Planning for Rural Emergency Services in British Columbia

An Analysis of Access Standards for Acute Care Services

Report prepared for:
Val Stevens, Director, Performance Accountability (IHA)
Health Authorities Division
BC Ministry of Health Services

Report prepared by:
Jessica Hartog
School of Public Administration
University of Victoria
December 2009

EXECUTIVE SUMMARY

In 1999, the Canadian Institutes for Health Research (CIHR) emphasized that "Rural health studies must not be seen as an outgrowth of urban-based research and must not be regarded as something that can be conveniently subsumed under other areas of health research" (Pong et al., 1999, p. 6). In several jurisdictions across Canada, the traditional understanding of rurality is changing, as 'rural' is no longer necessarily considered to be the opposite of 'urban. Rural and remote communities are being increasingly understood in terms of their unique attributes, and these changes have initiated changes to the way that health services are delivered to sparsely populated areas. "Rural health programs need a deliberate spur, a defined program, a definitive identify, and dedicated funding to overcome past benign neglect" (Pong et al., 1999, p. 12).

In British Columbia, integrated rural planning initiatives are underway within the regional health authorities to identify critical service delivery issues and to develop strategies to ensure that the province is able to meet the health needs of rural populations. Planning for acute care services in health authorities is grounded in provincial standards of accessibility that rationalize health services and ensure that the delivery of health care is "anchored in a credible and rational framework that ensure sustainability and quality of care for BC residents" (BC Ministry of Health Services, 2004, p.3).

Recent changes to service levels and configurations, in addition to budget constraints and health human resource challenges, have resulted in a number of concerns being raised by the public, the health authorities, and the Ministry of Health Services regarding the availability of and access to services in rural and remote communities throughout the province. Health authorities have expressed the need to define and clarify provincial expectations for the access to facility-based emergency services in rural areas. In response to these concerns, the Ministry created the *Rural Emergency Services Working Group* to clarify expectations for health authorities and to identify effective and sustainable service models to support the attainment of provincial standards of accessibility.

This project was initiated as a result of these concerns, and the results are expected to complement and support the work undertaken by the *Rural Emergency Services Working Group.* The overarching goal of the project is to develop a framework to define the types and levels of services that are provided in rural emergency facilities throughout BC, and to make recommendations to clarify and articulate the provincial standards of accessibility.

This report begins by setting out a detailed background to establish a context by providing an account of the current landscape of facility-based emergency service delivery for rural and remote communities in BC. The background section examines health human resource issues, the provincial standards of accessibility, and the accountability structures and mandate of the *Rural Emergency Services Working Group.*

The background section is followed by a literature review, which seeks to understand past and current systems affecting the delivery of facility-based emergency services in rural and remote

communities. The literature review begins by examining various definitions of 'rural', and provides an overview of rural populations and legislative and regulatory policy development that governs the provision of health services in Canada. The literature review then examines some of the various challenges affecting the delivery of emergency services including health human resources and geographic barriers, and finally investigates some solutions that have been explored to address those challenges.

The next section of the report consists of a cross-jurisdictional survey on the delivery of rural emergency services in Alberta, Saskatchewan, Ontario, the Yukon, and the Northwest Territories. The subsequent analysis examines definitions of the terms 'rural' and 'remote', and reports on facility designation and access standards, service delivery challenges, evaluation initiatives, and solutions. Analysis of survey responses led to the following key conclusions:

- Naming conventions for emergency facilities are inconsistent across provinces and territories
- The delivery of facility-based emergency services are often fragmented
- Jurisdictions across Canada face similar challenges related to sparse geographies, and health human resources
- Solutions and strategies specific to resolving service delivery issues for the delivery of rural health services are primarily oriented around transportation, and recruitment and retention
- Evaluation and performance monitoring is an underdeveloped component of rural service delivery programs
- The possibility of using nurse practitioners to manage gaps in service is being explored in several jurisdictions in Canada.

Based on the results of the literature review, advice from the *Rural Emergency Services Working Group*, and the cross-jurisdictional survey, this component of the project proposes a *BC Rural Emergency Facility Classification Framework.* The framework develops five categories for rural emergency facilities. The criteria for the framework includes hours of service, staffing configurations, the availability of acute care beds, lab and diagnostics services, highway signage, and the availability of supplemental services such as obstetrics and surgery.

Recommendations are presented in three thematic areas:

- Implementing the proposed *BC Rural Emergency Facility Classification Framework*
- Revising the Access Standards
- Creating a Provincial Rural Planning Committee

The report recommends that the Ministry proceed with implementation of the *Rural Emergency Facility Classification Framework* that is proposed for British Columbia to standardize naming conventions for all rural emergency facilities. Based on the categories developed in the framework, this report suggests that 98% of residents in every health authority, and 95% of residents within each health service delivery area, should be able to access an emergency facility where a physician is on-call on a twenty-four hour, seven day a week basis, within a one hour travel time from their residence. Additionally, it is recommended that the framework be used to guide revisions to the appropriate sections of the provincial standards of accessibility, and that

the implementation of the framework be supported through the management of public expectations, and coordination with other Ministries.

Table of Contents

1. Introduction

The British Columbia Ministry of Health Services (the Ministry) needs a provincial strategy to support access to facility-based emergency services in rural and remote communities. Regional health authorities have raised concerns regarding the ambiguities that exist in the provincial *Standards of Accessibility and Guidelines for Provision of Sustainable Acute Care Services by Health Authorities* (The Access Standards). Health authorities are seeking provincial guidance to determine the minimum types and levels of service that must be provided to rural and remote communities to satisfy the provincially mandated Access Standards.

This research project identifies the primary challenges affecting the access to facility-based emergency services to rural and remote areas, surveys the perspective of other Canadian jurisdictions, and makes recommendations for the Access Standards. The purpose of this report is to present a framework to name and categorize rural emergency facilities based on the types and levels of service that are offered. The framework has been developed based on evidence from literature, advice from a provincial working group, and the findings of the national cross-jurisdictional survey. The overarching objective of this research is to contribute to work that is in progress to improve provincial consistency with respect to naming conventions as well as the types and levels of services that are offered in emergency facilities in rural and remote communities throughout BC. A secondary objective of this report is to make recommendations on the revisions to the Access Standards, and to identify future directions for rural and remote initiatives.

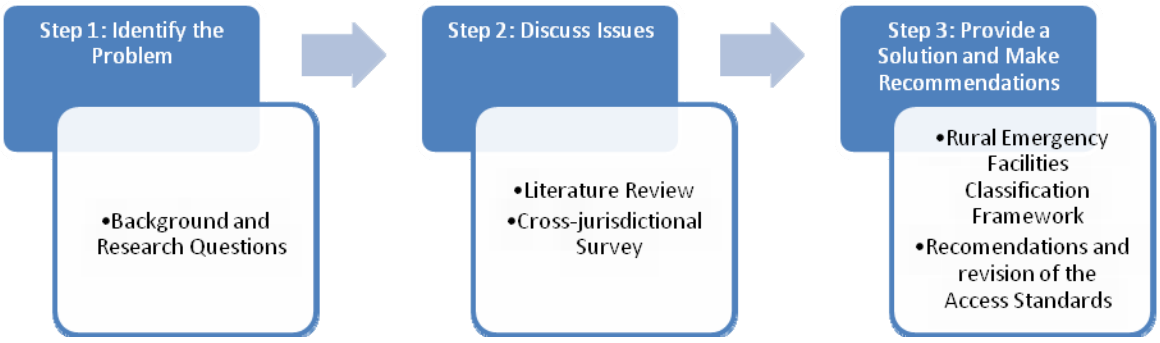
This research involved three distinct phases. The first phase establishes the context, and provides a discussion of issues affecting the delivery, of health services to rural and remote communities. The second phase focuses on identifying a solution to the issues that have been identified. The final phase involves the development a series of recommendations to address the issues and implement the proposed solution. These objectives were met through five primary deliverables, as requested by the client:

> *Background and Research Questions:* The project begins with a description of the BC context, and the identification of the issues that will be addressed throughout the course of the report. The problem identification stage also reveals the research questions that will guide the balance of the report. Additionally, this section will introduce the Access Standards, and detail where clarifications and revision are required.
>
> *Literature Review:* The review begins by defining rural communities, and provides an overview of recent developments in rural health care policy in Canada. The literature scan also examines the role of clinical professionals in rural environments. Additionally, the literature review examines definitions of what constitutes “emergency services”, and identifies common challenges and barriers that impact service delivery.
>
> *Cross-jurisdictional Survey:* A cross-jurisdictional survey was conducted with Canadian provinces and territories. The results of the survey were analyzed to identify trends and developments in the results.

Facility Classification Framework: The framework defines and names the types and levels of service provided at rural and remote facilities in BC. The framework includes a detailed description of each level of services based on hours of operation, staffing configurations, laboratory and diagnostics, and additional services offered.

Recommendations: Recommendations based on the literature review, the cross-jurisdictional survey, and the development of the classification framework suggests measures to ensure the successful implementation of the framework. Additionally, the recommendations propose appropriate modifications for the Access Standards.

The following diagram illustrates the phases of the research process, and the deliverables that are associated with each phase:



The report is structured as follows: The first section introduces the BC Ministry of Health Services and identifies that problem and the research questions that will guide the report. The second section establishes a context for the paper by providing essential background information, identifying the guiding research questions. Section three provides a detailed description of the research methodology. Section four consists of a scan of the literature. Section five summarizes and analyzes the findings from the cross-jurisdictional survey. Section six presents the *Rural Emergency Facility Classification Framework*, and describes the criteria that were applied to develop the framework. The final section will make recommendations for the implementation of the framework and the Access Standards, based on the findings of the literature review and cross-jurisdictional survey.

1.1 Client – BC Ministry of Health Services

The BC Ministry of Health Services is responsible for the delivery of publicly funded, quality health services throughout the province. Strategic planning and program development at the Ministry is guided by two primary goals:

> **Goal 1: High Quality Patient Care.** Patients receive appropriate, effective, quality care at the right time in the right setting. Health services are planned, managed and delivered in concert with patient needs.
>
> **Goal 2: A Sustainable, Affordable, Publicly Funded Health System.** The public health system is affordable, efficient, and accountable with governors, providers, and patients taking responsibility for the provision and use of services
>
> (Ministry of Health Services, 2009, p. 10 & 16)

Under provincial stewardship, health services are delivered by BC's six health authorities. Five regional health authorities are responsible for the delivery of a wide range of services, including facility-based emergency care, within their respective boundaries. Geographic boundaries further subdivide health authority regions into smaller Health Service Delivery Areas (HSDAs), and Local Health Areas (LHAs). A sixth provincial health authority is responsible for the coordination and delivery of province-wide services and programs. The six health authorities are funded by the Ministry, and performance expectations are managed through the Government Letters of Expectations between Government and each health authority, which are modified and amended according to government priorities on an annual basis.

The delivery of facility-based emergency services falls under the purview of each of the regional health authorities. Health authorities are often faced with service delivery challenges with respect to the provision of facility-based emergency services. Fiscal constraints, the growing scarcity and maldistribution of health human resources, and significant geographic obstacles are some of the primary challenges affecting the delivery of rural health care services.

These challenges have prompted the Ministry to review and consider the revision of the provincial Access Standards that serve as a guide for the delivery of all acute care services. Some of the regional health authorities are in the process of developing comprehensive rural health plans to ensure that sustainable levels of service can be maintained in rural and remote communities. The Ministry plays a pivotal role in facilitating consistency with respect to the types and levels of service available in the province. To ensure that planning initiatives are consistent throughout the province, the Ministry formed a Rural Emergency Services Working Group in January 2009 to clarify the Access Standards and to identify sustainable service delivery models for small rural communities.

1.2 Problem Definition and Research Questions

The imminent and pressing challenges being faced by health authorities have resulted in changes to how services are configured, and reductions to service levels in some rural and remote facilities throughout the province. As a result, the Ministry is confronted with two significant objectives: First, the Ministry must specifically define what constitutes "emergency services". The second objective is to establish the minimum acceptable level of facility-based emergency services that can reasonably be expected by British Columbians.

The delivery of facility-based emergency services is guided by the Access Standards; however, several ambiguities with respect to the way the standards are presented have resulted in variation in how they are interpreted by the health authorities. Recent concerns expressed by the health authorities have indicated that there is a need for provincial clarification of the standards. As a result, the Access Standards are being reviewed by the provincial *Rural Emergency Services Working Group* (the Working Group). The Working Group will provide expertise, research best practices, and provide feedback on the development of the *Rural Emergency Facility Classification Framework*. The members of the Working Group are clinical professionals and administrators from each of the five regional health authorities, and act as a liaison between the Ministry, and the groups responsible for rural and acute care planning within their respective health authorities.

The research for this project was initially guided by two primary questions. First, what are the minimum levels of facility-based emergency services that British Columbians living in rural and remote communities can reasonably expect to receive? Second, how can the Access Standards be revised to provide clearly articulated directives with respect to what types and levels of service health authorities are expected to provide in rural and remote communities throughout the province?

2. Background

This section will provide a contextual background of issues impacting access to emergency health services in rural and remote communities in BC. In particular, this section will provide a detailed introduction to the Access Standards, and will discuss current naming conventions for rural emergency facilities, health human resource challenges, and the specific solutions that have been developed to address some of the barrier affecting access to emergency service in rural areas throughout the province.

2.1 The Access Standards

The Access Standards are used to guide and rationalize acute care services in BC in order to ensure that each health authority is providing the most appropriate services, given the resources that are available to them. "These provincial standards are generally applicable outside the major urban areas in BC, covering emergency services, acute inpatient services, and specialty services" (BC Ministry of Health, 2004, p.5).

With respect to emergency services, the Access Standards specifically state that:

- Access to emergency service must be provided on a 24/7/52 basis within a one hour travel time for 98% of residents within each health authority, and 98% of residents in each HSDA (p. 5)
- Emergency Services may be provided at diagnostic and treatment centres, health centres, a group practice, or a group of practices
- Emergency services indicates the availability of 24 hour call, minor treatment, triage, and stabilization

Additionally, it should be noted that access to services is based on aerial distances. "Aerial distance refers to a straight-line distance (as the crow flies)" (p. 10). The current standards do not consider weather conditions, terrain or geography, and may not accurately reflect driving times. The language used to define and describe emergency service standards is unclear, and the standards have been inconsistently applied within health authorities.

2.2 Naming Conventions for Emergency Facilities

There are a variety of terms used to describe the range of services offered in rural and remote emergency facilities in BC. Naming conventions for the different types of facilities have not been legislated at the provincial level, with the exception of the *Hospital Act*, which is limited to hospitals, and provides only broad legislative parameters to define facilities designated as hospitals. Section 1 of the *Hospital Act* states that a hospital:

> "Means a non-profit institution that has been designated as a hospital by the minister and is operated primarily for the reception and treatment of person

(a) suffering from the acute phase of illness or disability
(b) convalescing from or being rehabilitated after acute illness or injury, or
(c) requiring extended care at a higher level than that generally provided in a private hospital licensed under Part 2"

(BC Hospital Act, 2009)

This limited statutory guidance has resulted in inconsistencies with respect to the naming of facilities across health authorities. For instance, some facilities are called hospitals but have no inpatient beds and may or may not offer twenty-four hour, seven day per week emergency services. Conversely, some facilities are not called hospitals, but provide full emergency services and inpatient beds. Currently, the following terms are the ones used most often, though inconsistently, to name facilities providing emergency services in rural communities in BC:

i. Regional Hospitals
ii. Community Hospitals
iii. Community Health Centres
iv. Diagnostic and Treatment Centres
v. Outposts/Nursing Stations

These naming conventions are inconsistent with the current Access Standards, which state that "Emergency services may take the form of a diagnosis and treatment centre, a health centre, a group practice, a group of practices, or a larger inpatient facility. In remote areas, Red Cross outpost Hospitals and Federal Nursing Stations may provide these services" (2004, p. 5). The Working Group is expected to clarify and define the nomenclature used in the Access Standards to ensure consistency with respect to the way that terms are applied across health authorities.

Currently, there are evident contradictions with respect to the way that emergency services have been defined by the five regional health authorities, and the levels of service that are offered in "emergency" facilities across the province. In general, discussions with the Working Group have concluded that the term "emergency services" implies physician on-call coverage on a 24/7/52 basis. However, there are many facilities that are integral components to the province's emergency service configuration but are unable to offer 24/7 physician coverage. These facilities rely on the use of either registered nurses or nurse practitioners (NPs) to meet the levels of service that are prescribed in the Access Standards. In some cases, physician services will be offered at these facilities during specified clinic hours.

2.3 Health Human Resources – Physicians

In response to some of the persistent issues related to physician recruitment and retention in rural regions, the Joint Standing Committee on Rural Issues (JSC) was formed in 2002. The JSC operates under the terms of the Rural Subsidiary Agreement (RSA) between the BC Ministry of Health Services and the British Columbia Medical Association (BCMA). The JSC's mandate is "[t]o enhance the availability and stability of physician services in rural and remote areas of British Columbia by addressing some of the unique demanding and difficult circumstances attendant upon these physicians and by enhancing the quality of the practice of rural medicine"

(Joint Standing Committee on Rural Issues, 2004, p.1). The committee's membership is equally balanced between five members from the Ministry, and five from the BCMA.

A series of programs in BC have been developed to specifically address issues related to the recruitment and retention of physicians to rural areas with direction from the JSC. The JSC is responsible for dissemination of approximately $69 million annually, provided by the Ministry of Health Services, which is allocated to a variety of the incentive programs that are administered through the RSA.

Additionally, the Medical On-Call/Availability Program (MOCAP) was created to address gaps in continuous and sustainable on-call coverage by providing funding to ensure that physicians are available. The primary purpose of MOCAP is to 1) meet the needs of patients requiring emergency care by providing continuous coverage in various types of facilities; 2) to meet standard of care of response to emergency on-call; 3) To ensure on-call coverage results in a sustainable work load for physicians; 4) To ensure that physicians providing coverage as part of a call rotation are appropriately compensated for providing this services, and 5) To address gaps in coverage using innovative solutions that are consistent with program requirements (BC Ministry of Health Services, 2004). The intention of MOCAP is to provide funding to ensure that physicians are available. This program is especially important for the provision of emergency services in rural and remote locations that have difficulties meeting the minimum requirements of acceptable access to care.

In 2008, an external review of BC's rural practice incentive programs was conducted by Harbour Peaks Management Inc. The report assessed BC's rural programs in comparison to those from other provinces in Canada and provided 90 recommendations to the JSC. The report noted that "[w]hile non-financial factors are now the strongest determinants of rural physician recruitment and retention, financial incentives still play a role in ameliorating the extra burden placed on rural and remote physicians" (Harbour Peaks Management Inc., 2008, p.2). However, the report also found that five of the nine primary recruitment and retention plans are principally concerned with financial incentives.

The report recommended that a number of new directions be taken by the JSC with respect to physician recruitment and retention planning initiatives. The key recommendations included: 1) working on planning initiatives in concert with the BC Ministry of Education to increase the number of students from rural communities enrolled in medical school; 2) refining and enhancing the criteria used to define rural communities; 3) programs should be developed in collaboration with UBC's Northern Medical Program; and 4) enhancements to several funding programs.

The development of frameworks intended to address physician maldistribution "requires cooperation between physicians, communities, hospitals, medical schools, medical associations, and governments" (Rourke, 1993, p. 1281). Recruitment and retention programs in BC have focused heavily on financial incentives, often to the detriment of other equally important factors, such as education, skill maintenance, and personal life considerations.

2.4 Health Human Resources - Nurses

In British Columbia, challenges related to the shortage and maldistribution of nursing professionals has been addressed through a number of initiatives, specifically designed to accommodate unique rural contexts. First, the recent development of new nursing certifications can help to broaden the scope of practice for registered nurses (RNs) practicing in increasingly autonomous rural environments. Second, the expanded use of Nurse Practitioner is being explored as a means of complementing the role of physicians and other health care professionals in many settings including rural and remote emergency care.

In recognition of the unique context in which rural and remote nurses operate, professional certification programs have been developed to maximize the utility of nursing professionals within their existing scope of practice. The College of Registered Nurses of British Columbia (CRNBC) recently introduced certified practices for RNs. For instance, the Nurse First Call certification provides RNs with the clinical skills and practice support to work in smaller acute care hospitals where a physician is available in the community (CRNBC, 2008). Nurses with a CRNBC RN First Call certification are able to diagnose disease and disorders related to the eye, ear, nose and throat, as well as issues affect the urinary tract.

In addition to the RN First Call certification, the CRNBC has introduced a specialized certification for Remote Nursing Practice. The Remote Nursing Practice certification provides nurses with skills that are necessary to practice in a community where there is inconsistent or periodic physician availability in the community. Under this advanced scope of practice, remote certified nurses are able to diagnose and treat minor acute illnesses, diagnose and treat sexually transmitted diseases, provide birth control, and suture wounds independently (CRNBC, 2009). Remote nursing certifications are increasingly used in British Columbia as a mechanism to regulate a broader scope of practice for RNs working in communities where there is no resident physician or nurse practitioner, or where there are only periodic visits from primary care health providers. Nurses certified in Remote Nursing Practice have a more expanded scope of practice than RN First Call-certified nurses, and are able to diagnose and treat reproductive health issues, eye disorder, ear-nose-throat disorders, respiratory diseases, skin diseases and disorders, and are able to help with pain management.

New professional certifications have also been developed through university-level nursing programs and courses that focus on the rural and northern nursing context. A *Rural Nursing Certificate Program,* developed in 2005, is being implemented through the University of North British Columbia. The 30 credit post-RN program offers a series of courses to prepare nurses for employment in rural communities. These courses include chronic disease management, wound care and palliative care, critical care, emergency and trauma, and mental health and addictions (BC Rural and Remote Health Research Network, 2009).

Another notable initiative used to address the unique context of rural nursing practice in BC is the development of advanced practice nursing roles, and more specifically the increasing popularity and integration of NPs in health care settings. There has been increased interest in

recent years in examining the feasibility of using a nurse practitioner as an alternative to a physician in under serviced regions. "The nurse practitioner is an advanced practice nurse who is able to go beyond the basic care given under the direction of a physician and who can function autonomously" (Roberts, 1996). NPs do not replace physicians or any other health care provider in practice settings, but rather their expertise is meant to complement the roles of health care team members. "NPs work autonomously, from initiating the care process to monitoring health outcomes, and they work collaboratively with other health care professionals" (Canadian Nurses Association, 2008, p.1).

2.5 First Nations Health Services

In BC, the delivery of emergency services is generally a provincial responsibility, which is regionally delivered by the health authorities. However, health services for aboriginal communities are governed by a number of different relationships and agreements that differ from those of the rest of the province, and do not fall under the sole jurisdiction of the regional health authorities. Health services are delivered to First Nations communities through a combination of federal, provincial, and First Nations-run programs.

In 2005, the ten year *Transformative Change Accord: First Nations Health Plan*, was signed and endorsed by the BC First Nations Leadership Council and the Province of British Columbia. The primary purpose of the Accord is to focus on bridging the gaps in health outcomes between aboriginal people and other British Columbians. The Accord specifically addresses the delivery of emergency services in several ways. For example, it proposes the construction of new health centres to deliver emergency services in aboriginal communities, and the creation of local maternity access programs to reduce the need of aboriginal women living in rural communities to travel to urban emergency departments to deliver babies and receive emergency care.

Subsequent to the creation of the Accord, the *Tripartite First Nations Health Plan* was created in 2007 to outline the relationships and responsibilities related to the delivery of health service between the First Nations Leadership Council, the federal Government of Canada, and the provincial Government of British Columbia. The plan outlines specific governance structures, visions, and principles to guide the delivery of health services to aboriginal communities. The Plan explicitly states that "health services delivered by First Nations, when appropriate, will be effectively linked to and coordinated with provincially funded services, such as those delivered by the regional health authorities" (2007, p.3). Currently, the Ministry of Healthy Living and Sport's Aboriginal Healthy Living Branch is responsible for "work[ing] with the health authorities to ensure that planning process meet the needs of Aboriginal peoples and that their services are delivered in a culturally appropriate way" (BC Ministry of Healthy Living and Sport, np.)

3. Research Methodology

The methodology for this report involves three distinct components. First, a literature review identifies overarching trends and themes related to the delivery of facility-based emergency services. Second, a cross-jurisdictional survey of Canadian provinces and territories provides a national perspective of rural services delivery challenges and solutions. Finally, the Rural Emergency Services Working Group provides expertise and advice throughout the development of the *Facilities Classification Framework*.

3.1 Literature Review

The literature review draws from a wide range of resources, including government, academic, and business sources that address a breadth of issues related to the delivery of health services to rural and remote communities. Each source must satisfy two requirements in order to be applicable to the Canadian context. First, the country or jurisdiction being studied or presented must have been shown to be facing similar geographic challenges as Canada as a result of sparse, geographically distant populations. Second, the source must specifically address challenges and solutions for rural health care in the context of a publicly funded health care system. Additionally, only articles, studies and government documents from English speaking countries were considered for this research. As a result, the majority of sources consulted are from Canada, Australia, and New Zealand, and to a lesser extent, the United Kingdom. Sources from the United States have been considered, however these sources have only a limited application to the Canadian context due to the predominant focus on user pay health systems, and significant differences with respect to population density significantly alters the applicability of these sources to the Canadian context

3.2 Cross-jurisdictional Survey

Structured telephone and email interviews were conducted with a total of six Canadian provinces and territories. The survey is included as Appendix A. Participants were identified based on their titles and positions. Additional assistance was provided by intergovernmental relations departments at various provincial and territorial health ministries and departments. The objective of the interviews was to develop an understanding of what challenges other provinces are facing in terms of the delivery of facility based emergency services, and to look at some of the policy frameworks, legislation, and regulations that have been implemented to address those challenges.

An email invitation and a consent form were sent to 20 potential participants (Appendix B). Responses were received from three provinces and two territories and a total of six consent forms were signed. The analysis of the results represents the perspectives of the western provinces and northern territories that are facing similar challenges with respect to the way that populations are sparsely distributed over large geographic spaces. Signed consent forms were

returned to the researcher to confirm the participants' understanding of how the results would be presented. The survey covers a breadth of material and in some cases it was necessary to consult with more than one participant to obtain answers to all of the questions. Survey respondents provided either a written response to the questionnaire, or they participated in a phone interview. In some cases, supplemental written information was provided by the survey respondents to offer more specific and technical background to the survey questions. The final group of participants included respondents from Alberta, Saskatchewan, Ontario, Newfoundland, the Northwest Territories, and the Yukon.

Several provinces did not respond to invitations, or were unable to obtain consent to participate in the survey. As a result of the current economic situation, resources in many provincial health organizations have been reduced. In some cases, limited human resources bases made it difficult for health administrators to find the time to respond to the survey. As a result, Manitoba, Newfoundland, New Brunswick, Quebec, Nunavut, and Prince Edward Island were not included in the scope of research for this project.

Upon the completion of each interview, notes were recorded based on the information provided by respondents. In many cases, additional documents, including legislation, regulatory frameworks, and population projections were provided by the respondents to provide an in depth understanding of some of the topics that were covered in the questionnaire. Key themes and challenges were identified in the analysis.

3.3 The Rural Emergency Services Working Group

The *Rural Emergency Services Working Group*, chaired by the Ministry of Health Services (Health Authorities Division), provides an essential link between the Ministry and the regional health authorities. The working group is comprised of several rural emergency department physicians, clinicians, and operational and administrative representatives from each health authority, as well as staff from various program areas at the Ministry of Health Services. Secretariat and research support for the group is provided by Ministry staff.

The working group meets on a bi-monthly basis to provide advice and expertise on research undertaken by the Ministry secretariat. Additionally, group members provide ongoing support to the Ministry by providing information and data as requested by the secretariat. The group is accountable to the Ministry of Health Services and to health authorities through the Acute Care Council.

> The scope of the group's work as defined by the Terms of Reference (P. 1) is as follows:
>
> "The group will provide recommendations to the Ministry of Health Services on the following aspects of rural emergency services:
>
> 1) Definition of "emergency services" for purposes of the Access Standards
> 2) Minimum type and level of services required to meet the Access Standards for emergency care

3) Service delivery models that can be used to deliver those minimum services, and which are appropriate and sustainable in small rural communities
4) Other standards of guidelines that are needed for consistent application of the Access Standards across health authorities".

This report is expected to contribute to deliverables directly related to the definition of emergency services, the establishment of standards related to minimum types and levels of services, and the development of supplementary guidelines for the consistent application of the Access Standards. The development of service delivery models will be informed by the findings and recommendations contained in this report, however the service delivery models themselves extend beyond the scope of this project.

4. Literature Review

The literature review examines trends and challenges confronted by health service providers in the context of the delivery of facility-based rural emergency services. The review sets the context for the subsequent analysis and recommendations. The review begins by examining how the term 'rural' has been defined in the literature, and provides an overview of the legislative landscape governing and regulating rural health care in Canada. Additionally, the review considers challenges that have emerged with respect to health human resources, and solutions that have been explored to bridge the gap between urban and rural. Finally, it examines naming and facilities designation conventions for emergency facility from Canada, and internationally.

4.1 Defining Rural

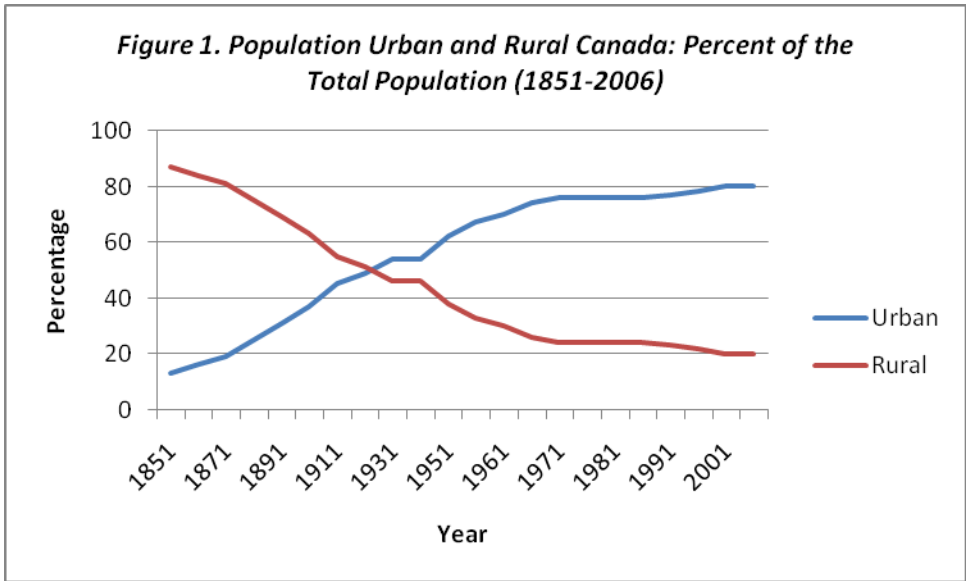
In *The Distinctive Nature and Scope of Rural Nursing Practice,* Jane Scharff writes that, "being rural means being a long way from anywhere, and pretty close to nowhere" (2006, p.181) There is no nationally accepted definition of what constitutes a 'rural' or 'remote' community in Canada. Statistics Canada acknowledges that several competing definitions of 'rural' are used in the development of national policy in Canada, and that the definition that is used should consider the context of the analysis. "Much has been written on the concept of 'rural'. The treatises of alternative views are numerous and varied. One longstanding debate is whether rural is a *geographic concept*, a location with boundaries on a map, or whether it is a *social representation*, a community of interest, a culture, a way of life" (Statistics Canada, 2001, p.4).

Statistics Canada advocates for an emphasis on geographical factors, recommending that as a starting point or benchmark, any definition of rural should consider populations living in towns or zones outside the commuting zones of larger urban centres. Statistics Canada defines 'rural' as, "Persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre" (Statistics Canada, 2006, np). The Canadian Institute for Health Information further refines this definition, by classifying communities as either 'urban', 'rural', or 'remote'. An urban community is defined as having more than 10,000 residents; a rural area is in close proximity to an urban area, and a remote region is defined as an area that is geographically distant from urban centres, and has little social or economic interaction with urban areas (Canadian Institute for Health Information, 2007).

Many definitions do not focus on census numbers, but tend to approach to urban/rural dichotomy organically. The Australian Standard Geographical Classification (ASGC) examined a range of terms and methods that have traditionally been used to differentiate between 'urban' and 'rural' and concluded that, "the critical concept [is] remoteness and that which defines 'city', and 'country', is how far one travels to access goods and services" (ASGC, 2003, p.5).

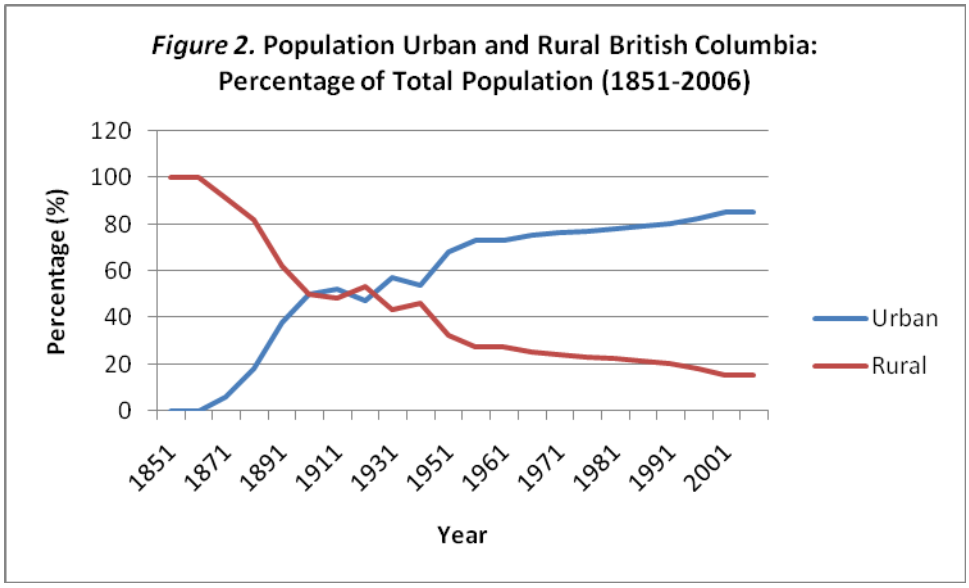
4.2 Rural Communities in Canada

The following section outlines rural populations in Canada and compares the trends illustrated for the country as a whole, with those of British Columbia. In general, the figures show that provincial trends reflect the national tendencies. While the percentage of the population living in rural areas continues to steadily decline, the total number of residents living in rural areas increases marginally.



Source: Statistics Canada, Census of Population, 1851-2006
Note: "The rural population for 1981 to 2006 refers to persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre. Previous to 1981, the definitions differed slightly but consistently referred to populations outside centres of 1,000 population" (Statistics Canada, 2006)

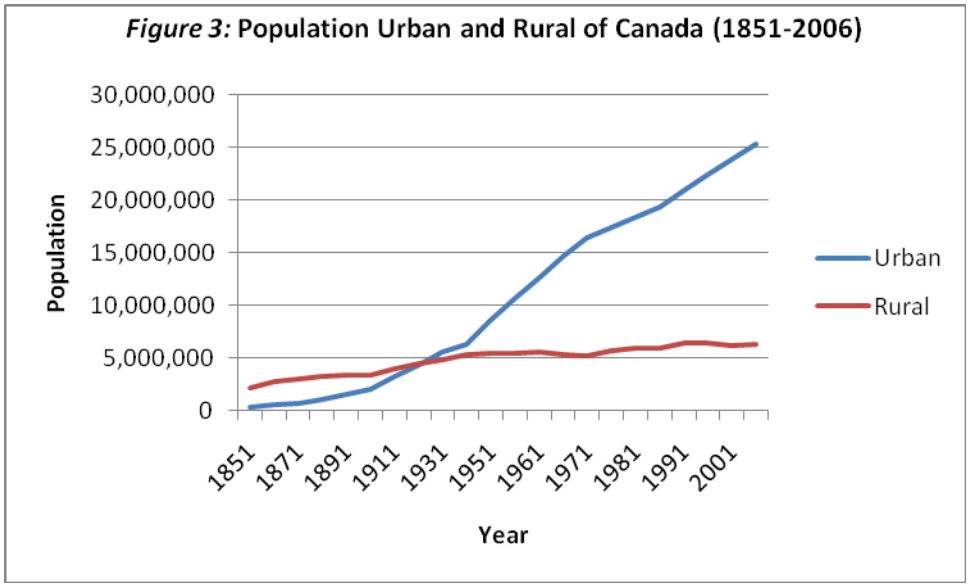
Figure 1 illustrates the proportion of urban and rural residents, expressed as a percentage of Canada's total population. Since 1851, the percentage of residents living in rural communities has decreased significantly. In 1851 the Census of Populations conducted by Statistics Canada calculated that an overwhelming total of 87% of residents in Canada lived in areas that are considered rural, and only 13% of residents resided in urban communities. By 2006, those numbers changes drastically, and only 20% of residents lived in communities that are considered to be geographically rural or remote, while the majority, 80%, of Canadian residents lived in urban centres. The total increase of residents living in urban centres between 1851 and 2006 is 67%.



Source: Statistics Canada, Census of Population, 1851-2006
Note: "The rural population for 1981 to 2006 refers to persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre. Previous to 1981, the definitions differed slightly but consistently referred to populations outside centres of 1,000 population" (Statistics Canada, 2006).

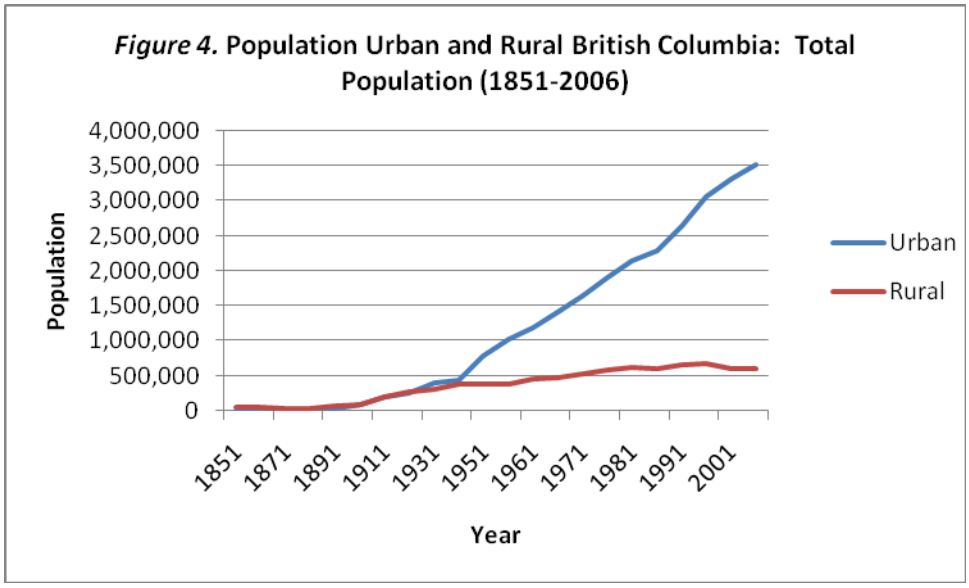
Figure 2 illustrates the proportion of urban and rural residents, expressed as a percentage of British Columbia's total population. The trend for British Columbia generally mirror those of Canada as a whole, however the changes are more drastic. In 1851, 100% of residents of BC lived in regions considered to be geographically rural. By 2006, only 15% of residents were calculated to be living in rural communities, while an 85% majority lived in urban centres.

Relative to other Canadian provinces, only a small percentage of BC residents are considered to be residents of rural communities. BC and Ontario have the lowest percentage of residents living in rural communities at 15%, while other provinces, such as Prince Edward Island have as many as 55% of residents living is rural regions. The number of residents living in rural communities at large has steadily increased in the past five decades; however, expressed as a percentage of the population, the number of rural residents has declined. In 2001, residents living in rural communities accounted for only 15% of the province's total population.



Source: Statistics Canada, Census of Population, 1851-2006
Note: "The rural population for 1981 to 2006 refers to persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre. Previous to 1981, the definitions differed slightly but consistently referred to populations outside centres of 1,000 population" (Statistics Canada, 2006).

In terms of the total number of people living in urban and rural regions, *Figure 3* shows that in 1851, a total of 318,079 people lived in urban areas, and 2,118,218 lived in rural areas in Canada. By 2006, the total population of Canada drastically increased, and so did the total number of people living in both urban and rural communities, with 25,350,743 people living in urban centres, and 6,262,154 residing in rural regions. In 1851, the total number of rural residents far surpassed the total number of urban residents. By 2006, that trend had been reversed, and the number of urban residents exceeded the total number of rural residents.



Source: Statistics Canada, Census of Population, 1851-2006
Note: "The rural population for 1981 to 2006 refers to persons living outside centres with a population of 1,000 AND outside areas with 400 persons per square kilometre. Previous to 1981, the definitions differed slightly but consistently referred to populations outside centres of 1,000 population" (Statistics Canada, 2006).

The trends with respect to total population for British Columbia reflects those of the whole country, however once again, the numbers are even more extreme. In 1851, there were no residents in all of BC living in an urban centre, and 55,000 residents lied in rural regions. By 2006, 3,511,300 people lived in urban cities, and 602, 187 people lived in rural communities. The results of these population estimates reveals that trends for British Columbia have mirrored those of Canada as a whole; however the increase in residents living in urban centres has been even more dramatic than the national average.

4.3 Rural Health Care Policy in Canada

Providing access to emergency health services in rural communities presents a persistent challenge for provincial Ministries responsible for health care across Canada. Limited resources and geographical barriers have presented many challenges with respect to providing timely access to emergency services in rural and remote communities. In 1997, a report conducted by the Canadian Association of Emergency Physicians (CAEP) noted that, "Canada's health care systems are experiencing tumultuous evolutionary upheaval. Fiscal cutbacks, regionalization, and revolutionary new ideas in health care delivery are creating new opportunities for improvements in health care. While opportunities for improvement exist, there is also a risk of insufficient emergency health services in rural Canada" (1997, p.3).

The provision of health services in Canada is legislated in part by federal legislation through the *Canada Health Act* (CHA). While the delivery of health care services falls under the constitutional jurisdiction of the provinces, the *CHA* ensures that minimum national standards are applied across the country. The *CHA* outlines the specific criteria that must be met by provinces to qualify for federal transfer payments, which account for approximately half of each

province's health budget. The purpose of the *CHA* is to "protect, promote and restore the physical and mental well-being of residents of Canada and to facilitate reasonable access to health services without financial or other barriers" (Canada Health Act, 1984, c. 6, s. 3).

In 2002, the Standing Senate Committee on Social Affairs, Science and Technology, chaired by Michael Kirby, tabled an Interim report on the state of the health care system in Canada (the Kirby Report). One section of the report focused on rural health, and concluded that, "if there is two-tiered medicine in Canada, it's not rich and poor, it's urban versus rural" (p.138). The Kirby report notes that while there is not an abundance of information available on the health status of rural Canadians, evidence to date indicates that rural residents have a lower health status than their urban counterparts. A variety of characteristics of rural communities were identified, and the report concluded that factors related to environment, demographics, ethnicity, and occupation contributed to a lower health status for rural Canadians when compared to that of urban residents. The report attributes this discrepancy to geographic barriers, and persistent health human resource challenges.

Also in 2002, another federal report was published by the Commission of the Future of Health Care in Canada, under the direction of the Honourable Roy Romanow. *Building on Values: The Future of Health Care in Canada* (The Romanow report), focuses on the sustainability of health care in Canada, and devotes significant attention to rural and remote issues. The Romanow report confirmed the findings of the Kirby Report, and made three primary recommendations: 1) Establish a Rural Access Fund to support health care initiatives in rural communities; 2) Use the Rural Access Fund to address the recruitment and retention issues that impede rural access to health care services and; 3) Use Telehealth as a mechanism to improve access to care (2002).

Additionally, the Romanow Report articulated a significant characteristic common across all rural and remote regions: populations are different and diverse. Every community has different needs, as rural communities, "are not a single homogenous population" (Commission on the Future of Health Care in Canada, 2002, p.160). Supporting those needs will require a flexible approach to emergency service configurations to respond to the specific needs of residents.

4.4 Defining Emergency Services

For the purpose of this research, it is important to distinguish between *emergency services*, and *emergency departments*. The body of literature addressing emergency services is predominantly concerned with response times and distances for ambulance services and other first responders. There is little information addressing definitions of *emergency services* from a facilities perspective.

The prominent differentiation between *emergency services* and *emergency departments* indicates that *emergency care* (a component of emergency services) applies to a broad range of service levels, which are offered in various facilities that would not necessarily be considered an 'emergency department'. Additionally, while an emergency department requires twenty-four hour, seven day per week access and the availability of a physician, *emergency care* can be provided by a wider variety of health professionals, at facilities that may not offer twenty four hour, seven day per week access to those services.

While definitions of *emergency services* are not concretely defined, there are several commonly accepted features that are generally used to identify and characterize emergency departments. These include 24 hour access to a physician, and the ability to triage and stabilize patients for transport.

> "Emergency departments (EDs) provide an extraordinarily important public service by providing emergency care 24 hours a day, 365 days per year without discrimination by social or economic status…. All have a physician present on the premises at all hours who can attend to patients with acute and chronic injuries and illness. One of the key foundations of EDs is the ability and expectation to provide immediate access and stabilization for those patients with medical emergencies" (Derlet, 2001, p.151)

Twenty-four hours, seven day per week coverage, stabilization, and access to a physician are stressed throughout the literature to be the key foundational requirements of an *emergency department*.

An article from the Society for Academic Emergency Medicine defines emergency medicine as, "the medical specialty with the principal mission of evaluating, managing, treating and preventing unexpected illness and injury" (Schneider et al. 1998, p.348). The article further articulates the important idea that emergency services are not necessarily offered only in hospitals and emergency departments and that, "the specialty of emergency medicine is practiced in a variety of hospital and non-hospital settings" (p. 349).

4.5 Facility Designation and Naming Conventions

Naming conventions for emergency facilities is a vital component that contributes to both the management of public expectations and the promotion of patient safety. However, while it seems obvious that naming conventions would help to ease patient confusion and to avoid further complications, there is only a limited body of literature addressing the issue of nomenclature for emergency services.

In 1997, the Canadian Association of Emergency Physicians (CAEP) developed Recommendations for the Management of Rural, Remote, and Isolated Emergency Health Care Facilities in Canada. The goal of the recommendations was to create national standards to guide the delivery of emergency services in rural and remote communities in Canada. This report is one of the few documents that explicitly articulate the link between facility naming conventions, patient safety, and access to care. "Reform has lead to the re-naming of rural hospitals and health units with unfamiliar terms like 'Community Health Centre", or "Wellness Centre". The proliferation of new terms has serious potential for confusing patients who are trying to find health care facilities with urgent medical problems" (Canadian Association of Emergency Physicians, 1997, p.24).

One of the report's primary recommendations is that "[a]ccess to [Rural Emergency Health Care Facilities] be made clear to the public. There must be no ambiguity regarding location, hours of availability, or capability of the facility" (1997, p. 13). This concentrated recognition of the importance of consistent naming guidelines and clear public communication led to the

development of five distinct levels of care that are provided in rural emergency facilities in Canada (Appendix D).

4.6 Challenges, Barriers and Solutions

Throughout the body of research dedicated to rural facility-based emergency service delivery, health human resources, transportation, and communication emerge as being the most pressing and imminent challenges. In an article addressing global rural health challenges Roger Strasser states that, "despite huge differences between developing and developed countries, access is the major issue in rural health around the world. Even in countries where the majority of the population lives in rural areas, the resources are concentrated in the cities. All countries have difficulties with transport and communication, and they all face the challenge of shortages of doctors and other health professionals in rural and remote areas" (2003, p.457). These challenges are universal in nature, and are not unique to the Canadian or British Columbian context; however they are magnified as a result of the Canadian geographic landscape and sparse rural populations throughout the country.

4.6.1 Health Human Resources – Physicians

Arguably, rural communities are often under serviced with respect to health care services. The recruitment and retention of physicians is a pervasive and wide-spread challenge contributing to inequitable access to emergency health services in many rural and remote communities. Research dedicated to the recruitment and retention of physicians often suggests that there is a shortage of physicians. However, several studies have found that issues related to the availability of physicians are compounded by the inequitable distribution of physicians in addition to the traditionally cited shortages.

While literature indicates that a general shortage of physician human resources continues to be a challenge at provincial, national, and international levels, the most notable challenge affecting service delivery in rural communities is most prominently attributed to a geographic maldistribution, rather than a general shortage. An article by Barer and Stoddard examining integrated medical resource policies in Canada notes that "ultimately, the cause of geographic maldistribution may be the sheer inattractability of developing incentive programs that adequately address enough factors at critical points in the physicians' life cycle to tip some scales" (1992, p.9).

The geographic maldistribution of physicians can be attributed to a range of factors including financial incentives, educational barriers, and skill set maintenance. An article from the Centre for Health Services and Policy Research at the University of British Columbia states that, "the problem of geographic maldistribution [is] shown to be linked with several other problem areas, including graduates of foreign medical schools, residency training and specialty certification, the role of fee-for-service remuneration, medical school curricula, licensure and regulation, and global expenditure control policy" (Barer and Stoddard, 1999, p.8).

Research addressing the role of financial incentives for physician recruitment and retention overwhelmingly indicates that monetary compensation plays a peripheral role in the decision of physicians to practice in rural and remote communities, "attempts at levelling the distribution of

physicians in Canada have traditionally relied on financial incentives, to encourage physicians to practice in rural/remote regions, or on financial disincentives to discourage them from practicing in urban centres" (Yang, 2009, p.102). A study of fee for service remuneration for physicians servicing a large remote region in Ontario found that during periods of decreased staffing, physicians often treated more patients and worked longer shifts in emergency departments, despite a lack of financial incentive (Green and Van Iersel, 2007).

The Canadian Medical Association surveyed more than 2,400 physicians practicing in rural areas, and more than 400 physicians who migrated from rural to urban areas. The survey found that compensation was ranked as a less important factor, following additional colleagues, locum tenens, opportunities for group practice, and the availability of specialist services, in physicians' decisions to practice in rural communities (Rourke, 1993). Based on the results of this survey, an article addressing the politics of rural health care concluded that"[p]rograms to provide bursaries in return for service have varied success. Incentive grants have been beneficial in recruiting physicians, but these physicians often leave after the grant is used up" (Rourke, 1993, p. 457).

Several studies attribute the problem of physician maldistribution to the inequitable access to education, particularly for residents of rural and remote communities. Educational barriers have been identified as a significant obstacle contributing to the maldistribution of physicians throughout Canada. Surveys have concluded that physicians who grew up in a rural environment are more likely to choose to practice in a rural area (Yang, 2009). In fact, the article *Rural Origins and Rural Medical Exposure*, examining predictors of rural practice for physicians in Australia concludes that, "the medical literature has consistently shown that a rural background is the single most significant characteristic influencing doctors' decision to practice in rural locations (Dunbabin & Levitt, 2003, np)

Recruitment efforts have proven to be more effective when the focus is on providing educational opportunities for students from rural communities, rather than concentrating on the relocation of urban physicians to rural areas. Research shows that there are two primary ways in which the distribution of physicians is influenced by factors related to education. First, access barriers, including cost considerations and admissions requirements, often deter students from rural communities from pursuing medical degrees (Rourke, 1993, Nicholson and Levy, 2009, Barer and Stoddard, 1999). Second, access to further education and the opportunity to expand and maintain skills sets in rural communities where volumes are low are prime barriers affecting the decision of physicians to practice in rural communities (Rourke et al., 2003).

Debt considerations and the cost of medical school have created an academic environment that tends to cater to the needs of particular socio-economic groups. "Recent increases in post-secondary tuition have made medical school less accessible to poorer members of the intellectual elite… Beginning one's career with debt is damaging to morale. Perhaps justifiably, it deadens enthusiasm for public service and fosters a preoccupation with earning money quickly" (Nicholson and Levy, 2009, np). Recruitment initiatives for rural physicians benefit from focusing on debt forgiveness, especially for prospective students from rural communities, who are more likely to return to serve those communities, yet may not have the financial capacity to fund educational opportunities. Rourke's article on the politics of rural health care concludes that "the selection of medical students should be altered to facilitate the entrance of those from rural areas, who are more likely than other students to choose rural practice" (1993, p. 459).

As noted above, in addition to entry-to-practice barriers, skill set maintenance and opportunities for continuing education are priority areas for the successful recruitment and retention of rural physicians. "The difficulties of recruiting and sustaining adequate numbers of physicians in rural areas across Canada might be related to the fact that there are too few education programs and practice incentives, and too little support" (Rourke et al., 2003, p. 76). Stress resulting from isolation and limited access to support was repeatedly shown to be an influential factor in a physicians' decision not to practice in a rural environment. A survey comparing rural and urban physicians in Ontario found that, "Physicians in the most distant (more than 160 km from an urban centre) and smallest (population less than 5000) rural areas reported the least job satisfaction" (Rourke, 1993, p. 458). Research indicates that demanding on-call schedules and the limited availability of support for rural physicians is a significant deterrent for physicians.

4.6.2 Health Human Resources – Nurses

There is both a shortage and an unequal distribution of nurses in northern and rural regions across Canada. Literature indicates that the primary challenges facing nurses working in rural and remote areas include recruitment and retention, education, and the expectation of increased responsibilities for the nurse when physician and other supports are unavailable. These challenges are being predominantly addressed through recruitment and retention programs, initiatives to expand scope of practice for rural nurses, as well as through the development of the nurse practitioner role.

Rural emergency nurses often work settings that are uniquely rural, where physician support is limited or only periodically available. "Rural nursing practice, be it hospital practice, private practice, or community health practice, is distinctive in its nature and scope from the practice of nurses in urban settings" (Scharff, 2006, p.179). Rural nursing in Canada can be characterized by several commonly accepted and unique characteristics. There are fewer nurses per capita, as rural and remote areas face significant recruitment and retention challenges. Additionally, nurses rely on historically unconventional support systems, including technology such a telehealth, and community support.

Rural nurses frequently practice autonomously and must exercise increased independence in their decision making. Rural nurses often become "expert generalists", and the nature of their work often demands that they perform complex tasks with limited support. Emergency situations are often met with significant apprehension. Jean Ross notes that "nurses feel concerned about their own ability to retain competence and confidence to manage the skills that may be required, particularly during emergency situations when they occur spasmodically and infrequently" (2008, p. 156).

Evidence from the literature suggests that obtaining and maintaining skills sets and competencies directly impacts the quality of care that is provided by nurses in rural emergency facilities. There are many statutory authorities that have developed advanced competency certifications, similar to those developed by the CRNBC, to oversee and regulate the interpretation of competencies that have been identified for advanced nursing practice. "Advanced practice is an essential component of rural health care because of its distinctive nature, including sole practice" (Ross, 2008, p.157).

In practice, research suggests that competency for nurses in rural environments is directly dependent not only on a nurses breadth of experience and actual skill set, but also in their confidence level to practice autonomously in the rural context (Benner, 2001), and the relationship between nurses and physicians (Shreiber et al., 2005). A study conducted in BC of nurses practicing in advanced roles found that in rural and remote areas, protocols were established to guide a nurse's authority to practice. However, the study also found that the degree to which tasks were delegated to advanced practice nurses was largely dependent on the relationship between the nurse and the physician, and the personal credibility of the nurse (Schreiber et al., 2005). Literature revealed several approaches to address the establishment and maintenance of vital skill sets for rural nurses through education, and increased support by using technology to bridge geographical gaps.

In acknowledgement of the unique service delivery needs in rural communities, the New Zealand Ministry of Health developed the *Primary Response in Medical Emergency Strategy* (PRIME). The purpose of PRIME is to provide consistency and coordinated responses to trauma and medical emergencies in rural communities, including primary assessments, essential resuscitation, and the rapid delivery of patients to appropriate facilities for definitive care (Ross, 2008, p. 127). Intensive training programs for both nurse and physicians were developed to support the PRIME program. The courses address specific skills sets including airway management, breathing, circulation, brain damage management, spinal cord and environmental injuries, with a focus on providing care in the pre-hospital setting. Nurses who participated in the training program noted that "the training has demystified the nurses' scope of practice at roadside emergencies – benchmarking and unifying the procedural skills required by nurses, and augmenting the individual nurses advancing practice" (Ross, 2008, p. 128). Ultimately, the program has provided nurses with the skills, confidence and competency to provide emergency care when they are the only qualified professional available to do so.

In addition to advanced practice programs, the development of the nurse practitioner role has also been identified as a mechanism that may be an effective method of providing emergency care in underserviced areas, especially where physician availability is limited. The Canadian Institute for Health Information notes that "the last five years saw the emergence of the nurse practitioner specialty. Between 2003 and 2007, the number of licensed NPs in the workforce almost doubled to 1,346. As of 2007, all territories and provinces except the Yukon Territory had licensed nurse practitioner programs" (2008, p. vi).

Notwithstanding the potential ability of nurse practitioners to fill the gap in communities under-serviced by physicians, in reality nurses may choose not to practice in rural and remote areas for many of the same reasons as physicians decline to practice in those isolated settings: lack of educational opportunities for themselves and their children, lack of spousal support and lack of other personal supports that are available in more urban settings. The nursing human resource base is facing challenges similar to those of physicians.

The body of literature that examine the recruitment and retention of rural nurses and nurse practitioners reveals that demographics, personal circumstances, and opportunity are some of the primary barriers influencing the decision of nurses to practice in a rural community (Henderson-Bechus & MacLoed, 2004). Roberg conducted an investigation to examine why nurses may choose to practice in rural environments, and found that "features of rural practice influence job satisfaction, while job satisfaction influences duration of rural practice" (2009, p. 84). Another

study of nurse practitioners indicated that "NPs tend to practice in communities of the same type or similar to the one where they attended high school, or where they received preclinical and terminal training" (Fowkes et al., 1994, p.673).

4.6.3 Travel, Transportation, and Distance

A notable characteristic of emergency care found in the literature is the importance of access to care within a one hour distance. The notion of the "golden hour" in particular, dominates the literary landscape devoted to the delivery of emergency service in rural and isolated areas, although not all researchers agree with this concept.

In *The Golden Hour: Scientific Fact of Medical:Urban Legend"* Lerner and Moscati state that "the term 'the golden hour' is commonly used to characterize the urgent need for the care of trauma patients. This term implies that morbidity and mortality are affected if care is not instituted within the first hour after injury. This concept justifies much of our current trauma system" (2001, p.578). The authors argue that the "golden hour" lacks scientific evidence, and that justification of the concept relies on subjective and inconsistent data collection and reporting. However, despite lack of consensus with respect to the validity of "the golden hour", literature reveals that time to treatment is a critical factor affecting patient outcomes in emergency care (Cameron et al., 1996, Lerner and Moscati, 2001).

4.6.4 Technology and Telehealth

Telehealth, by definition, is the "use of advanced information and communications technology to deliver health services over distance, geographic, time, social, and cultural barriers" (Reid, 2006, np). The terms *telehealth* and *telemedicine* are used interchangeably throughout literature. In some cases, the term *telemedicine* is restrictive, reserved to describe the interaction between physicians and patients across distances (Maheu et al., 2001). However, it is noted that "as in any technological areas, health care and telecommunication definitions change to adjust to the vagaries of language use and developing concepts. An example of this phenomenon is the distinction – or lack of distinction – between *telemedicine* and *telehealth"* (Maheu et al., 2001, p. 2).

With respect to the delivery of emergency services, telehealth can provide vital support for rural emergency practitioners. Telehealth initiatives cross geographic boundaries of care, providing benefits for both rural and urban emergency facilities. "The prospect of connection with a large ER or trauma centre to better handle emergency cases, reduce risks, avoid unnecessary transfers from rural hospitals, and decrease inpatient days holds unfulfilled promise" (Glasgow et al., 2004, p. 145). Additionally, telehealth can lessen people's reliance on rural ERs as patient care clinics (Glasgow et al., 2004).

It is important to note that telehealth is often used in primary care settings, to provide patients in rural communities with the ability to consult with specialists from a distance. This alleviates dependence on the ER to receive care, and helps to support rural practitioners, however "the adoption of telemedicine for use in emergency departments in Canada have evolved more slowly" (Waite et al., 2006, p. 141). The following section will examine how telehealth has inadvertently benefited care in rural emergency facilities by providing support for primary and

specialty health services. This section will also examine some of the ways that telehealth has been used specifically to provide emergency care.

The application of telehealth in the context of rural emergency services helps to bridge gaps throughout all levels of care. An article examining the application of telehealth in trauma and emergency care states that, "The implications of telemedicine for trauma and emergency management include the entire spectrum of care from the site of the injury and prehospital care, to the rural hospital to the tertiary hospital or trauma centre where definitive care is provided" (Lafiti, 2007, p. 294). The use of real time telehealth technology can potentially offer physician supported emergency services on a 24/7 basis for small rural communities who are unable to obtain and support full time physician coverage and specialty services.

An additional and notable feature of telehealth is that the benefits are mutually beneficial for both rural emergency care centres, and the larger tertiary referral centre. "Most of noncritically ill trauma patients will be managed at the local hospitals, without the need for expensive and needless transportation. In return, major trauma centres will then concentrate their resources on evaluating and managing only most critically ill patients who need specialized and definitive trauma care" (Lafiti, 2007, p. 294). The use of telehealth to support rural emergency services offers benefits for health systems at large as it allows patients to access timely treatment in the most appropriate setting, contributing to overall efficiency and cost effectiveness.

While a significant portion of literature addressing emergency services tends to focus on trauma care, research also indicates that telehealth also makes an important contribution to diagnostic services. "With the utilization of telemedical consulting services, a network set-up offers a means to confirm diagnosis with rapid interpretations. This permits early quality treatment and better long-term care results for persons living in remote areas that lack advanced diagnostic equipment and specialists" (Stamford et al., 1999, p. 52).

Using telehealth technology to increase access is a trend that continues to gain popularity as a mechanism to increase access to health services, especially in rural and remote areas confronting challenges related to distance. Telehealth is often considered to be an enabling innovation that has the potential to increase access to health care for patients while positively impacting health system expenditures. Telehealth has led to favourable clinical outcomes in many situations. Some examples of telehealth technology used in the emergency setting include the use of diagnostic imaging and video technology to connect physicians working in rural communities, with those in larger urban trauma centres.

In an evaluation of the delivery of care using telehealth for a rural region in the United States, Ricci et al. found that telemedicine was an effective method to "provide rapid consultation from surgeons at the level one [urban] trauma centre" (2004, p. 3). One of the emerging methods of using telehealth in the ER includes the use of virtual networks, using digital imaging and communications software to store, manage, and transmit diagnostic imaging information. One study tested the use of digital imaging software to assess and treat acute stroke patients in rural emergency departments. The study "tested weather there would be an acceptable inter-rater agreement for the National Health Institute Stroke Scale using a telemedine link, and found that the scale remained a rapid and reliable clinical instrument when used via video-conferencing" (Waite et al., 2006, p. 142). Literature generally reveals that while it has been slow to develop,

the application of telehealth in rural emergency facilities provides access to emergency care from a geographic distance.

Literature indicates that the proper implementation of telehealth in rural health care facilities has several benefits for rural emergency facilities, through the provision of increased access to primary and specialty care, but also by using applications that specifically benefit the provision of emergency care. The successful implementation of clinical information systems can increase the quality of care received by patients by enabling transfers of medical data between isolated emergency facilities, and larger tertiary and referral hospitals, as illustrated by the study of acute stroke patients. Additionally, the use of telehealth technology can augment support for rural physicians, positively impacting recruitment and retention initiatives.

4.7 Summary of Literature Review Findings

The number of rural residents as a percentage of the total population has decreased, however the total number of rural residents has increased.

The population of rural residents when expressed as a percentage of the total population may be decreasing for numerous reasons. As the overall population increases, the declining percentage of rural residents could be the result of the growth and expansion of communities. If the population of a community exceeds 1,000 people, then by the definitions established by Statistics Canada, that community would no longer be considered 'rural'.

However, it is significant that while the number of residents in rural communities expressed as a percentage of the overall population is decreasing, the total number of residents in rural communities has generally risen significantly. This has substantial implications for the delivery of emergency health services, as there continues to be a larger non-urban population requiring medical care and support. The increasing urbanization of rural areas may minimize some of the geographic challenges associated with service delivery in rural communities. However, the growing total number of rural residents may increase the demand for health services.

Policy research in Canada has indicated that there is a need for a unified strategy to resolve the inequities related to health services between urban and rural communities.

What constitutes reasonable access? Rural and remote emergency service providers have been confronted with many obstacles and challenges, as they strive to achieve "reasonable access". However, despite ongoing efforts to provide the access to health care services that is legislated in the *CHA*, access to service in rural and remote communities continues to be met with barriers.

Federal research has clearly articulated a need for the development of a comprehensive strategy to address the inequities that affect rural and remote communities across Canada. However, given that health care is the constitutional responsibility of provincial governments, federal recommendations must be adapted to suit the regional context of each province on an individual basis.

Variation not only exists across provinces, but there are also differences and unique circumstances at regional levels that may impact and affect the application and adoption of provincial standards. While guidance and advice has been provided at the federal level in

notable documents, such as the Kirby Report, and the Romanow Report, it is essential that provincial governments consider those unique contexts when they are configuring services in rural and remote communities.

Financial incentives should not be the sole focus of physician recruitment and retention programs.

Surveys of both rural and urban physicians have consistently shown that financial incentives as a stand-alone policy are detrimental to the sustainability of the physician human resource base in rural and remote communities (Yang, 2009). Effective funding arrangements traditionally include programs offering bursaries in return for service and on-call stipends and guaranteed minimums. However, it is important to acknowledge that there are a broad range of factors that have been found to be more important in a physician's decision to practice in a rural community than financial incentives alone. Despite these findings, financial incentives continue to be the primary focus of recruitment and retention initiatives, especially for rural physicians. While financial incentives are integral components of a comprehensive recruitment and retention package, they should not be the focus of the programs.

Notwithstanding seemingly appealing education and incentive programs, issues related to the geographic dispersion of physicians persist in BC. Studies and surveys have indicated that financial incentives alone are not adequate to lure physicians to isolated communities (Rourke et al., 2003). Issues such as spousal employment, stress and lack of support, have been identified as key concerns by physicians. Additionally, literature revealed that many physicians choosing to practice in rural communities were born and raised in rural communities themselves and that providing educational incentives for rural residents would in turn help to recruit those physicians to communities similar to the rural areas where they were raised. These issues, however, are only addressed in the margins of the majority of rural recruitment and retention programs, which tend to focus on financial incentives.

A competent and skilled rural nursing workforce requires: Effective recruitment and retention, continuing education, and skill set maintenance to support nurses practicing autonomously in isolated environments.

In general, literature revealed that a robust rural nursing workforce is the result of a combination of factors. Advanced practice nursing programs require ongoing education, which focuses on both ability and confidence. Additionally, while the utilization of advanced practice nurses and nurse practitioners to provide vital emergency services to rural communities may be an effective strategy, recruitment and retention barriers present challenges for the supply of nurses willing to practice in isolated environments.

Telehealth is becoming an increasingly integral component of the service delivery of rural communities; however more comprehensive and unified research and evaluation is required.

Telehealth is becoming an increasingly integral component of the health care system, however there is little evidence throughout literature to confirm or deny the impact of telehealth. Reviews and research are largely theoretical, and especially within the Canadian context, the evaluation of initiatives tends to be isolated making it difficult to estimate the impact on efficiency or cost

savings that are derived from telehealth programs. Studies dedicated to evaluating and exploring telehealth initiatives are generally program specific; the effects of specific projects have been studied, however often the results are studied in isolation, without investigation into the impact of telehealth on the larger context of health care systems.

5. Cross-Jurisdictional Survey

A cross-jurisdictional survey was conducted to explore the challenges and solutions with respect to facility-based emergency services encountered and addressed by other jurisdictions. The scope of the survey was Canadian provinces and territories. The diversity of perspectives identified a range of challenges and solutions that may contribute significantly to the development of rural emergency strategies for BC.

The survey addressed several key areas with the goal of understanding rural populations and the context of emergency service delivery, and to explore the range of regulatory standards, service delivery challenges, and solutions that define the landscape of rural health care in each jurisdiction. The results of the survey presented below have been thematically organized.

5.1 Rural Population and Demographics

All provinces noted that aboriginal populations constituted a large portion of areas and communities that are considered to be either 'rural' or 'remote'. Many respondents indicated that the funding arrangements to provide health care services to aboriginal and first nations communities varied from community to community. Some of the responsibility for aboriginal health service delivery falls under the jurisdictions of the Health Canada's First Nations and Inuit Health branch, and as a result the funding of some services are not the sole responsibility of the province or territory as is the case with respect to the delivery of emergency services to larger urban communities.

5.2 Defining Rural

Of the jurisdictions that were surveyed, the development of a standard definition of what constitutes a 'rural' or 'remote' community is perceived as being somewhat irrelevant. All respondents indicated that an organic understanding of the rural/remote context was more important than the development of a definition driven by populations and distances. As a result of the geographic composition of Canada, which is composed of sparse populations dispersed throughout large geographic areas, as well as larger densely populated urban centres, most jurisdictions consider everything outside of a select few city centres to be either rural or remote.

In Ontario a Health-Based Allocation Model (HBAM) has been developed to define a hospital's rural geography in terms of the distance of communities from the nearest facility with a minimum of 15,000 inpatient weighted cases per year. Sophisticated measures of rurality were specifically created to address health care planning and policy development.

Contrary to the intricate rurality index developed in Ontario, other provinces and territories use more basic methods to define what constitutes a 'rural' community. In the majority of cases, rural communities account for an overwhelming portion of the population, and in those cases, any community outside a major city centre is considered 'rural'. In Saskatchewan, any

community outside Regina or Saskatoon is considered 'rural'. Similarly, in the Yukon, Whitehorse is the only urban centre, and any community outside the Whitehorse geographic boundaries is considered 'rural'.

5.3 Facility Designation and Access Standards

Discussions with respondents related to regulatory standards revealed that there appear to be two distinctive approaches to the provision of emergency service in rural and remote communities. Where legislative and regulatory requirements exist, there is a heavy emphasis on the use of those mechanisms to achieve consistency throughout the jurisdiction. For the most part, this is the approach adopted in Saskatchewan and Ontario. Other jurisdictions, including the Yukon and the Northwest Territories, appeared to approach the service delivery issues organically; and with little or no regulatory guidance there is a heavy focus on the individual needs of rural and remote communities.

None of the jurisdictions included in the survey reported having a set of guidelines similar to BC's Access Standards that outline acceptable distances of residents to various acute care services. However, the respondent from Alberta indicated that rural planning initiatives for the province are in the early stages and a planning committee is in the process of developing guidelines to ensure that emergency services are available within appropriate distances from rural and remote residents. Several respondents indicated that there were standards to guide the location for dispatch centres for paramedics and first responders, which are often based on historical precedents, but none of the respondents was able to identify if similar standards existed for emergency facilities.

Saskatchewan and Ontario both indicated that the delivery of service is guided by robust regulatory frameworks. Following hospital closures in Saskatchewan in the 1990's, a hospital classification system was developed in 2001 as part of the *Action Plan for Saskatchewan Health Care*. One component of the Action plan was to classify facilities based on the range of services provided, standards of care, access standards, population and catchment areas, current delivery systems, and care-seeking patterns for acute care specialties. Minimum expectations of service for emergency facilities are outlined in Saskatchewan's *Facilities Designation Regulations*.

The *Saskatchewan Facilities Designation Regulations* classifies facilities as follows:

1. Community hospitals: Located in 43 communities with less than 3,500 people

- 24/7 emergency services
- General medicine, observation, assessment, convalescent, and palliative care
- Basic lab / X-ray
- Low complexity surgeries, low risk obstetrical services. Category V lab services at designated sites

2. Northern Hospitals: There are a total of 4 northern hospitals

- Ile a la Crosee, La Roche, La Ronge, Stony Rapids
- Maintain similar services as community hospitals
- Telehealth services are a priority at Northern hospitals

3. **District Hospitals:** Located in 9 communities with populations between 3,500 and 15,000. Hospitals located close to one another can work together to deliver the required levels of services. Services are typically delivered by family physicians with additional training.

    - 24/7 emergency services
    - Lab / X-ray services
    - General medicine services for adults and children
    - Low complexity surgeries
    - Low risk delivery of babies

4. **Regional Hospitals:** Located in 6 communities with populations greater than 15,000. Two levels of service are offered based on populations (Regional Level 1, Regional level 2)

    - Offer all the services available at district hospitals
    - Basic specialty services – internal medicine, general surgery, obstetrics
    - Intensive care services
    - On-site radiology
    - Work to maintain at least 3 physicians, one in each discipline
    - If 3 physicians are not available, there may be traveling clinics, regular consultation visits

5. **Provincial Hospitals:** 2 hospitals in Saskatoon, 2 in Regina

    - Offer basic and highly specialized services

Naming conventions for emergency facilities are inconsistent across jurisdictions. Often, where naming is consistent, it is supported by legislation that designates and regulates the levels of service that are provided at those facilities. Some of the terms used to identify facilities providing emergency services in rural and remote communities include: Urgent Care Centre (Ontario); Health Centre, Health Station, and Public Health Unit (NWT); Community Hospital, and Northern and District Hospitals (Saskatchewan). None of the respondents indicated that the terms used in BC's Access Standards, 'Diagnostic and Treatment Centre', 'Federal Nursing Station', or 'Red Cross Outpost Hospital', are used to describe emergency facilities in their jurisdiction.

5.4 Rural Emergency Service Challenges

Health human resources were cited by all provinces, territories, and international jurisdictions as being a significant obstacle related to the delivery of emergency services in rural and remote regions. Respondents emphasized the difficulties that arise with respect to the recruitment of physicians to rural areas. Recruitment challenges directly impact hours of operation, and when shortages of physicians occur, facilities are not able to maintain 24/7 service provision and facilities are forced to close.

Although physician recruitment was cited in the majority of jurisdictions as being the primary barrier to service provision, it was also noted that there are significant shortages of other key health professionals, including nurses and a variety of allied health and social service professionals. Some respondents indicated that shortages of these professionals have affected the jurisdiction's capacity to provide continuous coverage in emergency facilities.

In addition to health human resource challenges, geography and terrain was cited by several Canadian provinces as being a substantial obstacle for emergency services. Rugged terrain combined with the sparse dispersion of rural populations often result in limited access for rural residents. This in turn creates a requirement for alternative methods of access and often an increased reliance on innovative air, land, and water transportation. Respondents from several jurisdictions discussed the difficulties in providing service in communities that are not accessible by road, and the associated costs of providing emergency care to residents in those communities.

Finally, the maintenance of skill sets was found to be a common issue encountered in several jurisdictions. Respondents indicated that this was a substantial issue for both physicians and nurses. Low patient volumes in small communities make it difficult for practitioners to maintain skill sets and confidence in delivering necessary care and treatments.

5.5 Solutions and Evaluation

In Alberta, the solutions for the delivery of emergency services in rural and remote communities are largely oriented around the provision of emergency medical transportation services to improve access to emergency care for urban and rural patients. An *Emergency Department Integration team* was established to explore and recommend strategies to improve access to emergency care for urban and rural patients.

Solutions in Saskatchewan are primarily oriented toward the recruitment and retention of physicians and other health professionals. Emergency department coverage programs have been developed to pay premiums to physicians working in rural areas. Additionally, there are several bursary programs in place for registered nurses practicing in both rural and urban communities. Health human resource plans are generally carried out at regional levels, though there are province-wide initiatives to support community planning. The respondent from Saskatchewan also indicated that there is a large degree of interest in using Nurse Practitioners as an alternative

to supplement current strategies. However, several scope of practice issues arise that restrict the use of nurse practitioners. These issues are currently being addressed by the province.

The respondent from Saskatchewan also conveyed that there are significant initiatives underway to investigate the possibility of using Emergency Medical Service (EMS) professionals and paramedics to support RNs in the emergency department. The benefits of such a program would be to alleviate stress for emergency room nurses, and help in the retention of RNs. Also, the delegation of additional responsibilities and enhanced scope of practice for EMS professionals is believed to contribute to increased job satisfaction for this group of professionals, further contributing to the ability of the Ministry to retain this group of health professionals. The success of rural emergency initiatives will be measured as part of the *Patient First Review*, currently underway. The goal of the review is to examine health care administration from the perspective of the patient to identify new and innovative service delivery methods that are both administratively efficient and satisfactory for patients seeking emergency medical care.

The Ministry of Health and Long-Term Care in Ontario has made significant investments in strategies to improve rural health care across the province. In general, the most effective and visible programs in Ontario are dedicated to recruitment and retention and physician compensation. Three notable programs have been developed in Ontario specifically oriented towards maintaining service levels and 24/7 coverage for rural and remote emergency departments which include: These programs include:

1) HFO was established to address challenges related to health human resources to ensure Ontarians have access to the right number and right mix of qualified health professionals. The HFO Marketing and Recruitment Agency is an initiative designed to increase the total number of health professionals practicing in Ontario. Within this program, the Emergency Department Coverage Demonstration Project was established as an interim measure of last resort to support hospitals in crisis. This program is in place to cover ED physician shortages to ultimately avert ED closures while more sustainable strategies are being investigated through the ED Action Plan and local physicians' recruitment initiatives.

2) The Emergency Department Alternative Funding Agreement was put in place to assist rural emergency departments with the recruitment and retention of physicians by providing the foundation for stable compensation models. There are two funding models within this program. The 24-HR model is used for facilities in rural and remote areas with fewer than 30,000 ED visits annually. The Workload model is used for larger facilities. The models provide global budgets for emergency medical services and allow physicians to determine appropriate staffing and remuneration configurations for individual facilities. This program also supports a mentorship program, which provides funding assistance to hospitals that have a shortage of emergency physicians. This allows community physicians who do not normally work in EDs to be mentored and integrated into the emergency department setting.

3) Finally, the Underserviced Area Program and the Rural and Northern Physician Group Agreement provide a variety of incentive grants and practice supports

(locums) for small communities requiring unique service configurations to meet the needs of the population.

In addition to these programs, the Ontario Ministry of Health and Long-Term Care is developing a Rural Health Strategy to strengthen their response to challenges facing rural and remote communities. Formal evaluations of the rural programs have not yet been conducted in Ontario. However, reviews are expected to be initiated in fall 2009.

In general, respondents from each province indicated that there are a wide variety of strategies being pursued to support the sustainable delivery of emergency services and to mitigate some of the risks that are presented when service levels are reduced in rural and remote communities. The survey found that some provinces place a premium on physician recruitment and compensation programs. Other provinces appear to have adopted a more holistic approach, electing to focus on a breadth of programs to address health human resources issues for all health professionals, as well as strategies to improve patient satisfaction.

5.6 Summary of Survey Findings

The results of the cross-jurisdictional survey draw attention to several trends and themes. The survey was able to highlight the most pressing challenges that underscore the service delivery networks in rural and remote communities. The survey also provides valuable insight into innovative approaches that have been adopted to address those challenges. The following section provides a summary of the key findings that emerge through the cross-jurisdictional survey and discuss the possible implications for the development of provincial strategies to address facility-based emergency service delivery in BC.

Naming conventions for emergency facilities are inconsistent across provinces and territories.

The naming of facilities in as inconsistent across national and international jurisdictions as it is among the health authorities in British Columbia. The absence of national consistency with respect to naming conventions and regulations means that there will be little guidance for BC in the development of facility classification frameworks. BC has the opportunity to be a potential national leader through the development of regulatory classification guidelines.

The delivery of rural facility-based emergency services is often fragmented.

Responsibilities related to the delivery of facility-based emergency services often falls under the responsibility of several branches or departments within ministries responsible for the oversight or delivery of facility-based emergency health services. This became increasingly evident, as the completion of a survey required communication and coordination with analysts and administrators from more than one division or branch of the organization. This is significant because the fragmented and isolated development of policies and regulations within organizations is often reflected in the delivery of services.

Jurisdictions face similar challenges related to the delivery of facility-based emergency services in rural and remote areas.

It is significant that despite unique geographies and population patterns that exist throughout Canadian provinces, all respondents reported being faced with similar challenges. Although respondents often used varying nomenclature and language to describe the challenges and pressures affecting the delivery of facility based emergency service in rural communities, in general, the primary issues were consistent across all jurisdictions.

Strategies and solutions specifically targeted toward rural and remote emergency services are primarily oriented to health human resource initiatives and transportation.

Almost every jurisdiction included in the analysis reported that physician recruitment and retention were priority programs for rural and northern health initiatives. It is significant that physician compensation programs are the focus of recruitment and retention efforts, while education-oriented initiatives for physicians were mentioned only as secondary priorities, if at all.

While the intention of the survey was to focus on *facility-based* emergency services, the majority of respondents also stressed that transportation and emergency response systems are vital components of any comprehensive emergency strategy. The location of dispatch centres is as important as the location of hospitals and facilities providing emergency care. Robust critical care transport systems and strategies are required to complement and support the delivery of the services offered in emergency facilities.

Evaluation and performance monitoring is underdeveloped in almost all jurisdictions.

Respondents indicated that rural and remote health strategies were generally in the development or preliminary implementation stages and stressed that while evaluations were planned, none had been carried out to date. In some cases, evaluations of rural programs will be a small component of large scale patient satisfaction initiatives. Other jurisdictions indicated that performance evaluations would specifically examine the programs and strategies that have been developed to address rural and remote health initiatives.

The nurse practitioner role is facing transition and development in many jurisdictions.

As in BC, the use of nurse practitioners in emergency care facilities is being investigated and developed by regulatory bodies and health departments in many provinces and territories. Many jurisdictions cited similar challenges with the advancement of the NP role, including scope of practice challenges, inter-professional relationship considerations, and public confidence.

6. Rural Emergency Facility Classification Framework

The *Rural Emergency Facility Classification Framework* (the Framework) has been developed to assist health authorities to plan for the delivery of facility based emergency services in rural and remote communities. The framework is intended to be one component of a comprehensive planning process undertaken by the health authorities, through the guidance and direction of the BC Ministry of Health Services. This framework is provided as a guide to assist health authorities in determining how best to configure emergency service networks to meet the needs of local communities and to ensure that the care that is provided is consistent with provincial standards.

The *Rural Emergency Facility Classification Framework* that is proposed for BC was developed based on an inventory of BC facilities, and an assessment of current service levels, the literature review, the results of the cross-jurisdictional survey, and comments and feedback from the Rural Emergency Services Working Group. The framework considers the naming conventions used in other jurisdictions in Canada, and Saskatchewan's *Facilities Designation Regulations* in particular; however it recognizes that this framework applies exclusively to hospitals. The *BC Rural Emergency Facility Classification Framework* has been developed to accommodate the unique context and broad range of services that are offered in all emergency facilities in BC.

The proposed framework focuses on five distinct levels of care for facilities providing emergency services that would typically be found in rural and remote communities. The framework is relevant for all five regional health authorities responsible for providing facility-based emergency services, and it applies to a range of facilities, from small nursing outpost stations typically found in rural-remote locations to larger community hospitals located in larger rural municipalities.

6.1 Context

The Access Standards outline the Ministry's commitment to ensuring a sustainable and co-ordinated rural health system that is consistent with provincially established standards. The need for the development of a rural planning framework is identified in several strategic objectives from the 2009/2010-2011/2012 Service Plan. Specifically, the framework has been developed to align with Objective 1.1 of the Service plan, "*Timely access to appropriate health services by the appropriate provider in the appropriate setting*".

The *Rural Emergency Facility Classification Framework* that is proposed in this section is a tool to assist health authorities to make informed decisions about the appropriate minimum levels of service that should be provided based on the parameters outlined in the Access Standards. The types and levels of service in each classification category will vary to enable accommodation for local community needs, resources availability, and unique circumstances. Thorough rural planning initiatives require a strategic analysis of the capacity of the individual health service delivery area and coordination with the delivery of other health services within the health authority and the province.

The planning framework outlined in this section is specific to the access to and delivery of facility-based emergency services for rural or remote communities in BC. The levels of service were developed based on the classification system of the Canadian Association of Emergency Physicians, and the CAEP levels were modified to complement the BC context. While standards should be integrated and consistent as much as possible, the types and levels of service provided in each health service delivery area will be assessed on an individual basis by each health authority.

This framework can be used to provide strategic and operational direction for rural and remote health planning. It can be used to guide service reviews as changes occur in staffing and hours of service. Additionally, the framework can be used in concert with some of the options for implementation to encourage the development of innovative strategies to address areas where service provision does not comply with the minimum standards outlined in the framework.

The framework should *not* be used to identify the ideal levels of service that should be provided at any given facility. The framework defines the *minimum* levels of service that must be provided, to ensure appropriate access. It is not meant to define the desired levels of service for individual facilities. Health authorities should continue to make decisions about appropriate levels of service for each unique circumstance, using this framework as a guide.

The cross-jurisdictional survey reveals that aboriginal populations often constitute a large majority of those populations that are considered to be *rural*, or *remote*. The intention of the framework is to provide an inclusive mechanism to categorize all facilities; however, as a result of some of the jurisdictional barriers that exist with respect to the provision of health services to First Nations communities, this report does not specifically account for those communities at this time.

A facility's capacity to deliver emergency care at any level depends on the availability of qualified clinical health professionals. The staffing configurations outlined in the framework are intended to define the minimum number of physicians and nurses required to sustain the standards of care defined for each level. The total number of clinical professionals and their composition is not defined within the parameters of the framework.

It is especially important to note that the primary objective of the *Rural Emergency Facility Classification Framework* is not to prompt the transformation of rural emergency departments. Rather, the goal is to develop provincially standardized access requirements to rationalize the delivery of facility-based emergency services for residents of rural and remote communities. The delivery of emergency services will continue to be guided by the travel time benchmarks and standards outlined in the Access Standards. The framework is intended to complement the Access Standards and to assist with the management of public expectations of service levels by ensuring the application of provincial standards.

6.2 Objectives

The creation of categories of facilities providing emergency services across British Columbia requires a consistent approach to naming conventions for emergency facilities. Naming conventions should reflect historical approaches to the categorization of facilities within BC. Additionally, it is imperative that the classification of facilities reasonably reflects the type and level of service that is provided at that facility.

The proposed *BC Rural Facility Classification Framework* has several objectives:

1. To assist health authorities with planning for the services that they are required to provide to meet the minimum levels of service that are prescribed in the Access Standards.
2. To facilitate a consistent, provincial approach to the naming of facility-based emergency services in rural and remote communities across the province.
3. To provide consistent language and understanding of facility-based emergency services when describing facilities and services.

In addition to these objectives, the *Rural Emergency Facility Classification Framework* can be used as a reference point to explicitly define the minimum level of service that satisfies the Access Standards.

		BC Rural Emergency Facility Classification*				
		Rural 1	**Rural 2**	**Rural 3**	**Rural 4**	**Rural 5**
Designation		*First Aid Station*	*Urgent Care Centre*	*Health Centre*	*Rural Hospital*	*Community Hospital*
Hours of Service		• Not open 24 Hours • RN may provide after hours coverage	• Variable Hours • May provide 24/7/52 coverage	24/7/52	24/7/52	24/7/52
In-Patient Beds		No	No	No	Yes	Yes
Staffing Configurations	Nurse Staffing	• Minimum on-call professional: RN • RN may provide after hours call	• Minimum on-call professional: RN • RN on call 24/7/52	• Minimum on-call professional: RN • RN and physicians share after hours call schedule	• Minimum on-call professional: RN • RN on-site 24/7/52	• Minimum on-call professional: RN • RN on-site 24/7/52
	Physician Staffing	• Physician not on-site • Visiting physicians may provide some services	• Physician not on site 24/7/52 • Shared after hours call schedule with RN	• Physicians not on-site 24/7 • Physicians may share after hours call schedule with RN	• Physicians on call 24/7/52	• Physicians on-call 24/7/52 • Physicians on-site in facilities where volumes are high
Laboratory and Diagnostic Services		Collection and storage of samples, analysis performed off-site; no diagnostic imaging	Collection and storage of samples, analysis may be performed on-site; x-ray on-site with limited technician hours	Collection, storage and analysis of samples on-site; x-ray, ultrasound and other basic diagnostic imaging on-site with extended technician hours	Collection, storage and analysis of samples on-site; x-ray, ultrasound, and other diagnostic imaging on-site with extended technician hours	Collection, storage and analysis of samples on-site; x-ray, ultrasound, and other diagnostic imaging on-site with technician on-call 24/7
Required Additional Services		No required additional services	No required additional services	No required additional services	No required additional services	Obstetrics & General Surgery
Optional Services		None	None	Residential Care	Obstetrics, Surgery, Residential Care, CT Scan,	Open ICU, Residential Care, CT Scan
Highway/Road Sign		FIRST AID STATION	URGENT CARE CENTRE	HEALTH CENTRE	'H' (Hospital)	'H' (Hospital)

6.3 Levels of Service in Rural Emergency Facilities

This section provides a detailed description of each level of service in the *Rural Emergency Facility Classification Framework*. The table details hours of service, staffing configurations for physicians and nurses, and of availability of laboratory and diagnostic capabilities. The explanation for each level of service will provide details to justify and clarify the naming conventions and criteria that were used in the development of each level of service contained in the Framework.

Additionally, this section will provide explanations for the street signs that are proposed for each level of service. Currently, jurisdiction for traffic control devices are outlined in the *Manual of Standard Traffic Signs and Pavement Markings*, developed in 2000 by the then-Ministry of Highways and Transportation. The manual currently states that municipalities are responsible for signage on all streets, with the exception of certain specific arterial roads. The current Ministry of Transportation and Infrastructure is responsible for all arterial highways and highways in unorganized areas (2000, p.10). In addition to highway signs, corresponding community signs will need to be erected within city limits and maintained by municipalities to provide route markers between the highway and the facility entrance.

6.3.1 Rural 1: First Aid Stations

Services:

First Aid Stations provide the most basic level of emergency services. An example of this type of facility is the Nursing outpost stations that have a well established history in Canada. While their location and service levels have varied across provinces, in general, nursing outposts are established in rural and remote locations lacking hospital services (Bell, 1927), and have also been known as Federal Red Cross Nursing Stations. Funding arrangements for outpost stations have been modified, and currently, outpost stations are the exclusive responsibility of provincial governments. The terms “Nursing Outpost” or “Federal Red Cross Station” are not familiar to the public, making the *First Aid Station* title more appropriate, especially with regards to patient safety and the management of public expectations, considering the nature of services provided at these facilities.

First Aid Stations do not have acute care inpatient beds, and are not mandated to be open on a 24/7/52 basis, though Registered Nurses may provide some after hours calls. These facilities may be supported by physicians offering primary care services during regularly scheduled visits. Additionally, RNs may be supported by advanced telehealth communication with larger facilities providing consultation with physicians.

First Aid Stations will offer limited additional services, if any. Laboratory services will include the collection of samples; however analysis will be performed offsite. Diagnostic imaging services will not be offered at these sites.

Signage:

The location of these facilities will be publicized using *First Aid Station* signs on the highway, and municipalities may choose to erect signs for the facility within the community and communicate hours of operation in local media outlets.

Facilities offering this level of facility-based emergency service will have:

- Highway *First Aid Station* signs
- Hospitals and municipalities are responsible for erecting and maintaining route marker signs between the highway and the facility entrance
- RN will be available during designated hours, and may be available on an on-call basis after hours
- Physicians may provide primary care services

6.3.2 Rural 2: Urgent Care Centres

Services:

Facilities offering this level of service will be called *Urgent Care Centres*. Urgent care facilities traditionally offer treatment for injuries that are not life threatening but require immediate treatment. The term 'urgent care centre' is currently used in some, but not all of the health authorities and will replace the use of 'diagnostic and treatment centres' sometimes used to describe this type of facility. The use of the term diagnostic and treatment centre to describe this level of service could result in public confusion with regards to which services and treatments can be received at those facilities

Urgent care is a relatively straightforward term that indicates that emergency treatments can be found in these facilities while it is clear that the facility is not a hospital. Additionally, the results of the cross-jurisdictional survey indicate that the term *Urgent Care Centre* is used in other provinces, such as Ontario, and to adopt this term for this level of service will contribute to inter-provincial consistency of nomenclature.

Like First Aid Stations, *Urgent Care Centres* will not have inpatient acute care beds and generally will not offer 24/7/52 service, however RNs may provide after hours call. While physicians in *Urgent Care Centres* will not offer after-hours coverage, they will provide primary care and emergency services during scheduled hours of operation. The collection of a limited range of laboratory samples will be available, but advanced analysis will be performed off-site. Radiology (x-ray) may be available, though limited to scheduled hours where an imaging technician is available.

Signage:

Currently, there are no signs that are erected and managed by the Ministry of Transportation and Infrastructure to indicate where urgent care is available. Where appropriate, an *Urgent Care Centre* sign will be erected to indicate where these facilities are located.

Facilities offering this level of facility-based emergency service will have:

- Highway *Urgent Care Centre* signs
- Hospitals and municipalities are responsible for erecting and maintaining route marker signs between the highway and the facility entrance
- Supplementary 24/7 sign to indicate if services are available 24 hours a day
- If only on-call services are available 24 hours a day, a phone number to reach the on-call health professional must be prominently displayed

6.3.3 Rural 3: Community Health Centres

Services:

Community Health Centre is a term used consistently in all health authorities in BC. Although the service levels and staffing configurations associated with these facilities vary, in general all Health Centres offer 24/7 on-call coverage.

Though *Community Health Centres* do not have acute care inpatient beds, they offer a higher level of service than either First Aid Stations or Urgent Care Centres. All *Community Health Centres* offer 24/7/52 emergency services. While physicians are not on-site 24/7, they offer a shared call schedule with RNs. These facilities will often utilize RN First Call protocols.

Community Health Centres will offer a broad range of laboratory services with the ability to collect and analyze samples. Radiology (X-ray and Ultrasound) and other basic diagnostics are available on-site with extended technician hours.

Signage:

Community Health Centres will be marked by the *Health Centre* sign, regulated, erected, and maintained by the Ministry of Transportation and Infrastucture). The *Health Centre* sign will replace the existing *Medical Clinic* sign that is defined by the Ministry of Transportation and Infrastructure (Appendix G). The current use of the Medical Clinic sign does not align with the current nomenclature used to describe facilities in the health authorities.

Facilities offering this level of facility-based emergency service will have:

- Highway *Health Centre* signs
- Hospitals and municipalities are responsible for erecting and maintaining route marker signs between the highway and the facility entrance
- RN or physician must be on call 24/7
- If only on-call services are available 24 hours a day, a phone number to reach the on-call health professional must be prominently displayed

6.3.4 Rural 4: Rural Hospitals

Services:

Rural Hospitals offer full 24/7/52 hospital services. All *Rural Hospitals* will have acute care inpatient beds. Also, some facilities may offer additional long-term care or residential beds in co-located facilities. These facilities will have an RN on-site 24/7, and physicians will provide after-hours on-call coverage.

Rural Hospitals will provide a full range of lab and diagnostic services on-site, with both collection and analysis capabilities. X-ray, ultrasound, and CT imaging may be available with extended technician hours.

Signage:

Rural Hospitals will be marked by a highway 'H' sign, regulated, erected, and maintained by the Ministry of Transportation and Infrastructure. Currently, the 'H' sign indicating the presence of a hospital is regulated by this manual. The manual states that "Hospital route markers may be erected on any arterial highway to direct motorists to an established hospital offering **24 hour emergency services** [emphasis added], where the route to the hospital is not clear and well marked". (Appendix G)

Facilities offering this level of facility-based emergency service will have:

- Highway *H* Sign
- Either a physician or an RN must be on-site 24/7
- If the hospital is greater than 2 km from the highway, a distance tab will be erected by the Ministry of Transportation and Infrastructure
- Hospitals and municipalities are responsible for erecting and maintaining route marker signs between the highway and the hospital entrance

6.3.5 Rural 5: Community Hospitals

Community Hospitals offer the highest level of care on the continuum of rural emergency services. They will offer the same 24/7/52 coverage as Rural Hospitals, but physicians will be on-site where volumes are high. In addition to the standard range of service provided by Rural Hospitals, *Community Hospitals* will offer additional services. Mandatory services for these facilities includes surgical services and obstetrics. Further additional services for facilities in this category may include intensive care. These optional services will be provided at the discretion of the health authority where a need has been identified and resources are available.

Regulation and parameters to guide highway signage for *Community Hospitals* will be consistent with the parameters outlined for Rural Hospitals. *Community Hospitals* will be marked using a highway 'H' sign to indicate the presence of a hospital, as regulated by the Manual.

Facilities offering this level of facility-based emergency service will have:

- Highway *H* Sign
- Either a physician or an RN must be on-site 24/7
- If the hospital is greater than 2 km from the highway, a distance tab will be erected by the Ministry of Transportation and Infrastructure
- Hospitals and municipalities are responsible for erecting and maintaining route marker signs between the highway and the hospital entrance

7. Recommendations and Discussion

This section develops the findings from the literature review, the cross-jurisdictional survey, and the *Rural Emergency Facility Classification Framework* and makes recommendations for the Access Standards and the management of public perception and cross-ministerial coordination efforts. The recommendations are intended to provide logical next steps for the Ministry of Health Services and the Rural Emergency Services Working Group. The primary purpose of the recommendations is to provide a solid foundation to enable the working group, the Ministry, and the regional health authorities to begin to streamline and standardize planning for rural and remote emergency facilities in BC.

Recommendations and opportunities for immediate action have been identified and organized according to three primary themes:

1) Implementing the *BC Rural Emergency Facility Classification Framework;*

2) Revising the Access Standards;

3) Creating a Provincial Rural Planning Committee

7.1 Implementing the Facility Classification Framework

Evidence from literature, and in particular the development of the classification framework that was developed by the Canadian Association of Emergency Physicians, indicates that effective planning for rural emergency services requires the consistent identification of the types and levels of services that are offered in rural and remote emergency facilities. This requirement has been brought to the attention of several other jurisdictions in Canada, including Saskatchewan, Ontario and Alberta. Each of the provinces has either developed, or is in the process of developing classification systems for rural facilities. This need has been echoed by the health authorities in BC, who have requested guidance in rural planning to ensure that they are able to meet the needs of populations by providing the minimum required levels of service.

It is recommended that the Ministry implement the proposed *BC Rural Emergency Facility Classification Framework* to describe and define the different types and levels of service that are

available in emergency facilities in rural and remote communities. The categorization of rural emergency facilities according to their capacity to deliver emergency health services is essential to standardize minimum service levels and naming conventions throughout regional health authorities BC. The intention of the framework is to describe and define current service levels in rural emergency facilities. The framework is not meant to prescribe changes to the service levels of facilities.

One of the goals of the framework is to provide guidance for health authorities as they proceed to develop rural acute care and emergency services plans. The framework describes the range of services that exist; however it alone does not provide adequate advice for health authorities to determine the minimum types and levels of service that must be provided to satisfy the parameters of the provincial Access Standards. To provide this guidance, it is essential to establish a base level of service that will comply with the one hour standard that is prescribed in the Access Standards.

In addition to using the proposed *BC Rural Emergency Facility Classification Framework* to categorize facilities, the framework should be used to identify the minimum level of service that is required to be offered within a one hour distance. The current Access Standards explicitly state that health authorities are expected to provide access to facility-based emergency services on a 24/7/52 basis. The one hour benchmark should be set at the Rural Three level (Community Health Centre) because this is consistent with the current parameters prescribed in the Access Standards that mandates that service be available on a 24/7/52 basis.

7.2 Revising the Access Standards

Clearly defined and documented standards of accessibility based on the distance of residents from facilities are uncommon in other jurisdictions in Canada. However, the literature review indicates that distance to services and travel times are important factors in developing plans for the provision of rural emergency services. The Ministry's Access Standards provide a good foundation for the health authorities in their service planning, however some specific revisions are required to ensure that the standards are consistent across health authority boundaries.

The most essential revisions to the Access Standards will be to those sections that attend specifically to the provision of facility-based emergency services. In particular, Section 4.1, Section 5.1, and Appendix 3 will require revisions and updates to incorporate and accommodate the parameters defined in the *Rural Emergency Facility Classification Framework.* Only those sections that require revisions and clarification have been included in this discussion. The standards themselves have not been modified in terms of the mandated distance and time to service. Only the language and nomenclature used to define facilities have been changed to ensure that the standards are clearly articulated.

The recommended revisions for the Access Standards can be summarized as follows:

- Appropriate changes should be made to Section 4.1 to include new naming conventions as defined by the *Rural Emergency Facility Classification Framework*

- Appropriate changes should be made to Section 5.1 to include a clear benchmark of what minimum types and levels of service can be expected within the one hour travel time that is prescribed in the Access Standards
- Appendix 3 of the Access Standards should be replaced with a new list of facilities, but this should not be included until health authorities have had opportunity to implement the framework and adopt the new naming conventions. The revised Appendix will include all rural emergency facilities based on the categories outlined in the *Rural Emergency Facility Classification Framework*
- The *Rural Emergency Facility Classification Framework* should be included as a reference in the Access Standards as Appendix 4.

The specific modifications for the sub-sections of the Access Standards (Sections four and five), have been included as Appendix E. The current version of those sections has subsequently been included as Appendix F.

In addition to these specific revisions, the cross-jurisdictional survey revealed that other provinces, namely Ontario, have elected to develop intricate systems to define communities in terms of their rurality, to inform service configurations. In BC, the Access Standards already provide sufficient guidance by defining the minimum levels of acute care services that must be provided in terms of the distance of residents to facilities. However, because the Access Standards are based on aerial (crow-flies) distances, the travel time standards may not accurately reflect the time it actually takes to drive to the facility, especially given BC's mountainous terrain and geography. It is therefore recommended that the Access Standards continue to use travel time to develop emergency service configurations, however the methods used to calculate distances should be revised to reflect actual driving times, taking geography and weather into consideration.

7.3 Creating a Provincial Rural Planning Committee

Pending the implementation of the *Rural Emergency Facility Classification Framework*, it is recommended that a group or committee be formed to operate on a continuous basis, to ensure harmonized rural planning efforts across health authorities. The Rural Emergency Services Working Group has time limited deliverables, and is expected to dissolve following the development of service models for the delivery of rural emergency services. As health authorities continue to develop and enhance rural service provision plans, it would be beneficial for the Ministry to play a role in facilitating the coordination of the individual efforts of health authorities by creating a Provincial Rural Planning Committee.

The committee should be managed by the Health Authorities Division at the Ministry, and should include appropriate administrative representatives from each health authority, and the Ministry of Healthy Living and Sport, as well as from other divisions at the Ministry of Health Services. It is imperative that regional health authority members appointed to the Provincial Rural Planning Committee are able to represent and provide the perspective of the health authority at large.

Members of the committee should be administrators from each health authority who are able to provide a health authority-wide perspective to ensure the effective coordination of strategies. In addition to general coordination of rural planning, the committee would be tasked with two deliverables directly related to the implementation of the *Rural Emergency Facility Classification Framework*, and the revisions of the Access Standards. First, the committee should facilitate coordination with health authorities, municipalities, and provincial ministries to implement consistent road signage for rural emergency facilities. Additionally, the committee would play a pivotal role in developing communications strategies and standard messaging to support the new naming conventions for facilities. As the primary goal of the framework is to develop consistency by streamlining naming conventions and service configurations, adequate practical inter-ministerial and cross-governmental cooperation is a necessary factor to achieve success upon implementation.

The management of public perception is another significant factor that should be considered by a provincial coordinating authority as the Ministry proceeds with the implementation of the *BC Rural Emergency Facility Classification Framework*. The framework has been developed during an economic downturn that has resulted in significant budget constraints for health authorities. No adverse implementation outcomes are anticipated. The goal of the framework is to describe current service levels, without prescribing changes to access or services at any facility. However, it can be reasonably anticipated that there may be public reaction if changes to the names of facilities are associated with changes to service level.

A provincial coordinating committee for rural health issues would be well positioned to develop a substantive communications strategy and standard messaging for all regional health authorities throughout the course of implementation of new naming conventions for rural emergency facilities. As health authorities continue to consider a range of options to meet budget targets, it is essential to have clear and definitive messaging, to ensure the public who need access to these vital emergency services, understand that there is no association between the renaming of facilities, and the highly publicized service reconfigurations. Additionally, one of the primary goals of the development of the *Rural Emergency Facility Classification Framework* is to ensure that people seeking care have clear expectations of what types of care can be accessed in which facilities. The development of a communications strategy will ensure that those expectations are managed at a provincial level, across all health authority boundaries.

It is also recommended that the provincial committee begin to engage with aboriginal partners at the municipal and provincial levels to ensure that these services are provided to those communities in a manner consistent with the provincial standards. While the delivery of health services to First Nations communities was not specifically addressed in this report, it should be noted that many of these communities are part of the province's rural population, and will require the attention of the Ministry to coordinate those services provided by the health authorities, with those that are funded through other jurisdictions.

In addition to these targeted tasks, a Provincial Rural Planning Committee would enable further coordination between health authorities as rural planning initiatives continue to develop and evolve. The primary role of the committee would be to ensure that the initiatives and programs implemented in health authorities are both compatible and complementary to ensure effective health authority coordination of the delivery of rural health services. This would provide further efficiency and effectiveness in planning as health authorities continue to work to meet

challenging budget targets. As the Ministry continues to monitor changes to service configurations that are occurring in rural and remote communities within the regional health authorities, the creation of a provincial coordinating committee will allow the Ministry and health authorities to collectively address those challenges to facilitate provincial consistency with respect to access to emergency services.

7.4 Summary of Recommendations

1. Implement the proposed *BC Rural Emergency Facility Classification Framework*

    - Use the framework to standardize naming conventions for all facilities providing emergency services in rural and remote communities in BC
    - Use the Framework to define the minimum level of service that must be provided within the one hour distance that is outlined in the current Access Standards. It is recommended that *Health Centres* (Rural 3 facilities) is established as the one hour benchmark

2. Revise the Access Standards to reflect the implementation of the Framework

    - Make specific revision to language and nomenclature
    - Include the *BC Rural Emergency Facility Classification Framework* as an Appendix
    - Revise the Access Standards to reflect realistic driving times rather than aerial distances

3. Create a Provincial Rural Planning Committee

    - Use the committee forum to develop communications strategies to support the implementation of the *Rural Emergency Facility Classification Framework*
    - Begin to coordinate with health authorities and municipal partners through the committee to implement consistent and standardized signage for emergency facilities
    - Engage with First Nations Tripartite partners to ensure consistency

8. Conclusion

As work surrounding the delivery of services to rural and remote communities continues, the findings and recommendations in this report will begin to enable the standardization of names and nomenclature across health authority boundaries. By offering insight into various approaches to emergency service configurations in other jurisdictions, and through the development of the classification framework, the primary goal of this report is to provide the basic framework necessary to maintain provincial minimum standards for emergency services.

Demographics and geography, combined with the geographic maldistribution of health care practitioners between urban and rural communities has presented many challenges with respect to providing access to emergency services. The challenges create a climate where the effective balancing of health resources requires an integrated approach to the maintenance of minimum standards of accessibility.

In an attempt to regulate and standardize the provision of acute care services to ensure consistent and equitable access, the BC Ministry of Health Services created the Access Standards. This report initially set out to examine the current levels of service available in rural emergency facilities in BC, and to make recommendations for the Access Standards based on this examination. As a result, the *Rural Emergency Facility Classification Framework* was developed to define and categorize the range of service that exists in these facilities throughout the province. The framework proposed in this report combines the perspectives of several jurisdictions, evidence from literature, and consideration of context and background.

This report recommends a comprehensive approach to the standardization of names and nomenclature and updates for the Access Standards that can provide a solid foundation for the development and implementation of future rural health care initiatives. The report recognizes that planning for rural emergency services is an ongoing activity in the regional health authorities, that will require provincial oversight and guidance as future initiatives and programs develop. The recommendations also go beyond the initial objectives of the report, and suggest that a Provincial Rural Planning Committee be established within the Ministry to ensure that initiatives are harmonious in their development, and that access to emergency services in rural is sustainable, and consistent with the provincial Access Standards.

A Provincial Rural Planning Committee is a worthwhile endeavour for the Ministry to facilitate to provide ongoing support for the work undertaken by the Rural Emergency Services Working Group, and to facilitate progress with respect to providing timely and equitable access to emergency service for residents of rural and remote communities. Some examples of the groups work might include:

- Coordinating with provincial ministries, health authorities, and municipalities to implement comprehensive, standard highway signage policies
- Developing a communications strategy to support the implementation of the framework
- Developing relationships with First Nations groups to break down jurisdictional boundaries and to include those facilities in rural planning initiatives

This brief list provides a glimpse into some of the future possibilities that have emerged throughout the course of this report. While this project provides solutions directly related to the revisions of the Access Standards, it also makes substantive recommendations for issues that will require the Ministry's attention in the months and years to come. The rural planning initiatives in BC are timely, and as in other jurisdictions in Canada, it is an opportune moment for the province to show leadership by refining and clarifying access standards to support the maintenance of minimum service levels in emergency facilities for residents of rural and remote communities.

9. Works Cited

Australian Standard Geographic Classification. (2003). *ASGC remoteness classification: Purpose and use*. Census Paper No. 03/01. Retrieved Oct 25, 2009 from http://www.abs.gov.au/Websitedbs/D3110122.NSF/4a255eef008309e44a255eef00061e57/f9c96fb635cce780ca256d420005dc02/$FILE/Remoteness_Paper_text_final.pdf

Barer, M., & Stoddart, G. (1999). *Improving access to needed medical services in rural and remote Canadian communities: Recruitment and retention revisited.* Discussion paper prepared for the federal/provincial/territorial committee on health human resources. Retrieved July 3, 2009 from http://www.srpc.ca/librarydocs/BarSto99.pdf.

BC Rural and Remote Health Research network. (2009). *The Rural Nursing Certificate Program*. Retrieved Oct. 25, 2009 from http://www.bcrrhrn.ca/index.php?option=com_content&view=article&id=243

British Columbia Hospital Act. (2009). Section 1. Retrieved from http://www.bclaws.ca/Recon/document/freeside/--%20H%20--/Hospital%20Act%20%20RSBC%201996%20%20c.%20200/00_96200_01.xml#part1

British Columbia Ministry of Health Services. (2004). *Provincial on-call availability programs: Medical on-call availability program (MOCAP).* Retrieved from http://www.health.gov.bc.ca/pcb/mocap.html

British Columbia Ministry of Health Services. (2004). Unpublished internal document. *Standards of accessibility and guidelines for provision of sustainable acute care services.*

British Columbia. Ministry of Health Services. (2009). *2009/10-2011/12 service plan update*. http://www.bcbudget.gov.bc.ca/2009_Sept_Update/sp/pdf/ministry/hserv.pdf

British Columbia Ministry of Healthy Services. (2009). Unpublished internal document. *Rural emergency services working group: Terms of reference*

British Columbia Ministry of Healthy Living and Sport. (2009). *Aboriginal healthy living*. Retrieved from http://www.hls.gov.bc.ca/aboriginal/index.html

British Columbia Rural and Remote Health Research Network. (2009). *The rural nursing certificate program*. Retrieved from http://www.bcrrhrn.ca/index.php?option=com_content&view=article&id=243

Cameron, P., Bradt, D., & Ashby, R. (1996). Emergency medicine in Australia. *Annals of Emergency Medicine*. 28(3) 342-346. Retrieved from

http://www.sciencedirect.com.ezproxy.library.uvic.ca/science?_ob=ArticleURL&udi=B6WB04HP4NXFF&_user=1007916&_coverDate=09%2F30%2F1996&_rdoc=1&_fmt=&orig=search&_sort=d&_docanchor=&view=c&_acct=C000050229&_version=1&_urlVersion=0&_userid=1007916&md5=55593dd24902af719b7a43c47437ae0e

Canada Health Act. Chapter C-6, (2009). Retrieved from http://laws.justice.gc.ca/PDF/Statute/C/C-6.pdf

Canadian Association of Emergency Physicians. (1997). *Recommendations for the management of rural, remote and isolated emergency health care facilities in Canada*.

Canadian Institute of Health Information. (2005). *Methodological notes*. Retrieved from http://secure.cihi.ca/cihiweb/en/downloads/2005_RPN_Methodological_Notes_e.pdf

Canadian Institute for Health Information. (2008). *Regulated nurses: Trends, 2003 to 2007.* Retrieved from http://dsp-psd.pwgsc.gc.ca/collection_2008/cihi-icis/H115-28-2007E.pdf

Canadian Nurses Association. (2008). *Frequently asked questions about nurse practitioners*. Retrieved from http://206.191.29.104/documents/pdf/information_sheet_2_e.pdf

College of Registered Nurses of British Columbia. (2009). *RN first call certified practices*. Retrieved from http://www.crnbc.ca/NursingPractice/Requirements/ScopeofPractice/RNFirstCall.aspx

College of Registered Nurses of British Columbia. (2009). *Remote nursing practice certified practice*. Retrieved from http://www.crnbc.ca/NursingPractice/Requirements/ScopeofPractice/RemoteNursingPractice.aspx

Commission on the Future of Health Care in Canada. (2002). *Building on values: The Future of health care in Canada*. Retrieved Feb 21, 2009 from http://www.cbc.ca/healthcare/final_report.pdf.

Dunbabin, J., and Levitt, L. (2003). Rural origin and rural medical exposure: their impact on the rural and remote medical workforce in Australia. *International Electronis Journal of Rural and Remote Health Research, Education, Practice, and Policy.* Retrieved Oct. 31, 2009 from http://www.rrh.org.au/articles/subviewnew.asp?ArticleID=212

Derlet, R., Richards, J. & Kravitz, R. (2001) Frequent overcrowding in U.S. emergency Departments. *Academic Emergency Medicine*. 8(2) Retrieved July 10, 2009 from http://www3.interscience.wiley.com.ezproxy.library.uvic.ca/cgi-bin/fulltext/119825859/PDFSTART

First Nations Leadership Council, Government of Canada, Government of British Columbia. (2007). *Tripartite First Nations health plan*. Retrieved from http://www.health.gov.bc.ca/library/publications/year/2007/tripartite_plan.pdf

Fowkes, V., Gamel, N., Wilson, S., & Garcia, R. (1994). Effectiveness of educational strategies preparing physician assistants, nurse practitioners, and certified nurse-midwives for underserved areas. *Public Health Reports*. 109(5). Retrieved from http://www.jstor.org/stable/4597681

Green, M. And Van Iersel, R. (2007) Response of rural physicians in a non-fee-for-service environment to acute increases in demand due to physician shortages. *Canadian Journal of Rural Medicine*. 12(1), 10-15.

Harbour Peaks Management Inc. (2008). *British Columbia rural physician programs review*. Retrieved from http://www.health.gov.bc.ca/pcb/pdf/rural_review_report.pdf

Henderson, Beckus, M, & MacLoad, M. (2004). Retaining public health nurses in rural British Columbia: The influence of job and community satisfaction. *Canadian Journal of Public Health*. 95(1), 54.

Nicholson, P., & Levy, N. (2009). Solving the primary care crisis- a proposed strategy for physician allocation. *BC Medical Journal*. 51(1). Retrieved from https://www.bcmj.org/files/BCMJ_51Vol1_bcmd2b.pdf.

Joint Standing Committee on Rural Issues. (2005). *Terms of reference*. Retrieved from http://www.health.gov.bc.ca/pcb/pdf/jsc_tor.pdf

Lafiti, R., Ong, C., Peck, K., Porter, J., Williams, M. Telepresence and telemedicine in trauma and emergency care. *European Surgery*. 37(5). P 293-297 Retrieved from http://www.springerlink.com.ezproxy.library.uvic.ca/content/p834551q1w464382/fulltext.pdf

Lerner, B., & Moscati, R. The golden hour: Scientific fact or medical "urban legend"? *Academic Emergency Medicine*. 8(7). P. 758-760.

Maheu, M. Whitten, P., & Allen, A. (2001) *E-health, telehealth, and telemedicine: a guide to start-up and success*. New York, NY: Jossey Bass

Pong, R. Atkinson, A., Irvine, A., MacLeod, M., Minore, B., Pegoraro, A.,... Tesson, G. (1999). *Rural health research in the Canadian institutes of health research.* Retrieved from http://www.chsrf.ca/final_research/commissioned_research/programs/pdf/hidg/pong.pdf

Ricci, M., Caputo, M., Amour, J., Rogers, F., Sartorelli, K., Callas, P. and Malone, P. Telemedicine reduces discrepancies in rural trauma care. *Telemedicine Journal and e-Health*. March 2003, 9(1): 3-11.

Rourke, J. (1993). Politics of rural health care: recruitment and retention of physicians. *Canadian Medical Association Journal*. 148(8), 1281-4.

Roberg, C. (2009). Who stays in rural practice? An international review of the literature of factors influencing rural nurse retention. *Online Journal Of Rural Nursing and Health Care*. March 22, 2009. Retried August 14th, 2009 from http://www.rno.org.ezproxy.library.uvic.ca/journal/index.php/online-journal/article/viewFile/180/230

Ross, J. (2008). *Rural nursing: Aspects of practice.* Dunedin: Rural Health Opportunities. Retrieved from http://www.waikatodhb.govt.nz/file/fileid/10427

Rourke, J., Incitti, F., Rourke, L., & Kennard, M. (2003). Keeping family physicians in rural practice: Solutions favoured by rural physicians and family medicine residents. *Canadian Family Medicine*. 49, 1142-1149.

Scharff, Jane Ellis. (2006). The distinctive nature and scope of rural nursing practice: philosophical bases. In *Rural Nursing: Concepts, theory and practice*. Eds. Lee, H. & Winters, C. Springer: New York: 2006.

Schneider, S. Hamilton, G., Moyer, P., & Stapczynski, S. (1998). Definition of emergency medicine. *Academic Emergency Medicine.* 5(4) Retrieved from http://www3.interscience.wiley.com.ezproxy.library.uvic.ca/cgi-bin/fulltext/120143533/PDFSTART

Schreiber, R., MacDonald, M., Pauly, B., Davidson, H., Crickmore, J. Moss, L.,... Hammond, C. *Singing in different keys: Enactment of advanced nursing practice in British Columbia*. Retrieved from http://www.longwoods.com/website/NL/onlineExclusive/NL0605aSchreber.pdf

Stamford, P., Bickford, T., Hsaiao, H, & Mattern, W. (1999). The significance of telemedicine in rural emergency departments. *IEEE Engineering in Medicine and Biology Magazine*. 18(4). Retrieved from http://ieeexplore.ieee.org.ezproxy.library.uvic.ca/stamp/stamp.jsp?tp=&arnumber=775488&isnumber=16850&tag=1

Standing Senate Committee on Social Affairs, Science, and Technology. (2002). Interim Report on the state of the health care system in Canada. *The health of Canadians- The federal role volume two: Current trends and future challenges.* Retrieved Feb. 21, 2009 from http://dsp-psd.communication.gc.ca/Collection/YC17-371-1-02E.pdf

Statistics Canada. (2002). Definitions of "rural". *Agriculture and Rural Working Paper Series*. Retrieved from http://www.statcan.gc.ca/pub/21-601-m/2002061/4224867-eng.pdf

Statistics Canada. (2009). Population urban and rural, by province and territory (Canada). Retrieved from http://www40.statcan.ca/l01/cst01/demo62a- eng.htm

Strasser, R. (2003). Rural health around the world: Challenges and solutions. *Journal of Family Practice*. 20(4). Retrieved from http://fampra.oxfordjournals.org/cgi/reprint/20/4/457

Waite, K., Silver, F., Jaigobin, C., Black, S., Lee, L., Murray, B., Danyliuk, P., & Brown, E. (2006). Telestroke: a multi-site, emergency-based telemedicine service in Ontario. *Journal of Telemedicine and Telecare.* 12(3).

Yang, J. (2003). Potential urban-to-rural physician migration: the limited role of Financial incentives. *Canadian Journal of Rural Medicine*.8(2). http://web.ebscohost.com.ezproxy.library.uvic.ca/ehost/pdf?vid=3&hid=107&sid=aca7abd3-9c5f-4558-88a5-42ddd7e52188%40sessionmgr104.

10. Appendices

10.1 Appendix A- Rural RSA Programs

Program	Details
Rural Retention Program	➢ Annual retention premiums are paid to physicians working in eligible RSA communities ➢ 30% of the isolation points assessed are paid as a flat fee, 70% of the isolation points assessed are paid as a fee premium; physicians compensated other than FFS will receive an equivalent payment of the isolation points assessed ➢ Premium totals are based on a community's number of isolation points
Isolation Allowance Fund	➢ An isolation allowance fund is available for physicians providing necessary medical services in eligible RSA communities with fewer than four physicians, no hospital and who do not receive on call, call-back, or Doctor of the Day payments
Northern & Isolation Travel Assistance Outreach Program	➢ Provides travel assistance to approved physicians visiting rural and isolated communities to provide medical services ➢ Provides a travel time honorarium for approved visits by specialist and family medicine physicians
Rural GP Locum Program	➢ Supports and enables rural general practitioners to have periods of leave from their practices for continuing medical education, vacation, and health needs ➢ GP locums receive a travel honorarium of $600 and a guaranteed daily rate of $750 when providing coverage in RSA communities with 7 or fewer GPs. Host GP's are eligible for 28 days per year, which can be used to cover full weeks or weekends
Rural Education Action Plan	➢ Supports and facilitates training needs of physician and students in rural practice ➢ Funds the Advanced Skills Program for rural physicians ➢ Supports training opportunities for urban physicians wanting to take rural locum opportunities
Specialty Training Bursary	➢ Provides funding for specialty residents in exchange for a commitment to practice in an eligible RSA community
Rural Continuing Medical Education	➢ Provides rural physicians with enhanced CME funding up to $5,200/year ➢ Funding per physician is determined by the level of isolation and the length of service in that community
Recruitment Incentive Fund	➢ Funding for physicians recruited to fill current or pending vacancies ➢ Physicians are eligible for up to $10,000
Recruitment Contingency Fund	➢ Additional funding to assist communities, health authorities or physician groups where the difficulty in filling a vacancy is, or is expected to be, especially severe and where the failure to fill a vacancy in a timely manner will negatively impact the delivery of care

10.2 Appendix B- Cross-Jurisdictional Survey

British Columbia Ministry of Health Services
Health Authorities Division

Planning for Rural Emergency Health Services in BC: An Analysis of Access Standards for Acute Care Services

Date	
Participants Name	
Title	
Organization	

Definitions

2. What are the province's/territory's expectations of the minimum levels of facility-based emergency services that Health Authorities, or regional bodies are expected to deliver?
    a. Are there different expectations or standards depending on the size of the community, or the facility's (or community's) geographic location, or distance from a higher level of care?

    b. Do you have a definition for "emergency services"?
    (Please provide detail on hours of service, specific services provided, types of practitioners available, other?)
3. What is the acceptable distance and/or travel time of residents from the "lowest level" of facility-based emergency services? What about higher levels?

    a. How is distance measured, if at all (ie: Aerial distance, driving time)

4. Does your province/territory use any of the following terms for small facilities that provide emergency services?

    ☐ Diagnostic and Treatment Centre
    ☐ Health Centre
    ☐ Red Cross Outpost Hospital
    ☐ Federal Nursing Station
    ☐ Urgent Care Centre
    ☐Other, please name

a. Do you have specific expectations or standards for what services are to be provided at each of the above?

b. Are there policies or standards for what name can be used for a specific type of facility? (other than a Hospital, as this is presumably defined in legislation)

Challenges and Solutions

5. Are rural and remote areas experiencing any challenges with respect to the delivery of emergency services? If so, can you briefly describe some of those challenges?

6. How has the province/territory responded to those challenges? What strategies are currently being implemented, or expected to be implemented to address those challenges?

7. Is the success of rural/remote emergency initiatives being measured? Can you share the results? In general, how well are the initiatives working?

Population

8. Can you describe what constitutes a rural community in your province?

9. Can you please describe your province's/territory's population from a demographic and geographic perspective? (For example what percentage of the population is considered rural? What is the density? What about the Aboriginal population?)

10.3 Appendix C- Survey Invitation

Invitation to Canadian provinces

I am a graduate student at the University of Victoria, and have currently undertaken a research project with the BC Ministry of Health Services in the Health Authorities Division. The purpose of the project is to develop a framework to define minimum levels of acceptable emergency services for rural and remote communities in British Columbia. Specifically, I am interested in the facility-based Emergency services that are provided in rural areas in your province.

I am completing this project for the Ministry as part of a capstone report that is required for a Master's of Public Administration degree at the University of Victoria. My academic supervisor is Thea Vakil, and she can be contacted at (250) 721-6442.

In addition to several activities being conducted in concert with the Health Authorities in BC, the project will include a component focusing on standards and initiatives that have been developed in other jurisdictions across Canada. I will be conducting a series of phone interviews, and your insight would be a valuable component of my research. This interview would take approximately 30-40 minutes. I would also welcome any material that could be shared in writing.

The questions will be oriented around current standards of accessibility and how sustainable health care services are delivered to rural and remote communities in your province. There is no known risk to you by participating in this research. Information collected through the interviews as well as a review of international standards will be used to inform the development of new provincial accessibility standards in BC. You would be identified in the report only as being the source providing the information for your province.

If you are able to participate in this interview survey, it would be helpful if you replied with your telephone number and some convenient interview times, and I will forward you the interview questions. If you are not the most appropriate individual to speak with, if you could direct me to the person who may have this information that would be helpful.

If you had any questions concerning this research, you can contact Valerie Stevens, my supervisor here at the Ministry of Health Services. Her contact information is:

Valerie Stevens, Director,
Performance Accountability (IHA), Health Authorities Division
BC Ministry of Health Services
6-1, 1515 Blanshard Street.
Victoria, BC V8W 3C8
Phone: (250) 952-2857
Email: Valerie.stevens@gov.bc.ca

Thank you in advance for your participation, please feel free to contact me should you have any further questions.

10.4 Appendix D- CAEP Rural Classification

	Level of Rural Emergency Health Care Facility				
	Rural 1	**Rural 2**	**Rural 3**	**Rural 4**	**Rural 5**
Typical location	Rural industrial site.	Remote or isolated community.	Very small rural community, often near a larger one.	Medium sized rural communities.	Larger rural communities.
Service availability.	Not open 24 hours. Provider might be on call.	Not open 24 hours. Provider might be on call.	Not open 24 hours. Physician usually on call.	Open 24 hours.	Open 24 hours.
Physician Staffing	Usually not on site.	Usually not on site. Might visit periodically.	Local physicians on call.	Local physicians on call. Should have in-house ED staffing when volumes are high*	Local physicians on call. Should have in-house ED staffing when volumes are high*
Registered Nurse Staffing	Optional, depending on local regulations.	Broadly trained nurses with additional skills and training.	May include a mix of basic and advanced nurse skills and training.	Registered nurse 24 hours/day. Nurse manager skilled in emergency.	Registered nurse 24 hours/day. Nurse manager skilled in emergency.
Management	Protocols for stabilization, triage, communication, local treatment and transport.	Protocols for stabilization, triage, communication, local treatment and transport.	May be provided by nurse, administrator or physician manager.	Nurse and physician dual manager team, preferably both with additional emergency training.	Nurse and physician dual manager team, preferably both with additional emergency training.

10.5 Appendix E- Access Standards Revisions

SECTION 4:

4. PROVINCIAL STANDARDS OF ACCESSIBILITY

The following provincial standards set the minimum requirements for acute care health services provided by health authorities in British Columbia. These standards are based on time of travel and on populations (not individuals). Any changes considered by health authorities (HA) to the provision of acute care services in any region must meet these provincial standards.

These provincial standards are generally applicable outside the major urban areas in BC, covering emergency services, acute inpatient services, and specialty services. Access standards also require that larger centres must accommodate inter-regional patient transfers for services that are not available locally in rural and remote areas, on the same priority basis as their local population. While not currently under the governance of the health authorities, an effective and responsive ambulance service plays an essential role in assuring accessibility.

Section 4.1 Emergency Services

- *Access will be provided to emergency services on a 24/7/52 basis within a one hour travel time for 98% of residents within the Health Authority, and 95% of residents within the Health Service Delivery Area (*Hospitals and municipalities are responsible for erecting and maintaining route marker signs between the highway and the hospital entrance *). Emergency services may take the form of a Community Health Centre, a Rural Hospital, or a Community Hospital.*

SECTION 5: PROPOSED GUIDELINES FOR PROVISION OF ACUTE CARE SERVICES

The following discussion outlines guidelines for the provision of acute care services when provincial standards of accessibility are applied. These guidelines reflect a focus on client needs and health care provider needs. Health Authorities should consider these guidelines when planning changes in services. Please note that these are guidelines, not standards, and are not mandatory. In situations where the provision of services according to the guidelines conflicts with the standards for accessibility, the latter takes precedence. Population size, professional competence, and the need for health care providers to have reasonable on-call schedule based on critical mass are key factors in determining the sustainability of acute care services.

It is expected that health authorities will aim to become as self-sufficient in all specialty and sub-speciality services as their population supports. For example, it is expected that 95% or more of care requirements will be accommodated within their region. Exceptions to this expectation are provincial/tertiary services and inter-regional agreements for the delivery of non-tertiary services in another region.

Section 5.1 Emergency Services

Primary practice by physicians in their offices provides the basis of most primary care in British Columbia at present. In a number of small communities that do not have an acute care or tertiary care hospitals, emergency services may be provided at First Aid Stations Urgent Care Centres, Health Centres Rural Hospitals or Community Hospitals. The services offered at these facilities are categorized on a scale, ranging from Rural One to Rural Five respectively.

It is expected that 95% of resident s within each health authority, and 98% of resident within each HSDA should be able to access a minimum of Rural Three Emergency services, which includes 24/7/52 physician on-call availability. In some communities, additional emergency services may be offered with limited hours of operation, and variable staffing configurations, at First Aid Stations, or Urgent Care facilities. These facilities may not offer 24/7/52 coverage, and a physician may not be available

10.6 Appendix F- Current Access Standards

SECTION 4

4. PROVINCIAL STANDARDS OF ACCESSIBILITY

The following provincial standards set the minimum requirements of accessibility for acute care health services provided by health authorities in British Columbia. These standards are based on time of travel[7] and on populations (not individuals). Any changes considered by health authorities (HA) to the provision of acute care services in any region *must meet these provincial standards.*
These provincial standards are generally applicable outside the major urban areas in BC, covering emergency services, acute inpatient services, and specialty services.[8] Access standards also require that larger centres must accommodate inter-regional patient transfers for services that are not available locally in rural and remote areas, on the same priority basis as their local population. While not currently under the governance of the health authorities, an effective and responsive ambulance service plays an essential role in assuring accessibility.

4.1 Emergency Services

Access will be provided to emergency services on a 24/7/52 basis within a one hour travel time for 98% of residents within the region (HA). The standard for health service delivery areas (HSDA) is 95%.[9] Emergency services may take the form of a diagnosis and treatment centre, a health centre, a group practice, a group of practices, or a larger inpatient facility. In remote areas, Red Cross Outpost Hospitals and Federal Nursing Stations may provide these services.

4.2 Acute Inpatient Services

Access to basic inpatient hospital services will be available within two hours travel time for 98% of residents within the region and 95% of the population of each HSDA.

4.3 Specialty Services

Access to core specialty services will be available within four hours travel time for 98% of residents within the region and 95% of the population of each HSDA.[10] Core specialty services include general surgery, anaesthesia, psychiatry, internal medicine, obstetrics & gynaecology, and paediatrics. Depending on the catchment population and location, specialty services outside major referral centres may include other specialties such as orthopaedics, urology, ophthalmology, and otolaryngology.

SECTION 5

5. PROPOSED GUIDELINES FOR PROVISION OF ACUTE CARE SERVICES

The following discussion outlines guidelines for the provision of acute care services when provincial standards of accessibility are applied. These guidelines reflect a focus on client needs and health care provider needs. Health authorities should consider these guidelines when planning changes in services. Please note that these are guidelines, not standards, and are not mandatory. In situations where the provision of services according to the guidelines conflicts with the standards for accessibility, the latter take precedence. Population size, professional competence, and the need for health care providers to have a reasonable on-call schedule based on critical mass are key factors in determining the sustainability of acute care services. It is expected that health authorities will aim to become as self-sufficient in all specialty and sub-specialty services as their population supports. For example, it is expected that 95% or more of care requirements will be accommodated within the region. Exceptions to this expectation are provincial/tertiary services and inter-regional agreements for the delivery of non–tertiary services in another region.

5.1 Emergency Services

For the purposes of this paper, emergency services constitute 24 hour call, minor treatment, triage and stabilization. This topic will be the subject of more complete guidelines and standards to come. The following notes are intended to provide guidance where decisions must be made prior to their completion.

Private practice by physicians in their offices provides the basis of most primary care in British Columbia at present. In a number of small communities that do not have an acute care hospital, some health services are provided through diagnostic and treatment centres. These government-funded facilities offer out-patient acute care services and include 24/7/52 emergency coverage. In some smaller communities, Red Cross Outpost Hospitals offer basic out-patient care and occasional overnight stays. There are also a number of Federal Nursing Stations in some of the remote First Nations communities.

To calculate the capacity of catchment populations to support physician services and therein the provision of emergency services, the 1997 Physician Supply Plan[11] was used. In that Plan, an acceptable population to physician ratio in rural areas is identified (i.e.1 GP per 1000-1200 people). Based on this ideal ratio, a community of 5000 could support five physicians and one in five on-call coverage. This population size, whether a single community or a catchment population (an aggregation of smaller communities within a reasonable travel distance), can support a group of physicians and basic diagnostic services (e.g. lab/X-Ray, EKG). Each community has to be considered individually, particularly the probability of being able to maintain a regular and continuous service, not one that is based on a rotating series of short-term professionals. Smaller communities that are not within a reasonable travel distance of a larger centre (say greater than 2 hours) may need to consider a smaller service with fewer practitioners (e.g. Dease Lake, Atlin, or Stewart). The concept of nurse-practitioners working with physicians is an option.

Other community health services such as primary health care networks or residential care may also be sustainable with a population size of 5000. It would also be possible to provide these services from a community health centre, whether publicly funded or built and operated by family physicians or others. The important point is that the necessary services are provided in a convenient and coordinated way.

Primary Health Care Networks can be formed by a combination of group practices, diagnostic and treatment services, and community health services, and could include the following types of services:

- 24/7 emergency services - basic diagnostic services
- day surgery - referral to secondary centres
- ambulance - rehabilitation
- chronic disease management - telemedicine
- home care - special services (e.g. First Nations)
- health education, prevention, promotion

Where a diagnostic and treatment centre is part of a residential care facility, some additional services requiring beds may be provided. These can only be provided where the patients can be cared for overnight by the nursing staff in the residential care unit (e.g. palliative care, respite care, recuperation/convalescence post-op care).