-urgent health care issues.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Goods from my community are exported.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Kerry-Anne Hogan RN MScN PhD student
Queen’s University
School of Nursing
92 Barrie St, Kingston, Ont K7L 3N6
12. Please describe your community

Self-sustaining implies that a community has the necessary resources to function independently.

Would you describe your community as self-sustaining?  □ Yes  □ No

Please describe why or why not.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

13. Please add any other comment.

Comments:

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Kerry-Anne Hogan RN MScN PhD student
Queen's University
School of Nursing
92 Barrie St, Kingston, Ont K7L 3N6
Phase Two

Phase Two of this study involves case study research methods, whereby I would be physically present in your emergency department observing and interviewing staff, and reviewing processes and policies relating to education and skill development of rural emergency nurses. There will be minimal interruptions to workflow and time of the nurses and the management team will be respected. This study does not include patients and will not interfere with patient care.

The length of time for this phase is estimated to be 3-4 weeks.

May I contact you for possible participation of your emergency department for Phase Two of this study?

On behalf of _______________________________ Hospital,

☐ We do not wish to participate in the above mentioned research study.

☐ We are willing to participate in your research study.

Contact: ________________________________
Email: ________________________________
Phone: ________________________________

____________________________________ (Signature)

If you are not interested in participating in this research project, please return this survey in the envelope provided and you will not be contacted, nor will anyone else in your hospital.
Appendix E  Definitions

TERMS:

Due to the inherent characteristics of rural hospitals and the need for nurses to work in many patient care areas, for the purpose of this study, the term emergency nurse will refer to a registered practical nurse or registered nurse whose primary area of employment is the emergency department.

*Small Hospital- Ontario Hospital Association (OHA) determines hospital size by inpatient weighted cases, the definition of small hospital is a hospital with less than or equal to 4000 weighted cases. (limited definition as based solely on hospital admissions not emergency visits, however, a review of the hospitals who meet this criteria have, on average ≤22,000 emergency visits per year)

**Rural and small town- Rural and small town (RST) refers to the population living outside the commuting zones of larger urban centres – specifically, outside Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs) (Mendelson & Bollman, 1998).
### Appendix F List of Possible Study Sites

<table>
<thead>
<tr>
<th>Selected Study Sites</th>
<th>OHA Small, Rural, and Northern Hospitals</th>
<th>MOHLTC Class C Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Alexandra Marine &amp; General Hospital</td>
<td>Alexandra Marine &amp; General Hospital</td>
<td>Alexandra Marine &amp; General Hospital</td>
</tr>
<tr>
<td>2. Alexandria Hospital</td>
<td>Alexandria Hospital</td>
<td>Alexandria Hospital</td>
</tr>
<tr>
<td>3. Almonte General Hospital</td>
<td>Almonte General Hospital</td>
<td>Almonte General Hospital</td>
</tr>
<tr>
<td>4. Anson General Hospital</td>
<td>Anson General Hospital</td>
<td>Anson General Hospital</td>
</tr>
<tr>
<td>5. Arnprior and District Memorial Hospital</td>
<td>Arnprior and District Memorial Hospital</td>
<td>Arnprior and District Memorial Hospital</td>
</tr>
<tr>
<td>6. Atikokan General Hospital</td>
<td>Atikokan General Hospital</td>
<td>Atikokan General Hospital</td>
</tr>
<tr>
<td>7. Bancroft North Hastings Site, Quinte Healthcare Corporation</td>
<td>Bancroft North Hastings Site, Quinte Healthcare Corporation</td>
<td>Bancroft North Hastings Site, Quinte Healthcare Corporation</td>
</tr>
<tr>
<td>8. Bingham Memorial Hospital</td>
<td>Bingham Memorial Hospital</td>
<td>Bingham Memorial Hospital</td>
</tr>
<tr>
<td>9. Birk's Falls Health Centre</td>
<td>Blind River District Health Centre</td>
<td>Blind River District Health Centre</td>
</tr>
<tr>
<td>10. Blind River District Health Centre</td>
<td>Brantford General Hospital</td>
<td>Campbellford Memorial Hospital</td>
</tr>
<tr>
<td>11. Brantford General Hospital</td>
<td>Campbellford Memorial Hospital</td>
<td>Carleton Place &amp; District Memorial Hospital</td>
</tr>
<tr>
<td>12. Campbellford Memorial Hospital</td>
<td>Carleton Place &amp; District Memorial Hospital</td>
<td>Charlotte Eleanor Englehart Hospital of Bluewater Health</td>
</tr>
<tr>
<td>13. Carleton Place &amp; District Memorial Hospital</td>
<td>Charlotte Eleanor Englehart Hospital of Bluewater Health</td>
<td>Clinton Public Hospital</td>
</tr>
<tr>
<td>14. Charlotte Eleanor Englehart Hospital of Bluewater Health</td>
<td>Clinton Public Hospital</td>
<td>Deep River and District Hospital</td>
</tr>
<tr>
<td>15. Clinton Public Hospital</td>
<td>Collingwood General and Marine Hospital</td>
<td>Dryden Regional Health Centre</td>
</tr>
<tr>
<td>16. Collingwood General and Marine Hospital</td>
<td>Deep River and District Hospital</td>
<td>Englehart &amp; District Hospital</td>
</tr>
<tr>
<td>17. Deep River and District Hospital</td>
<td>Dryden Regional Health Centre</td>
<td>Espanola General Hospital</td>
</tr>
<tr>
<td>18. Dryden Regional Health Centre</td>
<td>Englehart &amp; District Hospital</td>
<td>Four Counties Health Care Services</td>
</tr>
<tr>
<td>19. Englehart &amp; District Hospital</td>
<td>Espanola General Hospital</td>
<td>GBHS Lion's Head Hospital</td>
</tr>
<tr>
<td>20. Espanola General Hospital</td>
<td>Four Counties Health Care Services</td>
<td>GBHS Southampton Hospital</td>
</tr>
<tr>
<td>21. Four Counties Health Care Services</td>
<td>GBHS Lion's Head Hospital</td>
<td>GBHS Wiarton Hospital</td>
</tr>
<tr>
<td>22. GBHS Lion's Head Hospital</td>
<td>GBHS Owen Sound Hospital</td>
<td>Geraldton District Hospital</td>
</tr>
<tr>
<td>23.</td>
<td>GBHS Markdale Hospital</td>
<td>GBHS Southampton Hospital</td>
</tr>
<tr>
<td>-----</td>
<td>------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>24.</td>
<td>GBHS Owen Sound Hospital</td>
<td>GBHS Wiarton Hospital</td>
</tr>
<tr>
<td>25.</td>
<td>GBHS Southampton Hospital</td>
<td>Geraldton District Hospital</td>
</tr>
<tr>
<td>26.</td>
<td>GBHS Wiarton Hospital</td>
<td>Glengarry Memorial Hospital</td>
</tr>
<tr>
<td>27.</td>
<td>Geraldton District Hospital</td>
<td>Groves Memorial Community Hospital</td>
</tr>
<tr>
<td>28.</td>
<td>Glengarry Memorial Hospital</td>
<td>Groves Memorial Community Hospital</td>
</tr>
<tr>
<td>29.</td>
<td>Grey Bruce Health Services</td>
<td>Haldimand War Memorial Hospital</td>
</tr>
<tr>
<td>30.</td>
<td>Groves Memorial Community Hospital</td>
<td>Haliburton Highlands Health Services</td>
</tr>
<tr>
<td>31.</td>
<td>Haldimand War Memorial Hospital</td>
<td>Hanover and District Hospital</td>
</tr>
<tr>
<td>32.</td>
<td>Haliburton Highlands Health Services</td>
<td>HHHS Minden Hospital</td>
</tr>
<tr>
<td>33.</td>
<td>Hanover and District Hospital</td>
<td>Hôpital Notre-Dame Hospital</td>
</tr>
<tr>
<td>34.</td>
<td>HHHS Minden Hospital</td>
<td>Hôpital régional de Hawkesbury</td>
</tr>
<tr>
<td>35.</td>
<td>Hôpital Notre-Dame Hospital</td>
<td>Hornepayne Community Hospital</td>
</tr>
<tr>
<td>36.</td>
<td>Hôpital régional de Hawkesbury</td>
<td>Huntsville District Memorial Hospital</td>
</tr>
<tr>
<td>37.</td>
<td>Hornepayne Community Hospital</td>
<td>JBGH Attawapiskat Site</td>
</tr>
<tr>
<td>38.</td>
<td>Huntsville District Memorial Hospital</td>
<td>JBGH Fort Albany Site</td>
</tr>
<tr>
<td>39.</td>
<td>JBGH Attawapiskat Site</td>
<td>JBGH Moosonee Site</td>
</tr>
<tr>
<td>40.</td>
<td>JBGH Fort Albany Site</td>
<td>Kemptville District Hospital</td>
</tr>
<tr>
<td>41.</td>
<td>JBGH Moosonee Site</td>
<td>Kirkland and District Hospital</td>
</tr>
<tr>
<td>42.</td>
<td>Kemptville District Hospital</td>
<td>La Verendrye Riverside Health Care</td>
</tr>
<tr>
<td>43.</td>
<td>Kirkland and District Hospital</td>
<td>Lady Dunn Health Centre</td>
</tr>
<tr>
<td>44.</td>
<td>La Verendrye Riverside Health Care</td>
<td>Leamington District Memorial Hospital</td>
</tr>
<tr>
<td>45.</td>
<td>Lady Dunn Health Centre</td>
<td>Lennox &amp; Addington County General Hospital</td>
</tr>
<tr>
<td>46.</td>
<td>Leamington District Memorial Hospital</td>
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<td>Nipigon District Memorial Hospital</td>
<td>NWCH Louise Marshall Hospital</td>
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<td>Northumberland Hills Hospital</td>
<td>NWHC Palmerston and District Hospital</td>
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<td>58.</td>
<td>Notre Dame Hospital</td>
<td>PSFDH Great War Memorial Site</td>
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<td>NWCH Louise Marshall Hospital</td>
<td>PSFDH Smiths Falls Site</td>
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<td>NWHC Palmerston and District Hospital</td>
<td>Quinte Health Care Picton Prince Edward County</td>
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<td>PSFDH Great War Memorial Site</td>
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<td>Quinte Health Care Picton Prince Edward County</td>
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<td>Quinte Health Care Trenton Memorial Hospital</td>
<td>SBGHC Kincardine and District Site Hospital</td>
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<td>Rainy River Health Center Riverside Health Care</td>
<td>SBGHC Walkerton Hospital</td>
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<td>Red Lake Margaret Cochenour Memorial Hospital</td>
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<td>SBGHC Chesley Hospital</td>
<td>Sioux Lookout Meno-Ya-Win Health Centre</td>
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<td>SBGHC Durham hospital</td>
<td>Smooth Rock Falls Hospital</td>
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<td>SBGHC Kincardine and District Site Hospital</td>
<td>St. Francis Memorial Hospital</td>
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<td>SBGHC Walkerton Hospital</td>
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<td>South Muskoka Memorial Hospital</td>
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<td>St. Joseph's General Hospital (Elliot Lake)</td>
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<td>Wingham and District Hospital</td>
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Dear Nurse Manager,

My name is Kerry-Anne Hogan and I am an emergency room nurse and a doctoral student at Queen’s University. I would like to invite you to participate in a research study. This study is a component of my doctoral thesis and will be overseen by Dr. Jennifer Medves, my thesis supervisor. The focus of this study is the sustainability of emergency health care services in rural and small town Ontario. Current research suggests that resources (including human) in rural areas create challenges in maintaining adequate health care services. According to the Ontario Health Coalition, emergency services should be no further than 20 minutes from a person’s home in normal weather conditions and those patients whom are critically ill and are seen and treated within two hours have better outcomes than those counterparts for whom treatment is delayed. Decisions to close small hospitals are often based upon economics and utilization of services rather than demographics. Hospital closures have the potential to compromise emergency services and subsequently patient outcomes.

Attached is a short survey that will assist me in Phase One of my doctoral research project. This first phase of my research is primarily descriptive and will serve to identify hospitals available for the second and final phase of my research. Your survey responses will be aggregated with those of other rural emergency departments throughout Ontario and will be reported and disseminated globally rather than individually. Results of this study have multiple implications.
including describing the current status of rural emergency departments and predictions of how the pending nursing shortage threatens the sustainability of emergency health care services. Through this process, there is the potential to identify means of ensuring adequate education and resources to sustain competency for emergency nurses.

Currently, the first phase of this project involves strictly managers of emergency departments in rural Ontario. This letter and attached survey serves as intent to participate and as stipulated above your responses will be reported confidentially. If you agree to participate in Phase Two of my study, you will be contacted via email and/or telephone to discuss additional details surrounding Phase Two of this study. At that time your approval and willingness to participate will be sought.

This study has been reviewed for ethical compliance by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board and is funded through a PHARE (Public Health and Rural Agricultural Ecosystem graduate scholarship). If you have any questions at this time, please contact me at k.hogan@queensu.ca (or my supervisor Jennifer.medves@queensu.ca).

If you have any concerns about your rights as a research participant please contact Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals REB, Office of Research Services, Room 307, Fleming Hall – Jemmett Wing, Queen’s University, Kingston, Ontario K7L 3N6, or by email clarkaf@queensu.ca, by telephone at 613-533-6081, or fax 613-533-6806.

Upon completion of the survey please place in the enclosed stamped envelope and place in any Canada Post mail box. Should you not wish to participate please complete the final page along with your postal code (this will ensure you will not be contacted again about the same study).

Thank-you in advance for your participation.

Sincerely,

Kerry-Anne Hogan RN MScN, PhD student
Queen’s University
School of Nursing
92 Barrie St
Kingston, Ontario
K7L 3N6
Appendix H Logo

The logo design is unique to this study and was designed by myself and a graphic designer in the UK.

The logo was designed to represent a pillar of the Rural and Northern Health Care Framework developed (and not yet evaluated) by The Ministry of Health and Long Term Care in Ontario. The base of the pillar provides support to the shaft and represents *access* to emergency health care. The idea is once health care is accessed, the care delivery must be done using appropriate resources including qualified health care professionals. The fractured shaft in this pillar represents *resources* as financial and human resources are diminishing. The top of the pillar is called the capital and its function is to support the load; here, it represents *sustainability* as a lack of access and resources compromises the health of individuals and threatens the sustainability of rural and small towns. The piece of wheat signifies rurality. Below I have included the artist’s rendition of what the logo looks like with words on the left, and on the right, the one that you will see on documents about this study.
Appendix I Ethics Approval

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD-DELEGATED REVIEW
July 06, 2011

Mrs. Kerry-Anne Hogan
School of Nursing
Queen's University

Dear Mrs. Hogan

Study Title: NURS-275-11 Sustainability of Emergency Health Care Services in Rural and Small Town Ontario
File # 6006088
Co-Investigators: Dr. J. Medves, Dr. D. Buchanan, Dr. D. Edge

I am writing to acknowledge receipt of your recent ethics submission. We have examined the protocol (June 2011), survey and revised letter of information (July 2011) for your project (as stated above) and consider it to be ethically acceptable. This approval is valid for one year from the date of the Chair's signature below. This approval will be renewed by the Research Ethics Board. Please attend carefully to the following list of ethics requirements you must fulfill over the course of your study:

Reporting of Amendments: If there are any changes to your study (e.g., consent protocol, study procedures, etc.), you must submit an amendment to the Research Ethics Board for approval. Please use the new form: HREC Multi Use Amendment Full Board Renewal Form associated with your post review file # 6006088 on your Researcher Portal (https://researchers.questionnaire.researchethics)

Reporting of Serious Adverse Events: Any unexpected serious adverse event occurring locally must be reported within 2 working days of detection by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information. See Serious Adverse Event Form located within your post review file 6006088 in your Researcher Portal (https://researchers.questionnaire.researchethics)

Reporting of Complaints: Any complaints made by participants or personnel acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint. See all documents supplied to participants must have the contact information for the Research Ethics Board.

Annual Renewal: Prior to the expiration of your approval (which is one year from the date of the Chair's signature below), you will be reminded to submit your renewal form along with any new changes or amendments you wish to make to your study. If there have been no major changes to your protocol, your approval may be renewed for another year.

Yours sincerely,

[Signature]
Chair, Research Ethics Board
July 06, 2011

Investigators please note that if your trial is registered by the sponsor, you must take responsibility to ensure that the registration information is accurate and complete.
QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD

The membership of the Research Ethics Board complies with the membership requirements for Research Ethics Boards as defined by the Tri-Council Policy Statement; Part C, Division 5 of the Food and Drug Regulations, CHRP; and U.S. DHHS Code of Federal Regulations Title 45, Part 46 and carries out its functions in a manner consistent with Good Clinical Practice.

Federalwide Assurance Numbers: #FWA00004184, #IRB00001179

Current 2011 membership of the Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board:

Dr. A.P. Clark, Associate Professor, Department of Biochemistry, Faculty of Health Sciences, Queen's University (Chair)

Dr. M. Abdullah, Professor, Department of Medicine, Queen's University

Dr. R. Blye, Professor, Department of Emergency Medicine, Queen's University

Dr. M. Evans, Community Member

Dr. S. Horgan, Manager, Program Evaluation & Health Services Development, Geriatric Psychiatry Service, Providence Care, Mental Health Services, Assistant Professor, Department of Psychiatry

Ms. D. Morris, Community Member

Dr. W. Race, Emeritus Professor, Department of Pharmacology & Toxicology, Queen's University

Dr. S. Srinivasan, Assistant Professor, Department of Anesthesiology, Queen's University

Dr. A.N. Singh, WHO Professor in Psychiatric Medicine and Psychopharmacology
Professor of Psychiatry and Pharmacology, Chair and Head, Division of Psychopharmacology, Queen's University, Director of Chief of Psychiatry, Academic Unit, Queen's Health Care, Belleville General Hospital

Dr. E. Tsai, Associate Professor, Department of Pediatrics and Office of Bioethics, Queen's University

Rev. J. Warren, Community Member

Ms. K. Webb, L.L.B. and Adjunct Instructor, Department of Family Medicine (Bioethics)
Appendix J Sample Questions

Sample questions for interviews/focus groups

Demographics
- Age
- Years as a nurse
- Years working in ED
- Worked elsewhere/where
- From community
  - If not where and what brought them here
- Extended family in area
- Partner, is yes, employed/employer
- Where do you live
- Where do you shop

- Can you tell me about your community
  - What are the benefits of living here?
  - What are the challenges of living here?
- Can you tell me about your emergency department
  - What services are included in emergency care?
  - What resources do you have?
  - What are some of the benefits of the emergency department?
  - What are some of the challenges?
- Can you provide me with a scenario/situation that was/is challenging?
- Do you require any special skills/education to work in your emergency department?
  - If so, how do you attain this?
  - What are the challenges to continuing education in your department/specialty?
  - In your opinion, what is the best method to enhance skills/education? (delivery)
- Do you think recruitment of qualified nurses is a challenge for rural emergency departments?
  - If no, why not?
  - If yes, how why?
    - How do you think this issue can be resolved?
    - How would you recruit nurses to your area?
- What type of nurse do you think should work in emergency?
- Describe the skill set/experience you think the ideal nurse working in a rural ED should have? Why?
• Describe a novice emergency nurse. Competent. Expert. What are the differences? How do you think one can evolve from novice to expert? How do you think nurses can facilitate this process?

• Can you describe some of the challenges a new employee would have in beginning to work in your department? How can these challenges be dealt with?

• How did you know when you were capable of meeting the challenges in your area? (comfortable/competent)

• Can you share a story/scenario that you felt was exemplary in making you feel as though you ‘could handle’ the challenges of working in a rural emergency department?

• Have you been involved in transferring a patient to a larger more specialized care hospital? Can you give me an example of a situation involving the transfer of a patient? What are some of the positive aspects of working with larger centres? Challenges?

• Sustainability implies that there are adequate resources available to maintain services. Do you feel that your emergency department is sustainable? Why or why not?
  o Your hospital? Why or why not?

• One of the specific factors that threatens sustainability of health care services is the number of qualified professionals. Do you think that with the nursing shortage the lack of available qualified health care professionals threatens emergency health care services in your community? Please elaborate (examples, stories, opinions)
Appendix K  Newsletter of Findings

Sustaining Emergency Health Care Services in Rural and Small Town Ontario

September 2013  A PhD Research Study  Queen’s University

About the study
Sustaining Emergency Health Care Services in Rural and Small Town Ontario

The sustainability of publicly funded Canadian health care services is an ongoing debate. Diminishing financial and human resources compromise access to health care services and threaten the sustainability of rural and small towns. Rural Canadians experience health disparities due to a multitude of modifiable and non-modifiable factors including the limited number of services that are available in their communities. Barriers including long travel distances, inclement weather conditions, lack of accessible methods of transportation, and limited health care resources further impose health risks to rural residents and limited access to appropriate resources leave rural residents vulnerable to poorer health outcomes than their urban counterparts. Canadians are entitled to accessible health care services, meaning essential services (including emergency care) should be accessible to all Canadians within a reasonable timeframe. In the current context of health care spending, limited funding resources threaten access to health care services for all Canadians; however if

Rural hospitals are not mini-urban centres but are unique health care entities

services are being under-utilized or not used fully, rural residents are particularly vulnerable to loss of services. This research study was guided by a belief that sustainable health care services must be available and accessible to rural Ontarians within a reasonable time period and link with the provision of quality care by qualified and competent health care professionals.

As you may recall...

In the fall of 2011 your emergency department manager received a 13 question survey asking general questions about your emergency department, your nursing staffing patterns, vacancies, and your community.

This survey was Phase One of two in a mixed methods research study seeking information to develop a proactive approach to identify the needs of rural communities in order to ensure emergency services are not compromised.

I am very pleased to report that with an overall response rate of 96% the results are in!

The survey also asked if you department was willing to allow me to meet with your staff and observe your processes in order to better understand how rural emergency departments functions and what their unique needs are. An amazing 88% of those who responded were interested in having me visit!

If you would like a full version copy of this thesis, please email me
k.hogan@queensu.ca

Queen’s University
Overall Findings

During the second phase of my study, I spent time observing and speaking with emergency staff, and living in three different rural communities in south-western, eastern, and northern Ontario.

- Rural community had access to emergency health care services
- The best and worst part of living and working in your community is caring for friends and family
- Team members need to be a right fit
- A lack of an ICU meant critical patients required transport, which taxed resources
- In order to provide quality care, and stay working in the department, nurses were able to distinguish between their needs and their wants
- Needs were the ability to obtain and maintain skills, have safe and functioning equipment, and access to resources.

- **Wants** were recognition, a supportive work environment, a minimum guarantee of a 0.6 FTE, and paid education
- The need to have up-to-date skills, feel competent, and supported was associated with job satisfaction
- Nurses who were rushed through or improperly mentored were more likely to leave the ED
- Two predictors of nurse retention and subsequent sustainability of an ED were community viability and organizational leadership
- Rural communities experience vulnerability, in that the loss of one resource could be detrimental to their overall self-sustainability
- RPNs are best suited in a high volume ED
- Recruitment strategies should be proactive and target those living in the community

Survey Results

- The majority of emergency departments were located in towns with less than 6,000 residents, had 10-22,000 patient care visits, and were located less than 100 km's from a tertiary care facility
- 65% had vacancies for RNs with 84% being for part-time work. 73% had ongoing recruitment challenges
- 37% employed RPNs
- 69% were concerned the nursing shortage would affect their ED
- 57% do not have adequate resources to educate nurses and 76% said nurses had to travel for education, with only 26% of EDs having adequate staff to cover this time off
- 72% were open to hiring a newly graduated nurse, these departments relied heavily upon government incentives to support mentorship time
- Health care was reported as the highest ranking area of employment (87%) in rural Ontario, followed by agriculture (73%) and manufacturing (61%)
- 56% percent of communities were sustainable, which means the needs of the residents can be met

Recommendations

Hospital administrators allocate funds to maintain resources, including skill development for nurses

Advocate for government funds to be directed towards rural health care in the development of professionals including youth living in rural communities

Hogan’s Model of Rural Emergency Health Care Sustainability

This model represents the findings of this study. Once services are accessed they need to be provided by qualified health care professionals who have available resources. These two concepts are required to ensure sustainability of services, but sustainable services are also dependent upon external factors including organizational leadership and community viability.
Appendix L Sample Newsletter Sent to Study Sites

Research Study

Name of Hospital

May 23-June 5, 2012

About the study

Sustaining Emergency Health Care Services in Rural and Small Town Ontario

The sustainability of publicly funded Canadian health care services is an ongoing debate. Diminishing financial and human resources compromise access to health care services and threaten the sustainability of rural and small towns. Rural Canadians experience health disparities due to a multitude of modifiable and non-modifiable factors including the limited number of services that are available in their communities. Barriers including long travel distances, inclement weather conditions, lack of accessible methods of transportation, and limited health care resources further impose health risks to rural residents and limited access to appropriate resources leave rural residents vulnerable to poorer health outcomes than their urban counterparts. Canadians are entitled to accessible health care services, meaning essential services (including emergency care) should be accessible used fully, rural residents are particularly vulnerable to loss of services.

This research is guided by a belief that sustainable health care services must be available and accessible to rural Ontarians within a reasonable time period and link with the provision of quality care by qualified and competent health care professionals. The goal of this research is to develop a proactive approach to identifying the needs of rural communities in order to ensure emergency services are not compromised.

Hi! My name is Kerry-Anne Hogan and you will be seeing me in your emergency department from May 23-June 5. I am very excited to be in [town] for this short time period. I am a PhD Nursing student from Queen’s University and am doing this study as part of my degree. I am an emergency nurse working in emerg at a community hospital in Ottawa and I also teach part-time at UOttawa. I am a happily married mom with three VERY busy children, Emily (13), Ben (12), and Julia (10). In my spare time, I enjoy crocheting and hiking in the woods with my dog Kylie. Having my own ‘rural roots’, nursing in rural emergency departments is a topic that is very passionate to me. I am looking forward to meeting all of you and hearing your stories.

k.hogan@queensu.ca
Why [name of hospital]?

My study began with a survey that I developed based upon literature about rural hospitals and rural nursing. My survey explored issues such as staffing patterns, retirement, vacancies, and community variables. Through this survey I was able to identify three sites that were similar in some areas and different in others.

I will be using case study methods to conduct this phase of my study. [name of hospital] is not my only study site. In addition to [town], I will be living and conducting my data collection in another rural community in Southern Ontario, and travel frequently to a small hospital in Eastern Ontario. Data from all three sites will be analyzed and findings will be shared in a manner that maintains anonymity. I feel honored to be able to come to [town] (although I will miss my family). I am looking forward to meeting all of you and enjoying all the community has to offer. As I will be living in the community during my time with you, please feel free to recommend local attractions that may be of interest to me.

What do I want to know?

What are some of the advantages of living and working rural?
Do you live here? What made you choose to work in a rural emerg?
Are you challenged? Are you satisfied? How do you get education?
Are there any barriers here? What are the benefits of living here? Can you meet all of your needs in this community?
And lots more.....

How can you help?

You can share your stories and ideas with me when I am visiting. We can meet for an individual interview. If you have a few friends and want to chat together, we can have coffee and share ideas/stories. Please email me.

This study has been approved by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board and is supported by PHARE (Public Health and Rural Ecosystems) at the University of Saskatchewan and the Queen's Graduate Scholarship program.

What is the Case Study Research Method?
Case study is a research method which allows for an in-depth examination of events, phenomena, or other observation within a real time context. The data collected can be used to provide a comprehensive description of the 'case', and/or be used for theory development and testing, or as a tool for learning. Case study research is useful in this context because it will provide rich, raw material which will be used to advanced theoretical ideas, such as how to sustain emergency health care services, using context-dependent knowledge rather than purely theoretical knowledge and present these findings to major stakeholders.

The logo design is unique to this study and was designed by myself and a graphic designer in the UK. It was designed to represent a pillar of the Rural and Northern Health Care Framework developed (and not yet evaluated) by MOHLTC. The base of the pillar provides support to the shaft and represents access to emergency health care. The idea is once health care is accessed, the care delivery must be done using appropriate resources including qualified health care professionals. The fractured shaft in this pillar represents resources as financial and human resources are diminishing. The top of the pillar is called the capital and its function is to support the load; here, it represents sustainability as a lack of access and resources compromises the health of individuals and threatens the sustainability of rural and small towns. The piece of wheat signifies rurality.