



Developing an Improved
and
Sustainable Health Care Model
for
Princeton, B.C.

A Discussion Paper

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Contents

Overview	3
The Town of Princeton	3
Objectives and Expectations	3
Defining Health Care	5
• What are the components of essential health care?	
• What is Public Health?	
• What is a hospital?	
• What is acute care? alternate level of care? Canadian Triage and Acuity Scale? Local Health Area? an unscheduled emergency department visit?	
• Who are the constituents of Princeton Health?	
• What health services should we expect to receive at the local level? and how do we define "local"?	
• What is emergency care?	
Defining the Problem	17
• Regionalization: Does it work?	
• Are foreign doctor recruitment rules fair and appropriate? Should the College of Physicians and Surgeons have jurisdiction over these rules?	
• What is the role of the IHA in providing adequate numbers of medical practitioners in it's rural communities? Should the B.C. Ministry of Health re-examine the mandate of provincial health authorities?	
• Is medical training in Canada providing doctors with appropriate skills that meet the needs of rural remote communities? Has the system become too specialized?	
• Are specialized services provided in an efficient and easily accessible manner? Are the needs of all rural residents being provided for?	
• What are the roles and responsibilities of the community in determining health care services?	
Seeking Solutions	22
• Working Cooperatively with Other Rural BC Communities	
• How to solve the doctor shortage?	
• Local Autonomy	
• Doctor Salaries?	
• What about Keremeos?	
• Funding	
Summary	24
Appendices	25
References	29

Overview

Princeton General Hospital (PGH) has witnessed a gradual deterioration of health care services over the past fifteen years. These service cuts coincide with the establishment of the Interior Health Authority (2001) and the elimination of the PGH local hospital board. Beginning in 2010, emergency services at PGH began to experience weekend closures reaching the crisis point in April of 2012 when IHA announced the closure of nighttime emergency services from Monday through Thursday. These closures took effect on May 1.

In response, a group of concerned citizens began a petition asking the B.C. Minister of Health to honour his commitment to “provide quality, appropriate and timely health services to British Columbians” and bring back a fully functioning hospital with a 24/7 emergency room. Over 3600 citizens signed the petition. Subsequently, the Save Our Hospital Coalition (SOHC) was formed with the short term goal of reinstating 24/7 emergency services and the long term goal of developing an improved and sustainable health care model for Princeton.

The Town of Princeton

Princeton is located in British Columbia’s southern interior at the intersection of the Similkameen and Tulameen Rivers. The town has a proud history dating back to its formation in 1860. It services a population of 4900 (2006 census), split almost equally between urban and rural residents. Local industry includes ranching, a lumber mill, a copper mine, a pellet plant, and several smaller operations related to agriculture, logging, and mining. Princeton and District is also a year round tourist destination, popular with people who enjoy outdoor activities. There are two major highways running through town, highway #3 (the second busiest highway in B.C.) and highway #5A , connecting Princeton with Merritt and the Coquahalla.

Objectives and Expectations

The objective of this paper is to promote discussion that:

- identifies the issues pertaining to health care in Princeton and Area and presents factual information that will develop a deeper understanding of these issues
- will result in a model of improved and sustainable health care for our community, incorporating best practices that have been effectively implemented in other comparable rural communities
- identifies strategies for the implementation of the model

The expectations are that:

- the Princeton Mayor and Council and the Area H Regional Director will empower community stakeholders who are interested in the development of the model
- the entire community will be given the opportunity to have input into the model
- all proceedings will be conducted openly and transparently and will involve regular updates that will be shared with the community
- IHA and the BC Ministry of Health will be directly involved in both the development and implementation phases of the model

Defining Health Care

Central to the development of a health care model for Princeton is the definition of a “fully functioning hospital”. This discussion focuses on the following questions:

- What are the components of essential health care?
- What is Public Health?
- What is a hospital?
- What is acute care? alternate level of care? Canadian Triage and Acuity Scale? Local Health Area? an unscheduled emergency department visit?
- Who are the constituents of Princeton Health?
- What health services should we expect to receive at the local level? and how do we define “local”?
- what is emergency care?

What are the components of essential health care?

Defining *essential health care* is a complicated task. The World Health Organization defines *health* as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. It’s global goal is “Health for All”.¹

Canada is adopting a broader definition of the determinants of health using a biopsychosocial model, including: safe environments, adequate income, education and shelter, safe and nutritious food, and peace, equity and social justice.²

Essential health care is sometimes referred to as *primary health care*, and is based on the principle that scientifically sound and socially acceptable methods and technology are made universally accessible to all individuals in the community (World Health Organization).

Primary health care is based on the following premises:

- essential health care and other services that meet the health requirements of a community must be provided equally to all individuals
- full community participation is required in order to make the fullest use of all available resources
- essential health care requires adequate numbers and distribution of trained physicians, nurses, allied health professions, and community health workers operating as a health team and supported at local and district levels
- medical technology must be provided that is accessible, affordable, and meets the needs of the community

- a multi-sectional approach is required, recognizing that the health of a community goes beyond the formal health sector and includes cooperation with local government, education, agriculture, industry, education, business, housing, public works, rural development, and community service organizations (WHO)

What is Public Health?

The intention of **Canada's Public Health** system is that it works for all Canadians, acting on factors in the environment that enable Canadians to be healthy and reducing inequities in the conditions that put some Canadians at a disadvantage for attaining and maintaining optimal health. These include the following 10 Guiding Principles:³

1. Public good

Public Health is an integral element of a comprehensive and effective system for health. It builds conditions that promote health, and prevents that which is preventable, so that treatment is required less often and is applied in more favourable situations. What is needed is a commitment on the part of all Canadians to an overhaul of the structure of our health system so that it can meet the demands of the 21st century.

2. Determinants of health

Public Health is concerned with the root causes affecting health and therefore, focuses on health promotion, disease and injury prevention and health protection.

3. Equity/ Diversity and social justice

Higher rates of illness, injury, morbidity and mortality are concentrated disproportionately among Canada's most vulnerable populations. Public Health seeks to redress these inequities and provide universal access to the determinants of health, by promoting equitable access to culturally relevant services and resources and by celebrating the diversity of our nation's peoples.

4. Partnership

Public Health builds alliances at the national, regional and community level to address health concerns, and involves consumers and communities in planning and program development.

5. Public participation

Program planning and resourcing is guided by community assessment, advocacy, health protection and health promotion, and is founded on a base

of public input and accountability. Public health 'thinks globally, but acts locally.'

6. Interdisciplinary approaches

Individual and community needs are addressed by broad partnerships that integrate health and other sectors.

7. Science-based

Public Health services and approaches are based on the science and research of many disciplines. Strong science is fundamental to effective surveillance and evaluation, and enriches our understanding of relationships and causation.

8. Efficient/Cost-effective

Public Health insists upon the ongoing evaluation of programs, including cost-effectiveness studies.

9. Continual improvement

Public Health adopts new technologies, approaches and best practices to strengthen our knowledge, our service delivery and our outreach to communities and individuals.

10. Sustainability

A sustainable Public Health system is responsive to changing community needs and resources.

The Public Health system in Canada is responsible for helping to protect Canadians from injury and disease and for helping them to stay healthy. A good public system means fewer people become sick or injured, and more people can live longer, healthier lives.

"As our understanding of the determinants of health becomes more complex, so too does the identification of problems and appropriate solutions. With increasing complexity come increasing demands and responsibilities. In a society that is increasingly technology-driven and globally-oriented, Public Health must take action against illiteracy and reduce inequities in the social conditions that prevent Canadians from attaining optimal health.

There is an increased need for ongoing training within the Public Health field, to allow practitioners to adapt their skills and strategies to incorporate the advocacy and community mobilization associated with population health approaches. Public Health needs to recruit and train diverse professionals

skilled not only in developing and delivering programs based on community needs, but also in measuring the effectiveness of professional interventions.

It is increasingly necessary to harness a wide spectrum of Canadians to promote an inclusive definition of what health is, what a strong health system is, and how Canadians can best achieve them.”⁴

What is a hospital?

A *hospital* is a health care institution providing treatment to patients by specialized staff and equipment. Some patients go to a hospital just for diagnosis, treatment, or therapy and then leave without staying overnight (outpatients), while others are 'admitted' and stay overnight or for several days or weeks (inpatients). Hospitals usually are distinguished from other types of medical facilities by their ability to admit and care for inpatients whilst the others often are described as clinics.⁵

There are several types of hospitals:

- *General*. The best-known type of hospital is the general hospital, which is set up to deal with many kinds of disease and injury, and normally has an emergency department to deal with immediate and urgent threats to health.
- *District*. A district hospital typically is the major health care facility in its region, with large numbers of beds for intensive care and long-term care, and specialized facilities for surgery, plastic surgery, childbirth, bioassay laboratories, and so forth.
- *Specialized*. Specialized hospitals include trauma centers, rehabilitation hospitals, children's hospitals, seniors (geriatric) hospitals, and hospitals for dealing with specific medical needs such as psychiatric problems (see psychiatric hospital), certain disease categories such as cardiac, oncology, or orthopedic problems, and so forth.
- *Teaching*. A teaching hospital combines assistance to patients with teaching to medical students and nurses and often is linked to a medical school, nursing school or university.
- *Clinics*. A medical facility smaller than a hospital is generally called a clinic and usually provides only outpatient services.

Other Definitions⁶

Acute Care

Acute Care refers to a patient who is acutely or seriously ill, requiring professional care and daily medical attention or special diagnostic and treatment procedures in an acute care hospital.

Alternate Level of Care (ALC)

Inpatient cases and days where a patient has finished the acute care phase of his/her treatment but remains in an acute care bed.

Canadian Triage and Acuity Scale (CTAS)

A tool that enables Emergency Departments to prioritize patient care requirements.

Local Health Area (LHA)

Geographic units of analysis. LHA boundaries were redefined in December 2001 to accord with the newly created Health Authorities. Interior Health is made up of 31 LHAs which roll up into 4 Health Service Areas.

Unscheduled Emergency Department Visits

An unscheduled direct personal exchange between a patient and a health professional for the purpose of seeking care and receiving personal health services.

Constituents of Princeton Health

Princeton General Hospital

Based on the most recent Facility Profile published in July 2010 by IHA ⁶, Princeton General Hospital services the Princeton LHA which includes the Town of Princeton and the rural districts surrounding Princeton. PGH has six beds classified as "Medical/Surgical". In Fiscal Year 2009/2010, these beds had a 65.2% occupancy rate. Emergency services are provided. Surgical and Obstetric services are not provided.

For FY 2009/2010, the total number of inpatient cases was 284 representing 1438 inpatient days. For the same period there were 4655 Unscheduled Emergency Department visits. 68.3% of inpatients were admitted through the ED.

The hospital also provides laboratory testing and radiology (x-ray) services. There is a medical clinic and senior citizens centre adjacent to the facility.

Princeton Medical Practitioners

There are three medical clinics in Princeton, *Cascade Medical Clinic*, *Princeton Medical Clinic* and *Vermilion Medical Clinic* providing diagnosis and treatment services. Each clinic is staffed by one full-time doctor. Cascade Medical Clinic also has a full-time Nurse Practitioner.

Of the three doctors servicing Princeton LHA, one is providing full-time "on call" service to the Emergency Department, one is providing partial "on call" service, and one is providing no "on call" service. The Nurse Practitioner does not provide "on call" service.

Ambulance Services

British Columbia Ambulance Services operates a facility located next to PGH. Further information regarding their present level of service and local concerns and issues will need to be researched and included in any future discussion.⁷

Ridgewood Lodge

Ridgewood Lodge provides residential care services for people with complex health needs who require 24-hour nursing care. The facility is a thirty-seven bed non-profit multilevel care home adjacent to Princeton General Hospital. All rooms are private with ensuite. 24-7 professional nursing provided. Other services available include respite care, convalescent care and palliative care.

Other Health Services

A healthy community requires a broad range of services that work in cooperation with medical providers. These services include mental, social services, dental services, search and rescue, highway extrication, physiotherapy, and others. At this time, the inclusion of these health partners is not included in this discussion. Their involvement, however, is recognized as being important to the overall provision of care and safety in our community.

What health services can we expect to receive at the local level?

A definition of rural.

British Columbia is often divided into three geographic areas, the lower mainland, coastal (including Vancouver Island), and the Interior (Northern, Central, and Southern). The lower mainland is densely populated and largely urban. The other areas of B.C. are sparsely populated and with notable exceptions, largely rural.

According to the *Canadian Association of Emergency Physicians (CAEP)*⁸, the following definitions are important in providing appropriate health care to rural communities:

- *Rural.* Any area where health care is dispensed by general practitioners or non-physician providers and where immediate specialist support is limited or not immediately available.
- *Rural Isolated.* Rural communities greater than about 400 km or about four hours transport in good weather from a major regional hospital.
- *Rural Remote.* Rural communities about 80-400 km or about one to four hours transport in good weather from a major regional hospital.
- *Rural Close.* Communities which are within about 80 km or one hour transport in good weather from a major regional hospital.

Princeton's closest "major regional hospital" is in Penticton, 112 kilometers or one hour and 40 minutes away. Some specialized health services are only available in Kelowna, 162 kilometers or two hours away. Based on these definitions, Princeton falls into the Rural Remote category.

The definitions provided by CAEP are oversimplified in an effort to show how rural physicians tend to think about their communities. The distance criteria are common to most situations, but modifications may be required for use in specific circumstances. For example, Princeton may require additional consideration because of its location on a dangerous highway and the presence of several high risk industries, e.g. mining, logging, milling, ranching, that operate 24/7 throughout the year.

CAEP is developing a Canadian point system to determine the degree of "rurality" of a community. The system would consider the following factors:

- demographics
- distance from urban centers, including road conditions and weather
- number of generalist physicians resident in the community
- availability of specialists resident in the community
- availability of air transport
- types of procedures that the local generalist physicians are doing
- economic factors

Once in place, the point system would be useful in planning for health care services at the local level.

Level 4 Rural Emergency Health Care Facility (REHCF)

The Canadian Association of Emergency Physicians recommends that REHCF's "be linked into regional systems of health care in an inclusive, decentralized manner, so that all emergency health care facilities and providers in the region and in adjacent regions are accounted for and supported appropriately to ensure adequate patient access and appropriate care."⁹ They identify five REHCF levels. Based on CAEP criteria, Princeton General Hospital is a Rural Level 4 facility (Basic Rural Acute Care Hospital) with inpatient acute care beds and staffed with nurse practitioners, registered nurses and several physicians. A Level 4 REHCF provides initial triage of all outpatients, definitive care for appropriate inpatient and outpatient conditions, patient stabilization, and transfer to another hospital facility where required. It provides 24 hour service, 7 days a week.

Patients serviced by a Level 4 REHCF, should expect the following:

1. Triage

A formal, unified system for assessing and communicating patient acuity that includes these characteristics⁴:

- Assurance of optimum patient care.
- Easily remembered by all staff.
- Easily communicated over the telephone to physicians who are on call from outside the hospital, including during sleep periods.
- Applies to all age groups.
- Applies to all types of patient problems.
- Applies to the realities of rural practice (physician and lab on call from home, long prehospital and interhospital transfer phases).
- Balances simplicity and patient safety.
- Commonly used by all ambulance services and adjacent emergency health care facilities.
- Can be used in audits to develop inservice and continuing education programs, and to improve provider triage accuracy.
- Can be used by administrators to determine the acuity load of an emergency facility, or to answer public complaints.

2. Physician Procedure Skills.

Rural emergency physicians should be competent to perform a range of procedures linked to the equipment that should be provided in a Rural Level 4 REHCF. The list of recommended equipment appears in Appendix A.

3. Drug Formulary

CAEP recommended list of drug formulary for Rural Level 4 REHCF appear in Appendix B.

4. Laboratory and Radiology Services.

Each REHCF should have appropriate laboratory and radiology services. Recommendations for laboratory and radiology services appear in Appendix C.

5. Physical Structure

An REHCF should have appropriate well-marked patient and ambulance entrances, patient care areas and communication facilities. The following are recommended principles for determining the physical structure of a rural emergency health care facility:

- Ambulance and ambulatory patient entrances should be well marked and easily accessed, particularly in poor weather.
- There must be an adequate number of emergency beds in the facility to ensure that triage assessments can be conducted promptly, and to ensure that peak patient volumes can be safely managed.
- At least one bed should be in an area fully equipped for resuscitation and monitoring critically ill and injured patients, depending on the qualifications of the providers staffing the facility. This room should be equipped with a hands-free telephone so providers can communicate with physicians or ambulance vehicle crews without leaving the bedside.
- Patient privacy issues unique to small communities must be provided for.
- Persons accompanying the patient should have a place to wait that is outside the patient care area.
- There should be an area in the facility where nurses and physicians can consult with other providers in privacy, in person or by telephone.
- A sufficient number of beds in the facility should be equipped with oxygen, suction and pressurized air outlets at the head of the bed.
- A room should be available for clean outpatient surgical procedures such as wound management, and adequate surgical lighting should be available.
- A room should be available for casting.
- A room should be available and properly equipped to conduct gynecological examinations.
- Space should be provided for managing psychotic, violent and aggressive patients in safety and privacy.
- A private room should be available for families in crisis to wait and be counseled.
- In facilities where the same nursing staff are expected to cover both inpatient wards and the Emergency outpatient facility, the facility must be designed to enable safe patient management and monitoring, and staff safety.
- After-hours entrance to the facility should be immediately visible to nursing staff so that patients entering the hospital can be detected, particularly if they are in distress. Options include video cameras covering entrances, or placing the entrance within view of the nursing station.
- An adequate ambulance bay should be available to ensure safe loading and unloading in poor weather, and to ensure patient privacy.

- There should be a dedicated area in the facility for remote communication with ambulance services, equipped with maps and other information necessary for appropriate coordination and communication.

According to CAEP, "The physical layout of REHCF's has evolved in a haphazard fashion. Physical structures need to be designed to accommodate the unique features of the rural context, as well as features common to all emergency departments. New concepts in ambulance reception, triage, emergency resuscitation and interhospital transport all played a role in our suggestions regarding physical layout . . . recommendations for physical structure are designed to show the minimum requirements for various Levels of facility. Details such as duplication of services within a single bed or room will vary depending on visit volumes and whether the facility receives ambulances regularly."⁹

6. Signage and Labelling

Names are important. Health care reform has led to the re-naming of health care facilities throughout rural B.C. There are hospitals, clinics, health centres, wellness centres, health units, and the list goes on. Understanding the capabilities of health care facilities and knowing their location are important for accessing urgent patient care. For that purpose, the following recommendations are made:

- commonly coloured "H" signs should be prominently posted on all access roads leading to Princeton
- large, clearly visible signs should guide patients needing urgent care to PGH
- all signs should refer to the terms "Hospital" and "Emergency Department"

7. Protocols and Clinical Practice Guidelines.

Princeton General Hospital should have a set of emergency care protocols and clinical practice guidelines (CPG's).

Protocols. The following is a minimum list. The protocols should take into account unique local issues related to geography, demographics, staffing, and services available in adjacent communities:

- initial triage of emergency outpatients.
- reassessment of patients still in the emergency facility.
- initial nursing management of:
 - sexual assault
 - child or adult abuse

- management of the aggressive or violent patient.
- remote consultation.
- intravenous sedation.
- preparation of the patient for transport.

Clinical Practice Guidelines. Clinical practice guidelines (CPG's) are required for most areas of rural emergency medicine. It is suggested that community leaders and medical practitioners, working in cooperation, design and implement CPG's that meet the specific needs of Princeton and Area. Ongoing testing of CPG's is important to ensure that they remain relevant in our setting.

8. Staffing

Each REHCF should have an appropriate mix of physicians and non-physician emergency care providers and management. The following information outlines nurse and physician staffing requirements for Rural Level 4 REHCF. CAEP considers the team role of local nurses and physicians in the administrative management of these facilities as critically important.

- Service availability: Open 24 hours a day, seven days a week.
- Physicians: Generalist physicians who live locally and provide "on call" emergency services. In-house ED staffing when volumes are high. Consideration might be given to providing care by specialist physicians such as surgeons, anesthetists, obstetricians, radiologists and psychiatrists who would visit PGH on a scheduled basis.
- Registered Nurses: Registered nurse available 24 hours/day. Nurse manager skilled in emergency.
- Management: Nurse and physician dual manager team, preferably both with additional emergency training.

It may be important to recognize that the Province of Quebec provides in-house emergency department physician coverage at all rural hospitals.

What is emergency care?

Emergency services are central to the treatment of unexpected or unknown medical conditions that require immediate attention. A community without access to appropriate and timely emergency services is in constant risk and it is only a matter of time before traumatic injury or system failure will lead to tragedy. As a Level 4 *Rural Emergency Health Care Facility* in a remote area, PGH provides medical services to a major mine and several smaller mining operations, a sawmill, a pellet plant, several smaller forestry operations, and users of two major interior BC highways.

The following emergency related terms are defined by CAEP:⁹

- *Emergency Patient.* Any person unexpectedly approaching the health care system.
- *Emergency Facility.* A standing facility such as a hospital, community health care centre, nursing station or first aid center that provides emergency care to outpatients.
- *Rural Emergency Health Care Facility (REHCF).* An emergency facility in a rural community.
- *Emergency Medical Services (EMS).* Ambulance services providing prehospital or interhospital patient care during transport, including first responders who provide scene stabilization.
- *Emergency Health Care Services.* All elements of the health care system providing emergency medical care, including emergency facilities and emergency medical services.
- *Emergency Physician.* An emergency physician is any physician who routinely provides emergency care.

Understanding the definition of an *emergency patient* is important because there is a tendency to consider only obviously critically ill and injured patients as having emergency problems. All *emergency patients* must have an appropriate triage assessment to ensure that the significance of their concern is fully appreciated and that they are appropriately referred to the correct service within the system. Well disciplined triage in rural emergency facilities is likely to ensure appropriate entry to the health care system. If rural patients have a wide variety of options for entry to the system, especially after hours, the risk of mistriage increases. Rural Emergency Health Care Facilities should be used as a single point of entry to the health care system to effectively use limited health system resources in rural communities, and to ensure that triage skills are concentrated in a few providers.

Defining the Problem

Emergency Department closures at PGH are symptomatic of a larger problem that exists in most rural B.C. communities. Since the inception of the regional health model in 2001, medical facilities and medical staff at PGH have been reduced as a direct result of services being centralized in major population centres, i.e. Penticton, Kamloops, and Kelowna. As recently as 15 years ago, Princeton General Hospital was a complete care facility with a surgical department, obstetrics, and 26 inpatient beds. There were adequate numbers of physicians and nurses to serve the needs of Princeton and Area residents.

The health care crisis in rural B.C. is a complicated problem. An examination of the following issues is important to an understanding of possible solutions:

- Regionalization: Does it work?
- Are foreign doctor recruitment rules fair and appropriate? Should the College of Physicians and Surgeons have jurisdiction over these rules?
- What is the role of the IHA in providing adequate numbers of medical practitioners in it's rural communities? Should the B.C. Ministry of Health re-examine the mandate of provincial health authorities?
- Is medical training in Canada providing doctors with appropriate skills that meet the needs of rural remote communities? Has the system become too specialized?
- Are specialized services provided in an efficient and easily accessible manner? Are the needs of all rural residents being provided for?
- What are the roles and responsibilities of the community in determining health care services?

Regionalization: Does it work?

The administration of health services in British Columbia is provided by several Regional Health Authorities. The effectiveness of these authorities has been brought into question by residents in rural B.C.:

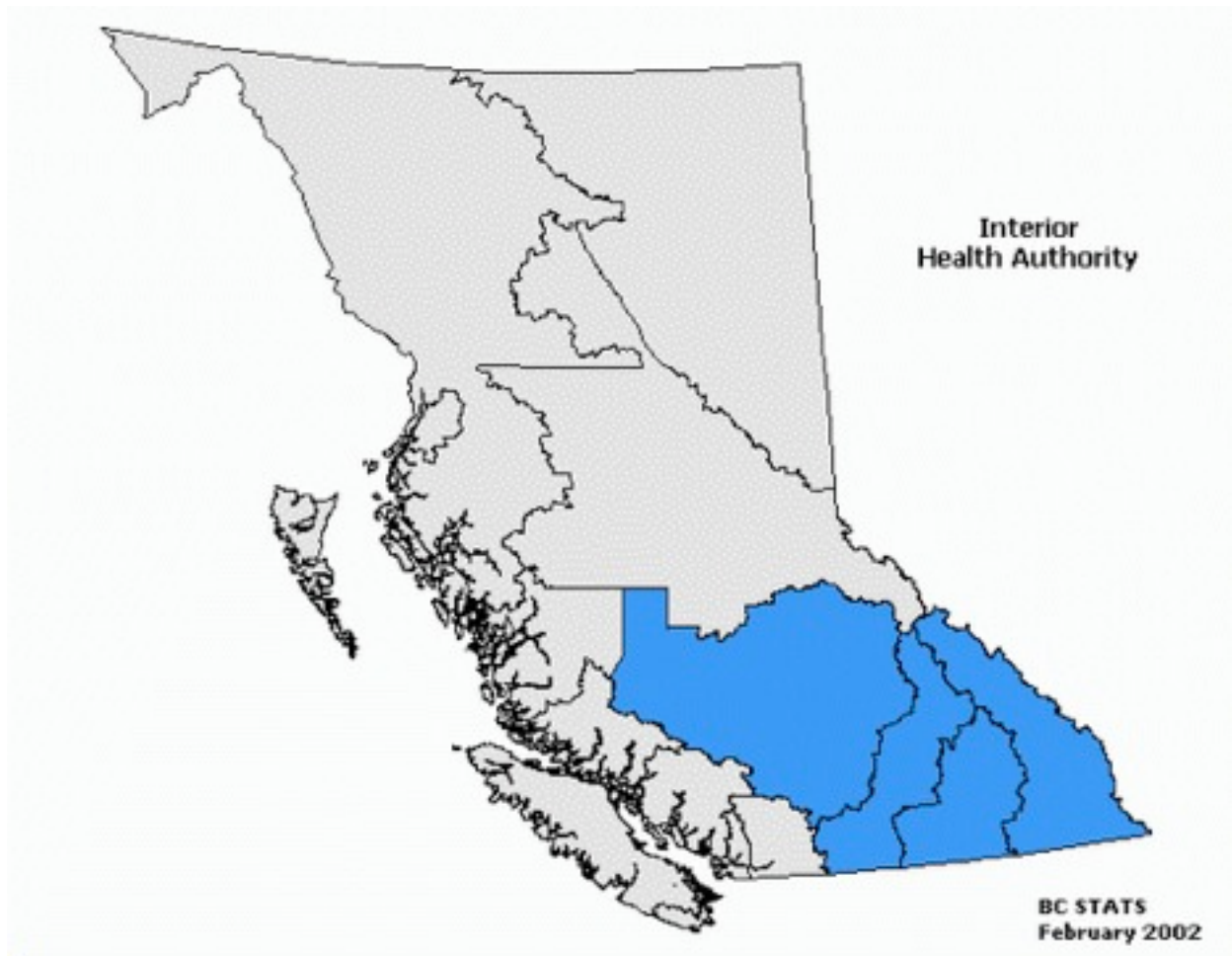
- Is this the right model for B.C.?
- Are there are other models that might be more effective?
- What are the advantages and disadvantages of centralization of health services?
- Would smaller regions be more effective?

According to CAEP, "While regionalization allows provincial governments to improve health system management by de-centralizing decision-making to

local regions, the process also leads to a certain amount of new centralization within regions. 'Centralized' or 'exclusive' regional organization can weaken the delivery of emergency health care in rural communities that are not supported with sufficient resources to care for patients locally.⁹

Prior to “de-centralization” of the health care system by the provincial government in 2001, Princeton General Hospital was run by its own board and medical staff organization. The expected advantage of the regional model was that it would bring rural communities under unified management and reduce costs. The main advantage of the old system was that it offered residents with health care services that met the individual needs of the community. The most significant disadvantage to the old system was economic inefficiency with unnecessary duplication or uneven provision of services and poor coordination of emergency health care.

We should also be questioning the optimum size for a regional health authority. The Interior Health Authority services an area of 216,000 square kilometers, stretching from the Alberta border in the east, the United States border in the south, the Thompson and Cariboo in the north, and the coastal mountains¹ in the west. The population of the IHA is approximately 750,000. The administration offices are centrally located in Kelowna.¹⁰



Would smaller regions be more efficient? perhaps along the lines of provincial education districts?

“An ideal region would link emergency health care services and facilities in a systematic way to ensure adequate patient access, rather than raise further barriers to care such as distance.” (CAEP)

Are foreign doctor recruitment rules fair and appropriate? Should the College of Physicians and Surgeons have jurisdiction over these rules?

At the heart of the health care crisis in rural British Columbia is a shortage of medical practitioners, not only in this province but across the country. One way of alleviating this shortage is to recruit doctors from foreign countries. The problem is that the rules and regulations established by the College of Physicians and Surgeons make it difficult or impossible for foreign doctors to set up a practice in B.C. Other provinces, such as Saskatchewan, allow qualified foreign doctors to set up a practice immediately in a rural

community and are given a period of three years to complete the examination process. British Columbia requires doctors to pass the required exams before applying for a position.

Considering the nature of the crisis, it would seem that a re-examination of the requirements and regulations would be appropriate.

There are also initiatives in place to increase the number of doctors being trained for the future. However, the effectiveness of these initiatives will not be known for several years and do nothing to address the immediate problems in our community. There is also a concern that the resulting increase may not be in the area of general practice. If the initiatives result in more specialized medical practitioners entering the system, rural communities will continue to experience a shortage.

What is the role of IHA in the recruitment of doctors? What are their responsibilities?

In a meeting with IHA President, Robert Halpenny, Save Our Hospital Coalition was told that doctor recruitment is not the responsibility of the IHA. Any efforts made by IHA to assist local communities in contracting doctors is done on a voluntary basis. So it seems that rural communities are responsible for recruiting doctors. Given the present shortage, communities are required to compete with each other for the limited available personnel. Some communities, including Princeton are offering incentives such as free or subsidized housing to attract doctors, a practice that might be questioned along moral and legal grounds.

Is medical training in Canada providing doctors with appropriate skills that meet the needs of rural remote communities? Has the system become too specialized?

The training of doctors in Canada has changed over the past several years. We live in an age of specialization where doctors graduate with a specialized knowledge in one area of medical practice. A specialization in general practice is an expectation if a doctor plans to enter practice in a rural community. In the past, doctors received "general" training in such areas as anesthetics and obstetrics. This is no longer the case; which is one reason why rural remote communities no longer provide surgical care or the delivery of babies. The net effect is that fewer health services are provided at the local level and increasingly, patients are required to travel a considerable distance to become an inpatient in a centralized hospital, far from their homes.

Are specialized services provided in an efficient and easily accessible manner? Are the needs of all rural residents being provided for?

The BC Ministry of Health has given the mandate to its Health Authorities to provide “timely and efficient” health care to all British Columbians. Although it is recognized that not all specialized medical requirements can be provided at the local level, Health Authorities need to be made aware of the risks and inconvenience that result from wholesale centralization of even the most basic health services.

There is also the issue of transportation to and from centralized locations. A patient may be transported by ambulance from Princeton to Penticton Regional Hospital but no provision is made for their return home once their treatment is complete. For most residents this might only represent an inconvenience; for others, it represents an impossible situation.

What are the roles and responsibilities of the community in determining health care services?

It has become apparent that if Princeton is going to solve its health care problems, the community will need to assume a greater role and assume responsibility at the local level. IHA has indicated that doctor recruitment is a community responsibility. We must now assume that it is up to interested and active community leaders to define what we need and what we want. There are other B.C. communities who have already begun this process and Princeton can learn from their experience. Ultimately, it will require a cooperative effort by all community stakeholders to achieve the goal of an improved health care model for Princeton. It will also take time.

Seeking Solutions

Working Cooperatively with Other Rural BC Communities

As stated previously, Princeton's health care issues are not unique in the province of British Columbia. Most rural remote communities are experiencing the same or similar problems as they struggle to provide adequate and appropriate services at the local level. Many of these communities have organizations similar to ours that are working with their stakeholders to deal with the crisis. There is a universal recognition by these organizations that the health care delivery system is not working to their satisfaction. Perhaps it is time to form a provincial Rural Health Care Alliance with the goal of working cooperatively to improve services across British Columbia.

How to solve the doctor shortage?

There is optimism that the present doctor shortage crisis will be solved in time. The difficulty is that it will take several years for present initiatives to be effective. It should also be recognized that the "shortage" is primarily a rural problem as most physicians gravitate towards larger urban centres where they can practice in their specialized areas. Provincial and local government officials and the IHA need to recognize that initiatives and incentives are required to make rural communities more "attractive" to general practitioners. There also needs to be a complete re-examination of the requirements placed on the certification of foreign hire physicians and the training received by physicians in Canadian universities.

Local Autonomy

As discussed earlier in this paper, the creation of provincial Health Authorities may be part of the problem. It is easy to understand the need for a financially responsible and efficient system. However, such a system seems to provide appropriate health care to those who live close to major urban centres and ignores the needs of rural remote communities. One solution might involve the restructuring of the present system, replacing provincial health authorities with locally appointed boards (steering committees) that are answerable to the needs of the community.

Doctor Salaries

Although there are some exceptions, most doctors in B.C. are paid under the "fee per service" system. The advantage of this system is that it provides an equitable way for public funds to be distributed to doctors. The disadvantage is that it is open to abuse by doctors who "overload" their appointment schedule for financial gain. The other problem is that it may take a new "recruit" several months or years to develop a patient base that represents a

fair share of the community's service requirements. This is a disincentive to the recruitment of doctors.

A solution to this problem is to institute a "salaried" system where all general practitioners in a community would receive guaranteed compensation for their services. This would encourage full sharing of the patient load and provide an immediate incentive for doctors who are interested in setting up a practice in a remote rural community. There is also a potential for abuse of this system. However, it would be possible to monitor the system to identify individual cases.

What about Keremeos?

Several years ago, Keremeos recognized that their community needed to do something about their health care system. Former mayor, Walter Despot was appointed the Chairman of a committee to oversee the development of a model for health care in their community. Involving the entire community and with the cooperation of the IHA, it took the committee 14 years to develop and implement a model that serves their needs.

It must be understood that making comparisons between communities is always problematic. For one thing, Keremeos is much closer to Penticton Regional Hospital which provides local residents with much easier access to emergency and inpatient services. However, Princeton might be able to draw upon their experience to develop a "home grown" model that would best serve our own needs.

The community of Keremeos has expressed a willingness to provide Princeton with any information or assistance that might be beneficial to meet our goals.

Funding

Making health care funding a provincial government priority is necessary to address the needs of rural B.C.. According to CAEP, "Funding of Canada's publicly managed emergency health care facilities with limited financial resources is a significant problem for health system managers facing limited budgets throughout Canada."⁹ While it is recognized that the provincial government needs to consider fiscal responsibility, it is clear that the present system fails rural British Columbians.

Summary

The objective of this paper is to promote discussion. With the understanding that long term solutions will take considerable time and effort, the Save Our Hospital Coalition urges elected officials and civic leaders in Princeton and Area H to lead the discussion that will ultimately provide residents with the health care they deserve.

It should be kept in mind that this paper is not intended to be conclusive. There is much more that could be included and as new thoughts and ideas are generated, they will be added to the discussion.

The SOHC petition containing over 3600 signatures was sent to the Honourable Michael de Jong, Minister of Health in June. We are still waiting for a response. It might be assumed that the Minister does not share our concerns or that he is unable to provide any assistance. So it seems, if our community is going to improve its health care system, we need to take control ourselves.

As mentioned in this paper, SOHC believes that Princeton and Area deserves a fully functioning hospital; a hospital that meets the needs of our community. There will, no doubt, be some disagreement on what those needs are, but it's clear that it will be up to us to determine them. They will form the foundation of an improved and sustainable health care model for our community.

Appendices

Appendix A: List of Emergency Equipment Recommended for a Rural Level 4 REHCF⁹

- spinal immobilization
- spine board and air mattress
- nasal cannulae
- non-rebreathing mask
- barrier device for mouth-mouth
- bag-valve-mask
- nebulizer mask
- orotracheal intubation tray
- end-tidal carbon dioxide colorimetric
- mechanical ventilator (transportable)
- cricothyrotomy tray
- chest tube tray
- intravenous line, peripheral
- intraosseous needles
- automatic blood pressure monitor
- inflatable intravenous infusor bags
- pressurized intravenous infusor
- arterial line system
- central line tray
- orogastric lavage tray
- Foley catheter tray
- pulse oximeter
- basic cardiac rhythm monitor
- cardiac rhythm monitor capable of continuous ST segment monitoring
- electronic treatment of cardiac arrhythmias
- 12-lead ECG with computer-assisted interpretation
- entravenous pacemaker
- Broselow tape for pediatrics
- Broselow-coloured bags of equipment
- slit lamp for ophthalmic exam
- portable Xray machine
- advanced life support jump kits for physicians to use in the ambulance

Notes:

1. Equipment provisions assumes staffing with appropriately trained, qualified and experienced non-physician providers, and varies with local regulations, such as occupational health and safety legislation for industrial facilities.
2. Automatic defibrillation capability is a minimum. Devices are now available which combine defibrillation with synchronized cardioversion at varying levels of dose and

transcutaneous pacing capability. Such devices would be preferred at most rural locations. We recommend the full capability devices for all Rural Level 4 and 5 facilities.

3. Some equipment may be optional based on availability of qualified providers and adequate patient volume.
4. Neonatal and pediatric sizes of all relevant equipment must be available at REHCF's likely to care for children.
5. The following devices should be made more available, especially considering Princeton's rural remote status:
 - point-of-care analyzers for hematology, chemistry, blood gas analysis and new serum markers for myocardial infarction.
 - continuous ST-segment monitoring for the detection of myocardial ischemia/infarction.
 - ultrasonography and CT scanning.
 - radiograph digitization for remote consultation.
6. Semi-automatic defibrillator capability is necessary because in many REHCF's providers have little ongoing experience with defibrillation. It might be easier for providers to use a semi-automatic or automatic defibrillator than to make the psychological decision to deliver a countershock manually. Devices with both capabilities should be stocked when qualified and experienced providers are available to exploit the advantages of manual cardioversion/defibrillation and pacing
7. The recommended list of equipment is not exclusive. It is intended to show the basic equipment for a Level 4 REHCF.

Appendix B: Drug Formulary List for Rural Level 4 REHCF⁹

- oxygen
- intravenous saline, 2/3-1/3, D5W and D10W
- oral agents:
 - glucose
 - antianginal (nitroglycerine)
 - sedatives
 - antipsychotics
 - antiemetic
 - analgesics (non-NSAID, NSAID and opioid)
 - antiepileptic
 - antibiotic
 - antiarrhythmics
 - steroid
 - activated charcoal

- cathartic
- injectable agents:
 - glucose
 - antihistamine
 - sedatives
 - antipsychotic
 - antiemetic
 - analgesics
 - local anesthetics
 - general anesthetics
 - paralytic
 - antiepileptic
 - inotrope
 - steroid
 - antibiotics
 - antiarrhythmics
 - thrombolytics
 - antianginal
 - type O blood, 2 units minimum
- inhalational agents
 - bronchodilator
 - general anesthetics

Notes:

1. Assumes staffing with appropriately trained, qualified and experienced non-physician providers, and sufficient visit volume or risk to patients to justify stocking these agents.
2. Neonatal and pediatric dosages and delivery systems must be available in all REHCF's likely to encounter children.
3. The recommended medication list is only a minimum that should be stocked in REHCF's. In smaller facilities there should be sufficient visit volume or sufficient risk of morbidity if the medication is not available to justify the medication.

Appendix C: Recommended Laboratory and Radiology Services for Rural Level 4 REHCF⁹

- Laboratory:
 - CBC and differential
 - urine microscopic exam
 - urine dipstick
 - urine beta HCG

- stool occult blood
- gram stain of body fluids
- myocardial infarction markers
- BUN and creatinine
- electrolytes
- cerebral spinal fluid microscopy
- spot glucose
- dipstick glucose
- amylase/lipase
- cutaneous bilirubin device
- serum bilirubin
- PTT, INR
- cardiac rhythm monitor
- 12-lead electrocardiography with computer-assisted interpretation
- pulse oximetry
- arterial blood gas analysis
- Radiology:
 - plain film radiography
 - portable radiograph

Notes:

1. Assumes staffing with appropriately trained, qualified and experienced non-physician providers, and sufficient volume or risk to patients to justify these services.
2. The recommended list of laboratory and radiology services is a minimum and does not exclude other appropriate services. In smaller facilities there should be sufficient visit volume, or sufficient risk to patients if the service is not available, to justify having the service on site.
3. Computed tomography (CT scanning) and ultrasound can be used to triage patients in order to determine whether they need to be transferred or not. Continuous ST segment monitoring is useful for determining whether a patient is suffering intermittent myocardial ischemia or infarction when combined with 12-lead electrocardiography. The precise roles of these devices in rural settings have not been determined, but their potential value in Level 4 and 5 REHCF's is great and must be explored further.
4. Recommendations for laboratory and radiology services are based on the assumption that appropriately trained, qualified and experienced non-physician providers are available to conduct and interpret the tests in a safe and cost-effective manner.

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