

**NON-URGENT EMERGENCY DEPARTMENT VISITS IN
RICHMOND, BRITISH COLUMBIA:
UNDERSTANDING THE PROBLEM AND IDENTIFYING
SOLUTIONS**

by

Bruce Kung
Bachelor of Arts, Simon Fraser University 2002

PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF PUBLIC POLICY

In the
Faculty
of
Arts and Social Sciences

© Bruce Kung 2008
SIMON FRASER UNIVERSITY
Fall 2008

All rights reserved. This work may not be
reproduced in whole or in part, by photocopy
or other means, without permission of the author.

APPROVAL

Name: **Bruce Kung**
Degree: **M.P.P.**
Title of Capstone: **Non-Urgent Emergency Department Visits in Richmond, British Columbia: Understanding the Problem and Identifying Solutions**

Examining Committee:

Chair: **Nancy Olewiler**
Director, Public Policy Program, SFU

Nancy Olewiler
Senior Supervisor
Director, Public Policy Program, SFU

Kennedy Stewart
Supervisor
Assistant Professor, Public Policy Program, SFU

John Richards
Internal Examiner
Director, Public Policy Program, SFU

Date Defended/Approved: November 26, 2008



SIMON FRASER UNIVERSITY
LIBRARY

Declaration of Partial Copyright Licence

The author, whose copyright is declared on the title page of this work, has granted to Simon Fraser University the right to lend this thesis, project or extended essay to users of the Simon Fraser University Library, and to make partial or single copies only for such users or in response to a request from the library of any other university, or other educational institution, on its own behalf or for one of its users.

The author has further granted permission to Simon Fraser University to keep or make a digital copy for use in its circulating collection (currently available to the public at the "Institutional Repository" link of the SFU Library website <www.lib.sfu.ca> at: <<http://ir.lib.sfu.ca/handle/1892/112>>) and, without changing the content, to translate the thesis/project or extended essays, if technically possible, to any medium or format for the purpose of preservation of the digital work.

The author has further agreed that permission for multiple copying of this work for scholarly purposes may be granted by either the author or the Dean of Graduate Studies.

It is understood that copying or publication of this work for financial gain shall not be allowed without the author's written permission.

Permission for public performance, or limited permission for private scholarly use, of any multimedia materials forming part of this work, may have been granted by the author. This information may be found on the separately catalogued multimedia material and in the signed Partial Copyright Licence.

While licensing SFU to permit the above uses, the author retains copyright in the thesis, project or extended essays, including the right to change the work for subsequent purposes, including editing and publishing the work in whole or in part, and licensing other parties, as the author may desire.

The original Partial Copyright Licence attesting to these terms, and signed by this author, may be found in the original bound copy of this work, retained in the Simon Fraser University Archive.

Simon Fraser University Library
Burnaby, BC, Canada



SIMON FRASER UNIVERSITY
THINKING OF THE WORLD

STATEMENT OF ETHICS APPROVAL

The author, whose name appears on the title page of this work, has obtained, for the research described in this work, either:

(a) Human research ethics approval from the Simon Fraser University Office of Research Ethics,

or

(b) Advance approval of the animal care protocol from the University Animal Care Committee of Simon Fraser University;

or has conducted the research

(c) as a co-investigator, in a research project approved in advance,

or

(d) as a member of a course approved in advance for minimal risk human research, by the Office of Research Ethics.

A copy of the approval letter has been filed at the Theses Office of the University Library at the time of submission of this thesis or project.

The original application for approval and letter of approval are filed with the relevant offices. Inquiries may be directed to those authorities.

Bennett Library
Simon Fraser University
Burnaby, BC, Canada

Abstract

Emergency Departments (EDs) were originally established to treat seriously ill and injured individuals requiring urgent care. Today however, EDs also treat many non-urgent patients as well, most of whom could be cared for in a primary care setting. In the United States, the United Kingdom and Hong Kong, for example, non-urgent patients often make up the majority of ED visits. Canadian EDs are no exception. The Canadian Institute for Health Information found that on average 57 percent of all visits to Canadian EDs are non-urgent. The purpose of this study is to describe the financial and non-financial impacts related to non-urgent ED visits, and better understand why people use EDs for non-urgent issues. Based on a literature review, analysis of administrative hospital data and ED patient surveys and expert interviews, this study concludes that the key to reducing non-urgent ED visits is within the primary care delivery system.

Keywords: non-urgent; emergency department; primary care; access; patient perspective; inappropriate.

Executive Summary

This study relies on a policy analysis framework to identify options and recommendations that will address non-urgent ED visits in the Richmond Hospital (RH) emergency department (ED). The study draws on both qualitative and quantitative methods to identify the magnitude, the underlying causes of and strategies that are likely to lead to a significant mitigation of the problem.

A comprehensive review of the research evidence and literature and RH administrative data as well as a pilot survey of non-urgent patients in RH all combine to identify why non-urgent patients visit the ED, and when they are most likely to do so.

The key findings include:

- The reasons that people visit the ED for non-urgent issues are complex and wide-ranging
- The greatest volume of non-urgent patients in the ED occurs between 10 am and 11pm
- A person's own perceived need for immediate and urgent care is often cited as a reason for a non-urgent ED visit
- The process of assessment, investigation, diagnosis, and treatment is immediate and significantly more expedient in the ED when compared to primary care alternatives
- Primary care services are generally much less accessible than ED services which are available 24/7
- Weak relationships between primary care physicians and patients reduce the latter's reliance on the primary care system for non-urgent care

Based on the above key findings, five options are proposed:

1. Remain with the status quo
2. Introduce user fees for non-urgent patients
3. Develop an education and communication strategy focused on those who use or could use the ED for non-urgent issues

4. Improve and expand primary care services already existing in the community
5. Introduce the urgent care centre model in Richmond

Each option above is evaluated based on four major criteria and assigned an overall score. The criteria include effectiveness, expected implementation time horizon, cost and stakeholder support. Three of the proposed options scored well and two scored poorly. Option 3, 4 and 5 scored well, while options 1 and 2 scored poorly. Options can be implemented in isolation or in combinations and it is ultimately up to the judgment of decision makers to determine which recommendations to implement.

Five recommendations flow from the evaluation and form a strategy to address non-urgent ED visits:

1. Develop an education and communication strategy focused on those who use or could use the ED for non-urgent issues.
2. Improve and expand primary care services already existing in the community
3. Introduce an urgent care centre to the community of Richmond.
4. Shift how Vancouver Coastal Health and Richmond Health Services plan for future health care services and redesign – i.e., utilize needs-based versus utilization-based planning
5. Conduct a proper financial assessment of non-urgent ED visits compared to other alternatives

Decision makers need to consider and implement these recommendations, particularly the first three, as an integrated package rather than separately. If done in the latter fashion, the likely result is little improvement.

Dedication

I miss you everyday mom. This is for you, dad and Ange.

Acknowledgements

I could not have completed this piece of work with out the support and generosity of many special people along my journey. I would like to thank the entire faculty of the MPP program and especially Nancy Olewiler for giving me the opportunity to be a part of the MPP program and for supporting me throughout the process. Also, many thanks to the following people for their support, friendship and mentorship along the way: Danielle Papineau, Nellie Hariri, Pat Porterfield, Dr. Douglas McGregor, and April Lewis. Finally, many thanks to Dayna Steele for helping me get over the last hurdle.

Table of Contents

Approval	ii
Abstract	iii
Executive Summary	iv
Dedication	vi
Acknowledgements	vii
Table of Contents	viii
List of Figures	x
List of Tables	xi
Glossary	xii
1: Introduction	1
1.1 Policy Problem.....	2
2: Background	4
2.1 Richmond Community.....	4
2.2 Vancouver Coastal Health and Richmond Health Services	5
2.3 Defining the Non-Urgent Patient - Assessing and Assigning Urgency	14
2.4 A Case for Minimizing Non-Urgent Visits to the ED: Non-Financial and Financial Impacts	18
2.4.1 Non-Financial Impacts.....	18
2.4.2 Financial Impacts	23
2.5 Why do People with Non-Urgent Issues Visit the ED.....	27
2.5.1 Demographic Characteristics	27
2.5.2 Perceptions of Urgency.....	29
2.5.3 Structure, Delivery, and Access to Primary Health Care Services	30
3: Methodology – Study Population and Design	36
3.1 Hospital Administrative Data.....	36
3.2 Survey	37
3.3 Interviews.....	39
4: Results	40
4.1 Hospital Administrative Data.....	40
4.2 ED Survey at Richmond Hospital	46
4.2.1 Demographic.....	46
4.2.2 Care Related Data Elements	47
5: Policy Options	52
5.1 Option 1: Status Quo.....	52
5.2 Option 2: User Fees.....	54

5.3	Option 3: Improve Education and Communication for Patients and Families Around How and Under What Circumstances to use What Services	56
5.4	Option 4: Improve and Expand Existing Primary Care Services Available in the Community.....	59
5.5	Option 5: Urgent Care Centre(s).....	65
6:	Assessment.....	68
6.1	Criteria Used to Evaluate Policy Options	68
6.1.1	Effectiveness.....	70
6.1.2	Implementation Time Horizon.....	71
6.1.3	Costs.....	73
6.1.4	Stakeholder Support.....	74
6.2	Evaluation	75
7:	Evaluation Scoring Rationale	77
7.1	Effectiveness	77
7.1.1	Limited Health IQ.....	77
7.1.2	Convenience.....	77
7.1.3	Weak Relationships Between Patients and Their Family Physician.....	78
7.2	Implementation Time Horizon.....	79
7.3	Costs.....	81
7.4	Stakeholders Support	85
8:	Recommendations	93
8.1	Recommendation 1 - Improve and Expand Primary Care Services Already Existing in the Community	93
8.2	Recommendation 2 - Develop an Urgent Care Centre.....	94
8.3	Recommendation 3 – Develop an Education and Communication Strategy Focused on Individuals Who Use the ED for Non-Urgent Issues.....	95
8.4	Recommendation 4 - Conduct a Detailed/Comprehensive Financial Assessment of Non-Urgent ED Visits Compared to Other Alternatives	95
8.5	Recommendation 5 - Shift how VCH and RHS Plan for Future Health Care Services and Redesign – Needs Based Versus Utilization Based Planning.....	96
9:	Conclusions.....	97
	Appendix: ED Survey	99
	Bibliography	102
	Works Cited.....	102

List of Figures

Figure 1 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Sex	42
Figure 2 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Age	43
Figure 3 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by (FY) Period and Season	44
Figure 4 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Day of Week.....	45
Figure 5 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Time of Day.....	46

List of Tables

Table 1 Richmond Walk-in Clinics - Hours of Operation	8
Table 2 Survey Data - Reasons for this Particular Visit to the ED	48
Table 3 Evaluation - Criterion, Definition, Indicator and Scoring Scale.....	69
Table 4 Effectiveness Scoring Scale	71
Table 5 Implementation Time Horizon Scoring Scale.....	73
Table 6 Costs Scoring Scale.....	74
Table 7 Stakeholder Support Scoring Scale.....	75
Table 8 Evaluation Matrix.....	76

Glossary

BC	British Columbia
BCMA	British Columbia Medical Association
CDM	Chronic Disease Management
CHA	Canada Health Act
CIHI	Canadian Institute for Health Information
CMA	Canadian Medical Association
CTAS	Canadian Triage and Acuity Scale
ED	Emergency Department
EDP	Emergency Decongestion Pilot
FP	Family Practitioner
FY	Fiscal Year
GP	General Practitioner
HSDA	Health Service Delivery Area
ICD	International Statistical Classification of Disease
LWBS	Leave Without Being Seen
MOA	Medical Office Assistants
MOH	Ministry of Health
MSP	Medical Services Plan
LOS	Length of Stay
OUCG	Orleans Urgent Care Centre
PSP	Practice Support Program
RH	Richmond Hospital
RHA	Regional Health Authority
RHS	Richmond Health Services
UCC	Urgent Care Centre

QUIST	Quality Utilization Information Support Team
VCH	Vancouver Coastal Health
VGH	Vancouver General Hospital

1: Introduction

Emergency Departments (EDs) were established during the 20th century to treat seriously ill and injured individuals who required urgent and emergent care. They were intended to be accessible 24 hours a day, 7 days a week. The role of the ED has since changed and grown. In fact, the majority of EDs now serve a dual function. First, they serve as a place to assess, diagnose and stabilize acute illness, and second, they provide non-emergent services as an adjunct to or substitute for the primary care system (Bernstein, Bernstein, Lowe, Crowder, Kellermann, Lowenstein, et al., 1997). In the 1980s and 1990s, health care administrators and policy makers characterized patients who utilized the ED for non-urgent medical issues as “abusers” contributing to ED overcrowding (Canadian Association of Emergency Physicians, n.d.; Vertesi, 2004; Eggertson, 2004).¹ This perception led to the targeting of non-urgent patients as an opportunity to eliminate moral hazard and a potential source of significant cost savings to the system. Thus, in the late 1990s identification of inappropriate non-urgent ED visits and strategies to triage these patients away from EDs became a priority (Richardson and Hwang, 2001).

Today, the view on non-urgent ED patients has shifted from blaming patients to blaming the system for being poorly designed and unable to meet the needs of its patient populations (Steele, 1995, p. 149). Regardless of where to place the ‘blame’, non-urgent ED visits continue to be a significant problem faced by many EDs in Canada. If health care administrators and policy makers achieve what their predecessors have not, if they can fully understand and address

¹ One of the most challenging issues over the last two decades for the health care system has been ED overcrowding. According to the Canadian Association of Emergency Physicians (2003), ED overcrowding is best defined as a situation in which the demand for emergency services exceeds the ability of a department to provide quality of care within acceptable time frames. Overcrowding can be characterized by patients being “warehoused” on stretchers and treated in corridors in hospital emergency rooms when they need to be admitted (Eggertson, 2004).

the root causes of this problem, significant long run improvements in health system design, responsiveness and costs can be expected.

1.1 Policy Problem

In 1992, an estimated 49.7 million or 55.4 percent of all ED visits in the United States were non-urgent (Baker and Baker, 1994, p. 169).² Six years later, a study conducted at two urban hospitals in the United States concluded that nearly 67 percent of visits to emergency were for non-urgent reasons (Phelps, Taylor, Kimmel, Negal, Klien, and Puczynski, 2000). In Hong Kong, Law and Yip (2002) found that approximately 70 percent of their study sample was non-urgent. In the UK, Coleman, Irons, and Nicholl (2001) found that 55 percent of all patients reviewed could have been addressed through non-emergency services, including nurse telephone consultations, walk-in centres, visits to a general practitioner, or minor injury units. In Canada, a recent report released by the Ontario Hospital Association and the Government of Ontario (2003) found that 63.8 percent of all visits were either less or non-urgent. A study conducted at Royal Columbian Hospital in New Westminster, Canada, estimated a lower non-urgent share. Vertesi (2004) found that 30 percent of all patients sampled in Royal Columbian Hospital were either less urgent or non-urgent. At a national level, the Canadian Institute for Health Information (CIHI) found that 57 percent of all patient visits to 160 Canadian EDs in 2003–2004 were for less urgent or non-urgent medical issues (CIHI 2005). With an average of 14 million patient visits each year to all Canadian EDs, and based on the 57 percent average found in the CIHI study, the number of less and non-urgent ED visits during 2003-2004 likely reached a staggering 7.98 million.

EDs in greater Vancouver also experience high proportions of non-urgent visits. According to administrative data accessed through Vancouver Coastal Health's Quality Utilization Information Support Team (QUIST), between March 28th, 2003 and April 1st, 2004

² Section 2.3.1 titled Assessing and Assigning Urgency, provides a detailed discussion of the various approaches to assigning urgency/acuity found in the literature.

there were 38,632 total visits/cases to the ED in the community of Richmond. Of those 38,632 visits, 18,349 were either less urgent (14,424) or non-urgent (3,935). Nearly half (47.5 percent) of these visits to the Richmond ED were either less or non-urgent.

In September 2006, the BC provincial government initiated the “Conversation on Health”, the largest public consultation on health and the health care system ever in the history of the province. The purpose was to gather public input to help shape the future of the health care system (Province of British Columbia, n.d.a). One of the major discussion questions posted on the Conversations on Health online discussion forum invited participant input on non-urgent ED visits in Canada and potential remedies.³ The question posted reads as follows:

The Canadian Institute for Health Information stated in a recent report that 57% of Emergency Room visits are for less or non-urgent conditions. Most of these visits could be diverted to more appropriate levels of care and reduce pressure on our emergency rooms. What physician location and service alternatives should government look at to provide non-urgent care and treatment options for people who do not require Emergency Room level care (Province of British Columbia, n.d.b)?

In 2007, the BC Ministry of Health released a document titled *Primary Health Care Charter: A Collaborative Approach*. In the Charter, the Ministry again recognizes non-urgent ED patients as a unique population and one that should not have to depend on the ED for their care.

The Charter says:

People with relatively non-urgent symptoms make up a large proportion of users of emergency rooms in B.C. hospitals, often appearing in the emergency rooms during the day between 9:00 a.m. and 9:00 p.m....We must understand this concern and commit to finding solutions to integrate care for this population (BC Ministry of Health, 2007a).

The goal of this study is to understand why non-urgent patients visit the RH ED for non-urgent medical reasons and to recommend appropriate policy options to Vancouver Coastal Health and Richmond Health Services.

³ Responses from the public to this question are referenced in section 7.4.

2: Background

2.1 Richmond Community

Richmond is a dynamic, multi-ethnic community with more than 176,000 residents. It is situated on the Pacific coast of British Columbia (BC), Canada and has an approximate land mass of 130 square kilometres. Access to and from Richmond is gained through a number of bridges and one under water tunnel. Richmond is home to the Vancouver International Airport, Canada's second busiest airport (Vancouver Airport Authority, n.d.).

The majority of Richmond's significant population growth over the last 15-20 years is attributable to the influx of Asian immigrants. As a result, the majority (approx. 60 percent) of all Richmond residents are now of Chinese or South Asian descent (City of Richmond, n.d.). In 2000, the average household income in Richmond was \$60,724. However, there is considerable variation among Richmond neighbourhoods. For example, the average household income in East Cambie was \$44,566, while in Sea Island the average household income was \$87,657 (City of Richmond, 2003). According to Statistics Canada, residents of Richmond have the longest life expectancy in all of Canada. On average, residents of Richmond live to 83.4 years (i.e., males 81.8, females 84.9), almost four years longer than the national average of 79.5 years (i.e., males 77, females 82) (Statistics Canada, 2001). The fact that Richmond has the lowest smoking and obesity rates in the entire country, undoubtedly contributes to the community's long life expectancy (Statistics Canada, 2002).

2.2 Vancouver Coastal Health and Richmond Health Services

Vancouver Coastal Health (VCH) is one of five Regional Health Authorities (RHAs) in BC (BC Ministry of Health Services, 2004a). VCH's primary role "is to govern, manage and deliver quality healthcare services to people living in the North Shore/Coast Garibaldi, Vancouver and Richmond" (Vancouver Coastal Health, n.d.a). These areas are Health Service Delivery Areas (HSDAs). Within the Richmond HSDA, and under the authority of VCH, Richmond Health Services (RHS) provides a wide range of services including health promotion and prevention, early intervention, residential care, continuing care in the community, and inpatient hospital-based care (Richmond Health Service, 2001a). RHS offers a number of health programs and services targeted at specific patient populations including Mental Health Services, Richmond Community Mental Health Team, Outpatient Psychiatry, Inpatient Psychiatry, Blundell Therapeutic & Education Services, Richmond School Child & Family Program, and Mental Health Emergency Services. In the community, RHS offers information and services in the Health Department, areas of health promotion and nutrition, hearing, speech and language therapy, healthy babies and families, environmental health, community care facilities licensing, communicable diseases, and child, youth and families (Richmond Health Services, 2001b). RHS also collaborates with community agencies to deliver health care education and resources to the community. For example, RHS is currently collaborating with the Richmond School District to deliver education and orientation sessions for new immigrants on use of the health care system (Personal Communication). Currently, Richmond has over 25 health care sites located throughout the city where the population can access primary health care services. These sites include five private general practitioner (GP) medical buildings, five residential care sites, various private walk-in clinics, and ten RHS operated sites where specific community health programs are provided. Overall, these services are poorly organized, poorly integrated, fragmented, and confusing for clients, patients and even physicians (Vancouver Coastal Health, 2008a). As of

June 2005, there were 171 general practice (also known as primary care) physicians physically located in Richmond, approximately 1 physician for every 1,030 Richmond residents (College of Physicians and Surgeons of BC, n.d.) These physicians are typically the first point of contact for those entering the medical system; they are “gatekeepers” to the secondary and tertiary (a.k.a. specialists, labs and diagnostic imaging) health care services (Jones, 2000). However, people can also access these services through the ED. Of the 171 physicians whose practices are located in Richmond, 33 were accepting new patients as of June 8, 2005; as of September 24, 2007 only 13 physicians were accepting new patients (College of Physicians and Surgeons of BC, n.d.; Richmond Health Services, n.d.a). The overwhelming majority of physicians who practice in a primary care setting bill the provincial Medical Services Plan (MSP) on a fee-for-service basis. Since these physicians are technically independent contractors and not employees of RHS/VCH, VCH and RHS have little direct control over them or their independent practices.

Within primary care, there are generally two types of physicians, traditional full scope general practitioners (GPs) and walk-in clinic physicians. Traditional full scope GPs know a patient’s entire medical history and likely the medical histories of their family as well. GPs typically operate from 8am to 5pm Monday to Friday and rarely provide after-hours service (Canadian Associations of Emergency Physicians, 2000). Very few GPs provide after hours on-call services for their patients, typically only to certain patients (e.g., pregnant women). When a patient calls the GP after office hours, they will typically encounter a message indicating the following: If you can wait until the morning, call back then and make an appointment, but if you feel that you need urgent care then go to the emergency department. Depending on what time a patient calls the doctor’s office, there may be other alternatives available in the community including walk-in clinics and the BC NurseLine that is available 27/4. Unfortunately however, rarely do GPs refer to these alternatives on their after hours messages.

Primary care physicians who work outside of the typical 8am-5pm shift usually work in walk-in clinics, and are not traditional full scope GPs, although they may take on some patients as regular clients (Personal Communication).⁴ These physicians likely work in one of the 12 walk-in clinics scattered throughout Richmond. Walk-in clinics can be defined as "a facility that is physically separate from a hospital, has extended hours of service, and which accepts patients without an appointment or a referral" (Miller and Nantes, 1989). Besides extended hours of operation and drop in appointments, the most significant difference between a traditional full scope GP practice and a walk-in clinic physician's practice is the philosophy of care. Walk-in clinic physicians approach care provision as episodic encounters and as a result rarely build meaningful relationships with their patients. Further, on average they see patients with less complex symptoms than do traditional GPs and provide a narrow range of services.⁵ Table 1 below indicates the name of each walk-in clinic in Richmond and their corresponding advertised hours of operation. When comparing the advertised hours of operation for each clinic, it is clear that there is little standardization.

⁴ This will not be true of all patients since some walk-in-clinic physicians take on some patients as regular clients.

⁵ It is interesting to note that many GPs are concerned about 'cherry picking' or "cream skimming" by walk-in centres, leaving GPs with the complex patients that are more resource and time intensive (Jones , 2000).

Table 1 Richmond Walk-in Clinics - Hours of Operation

Clinic Name/Hours of Operation	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Holidays
Aberdeen Health Centre	9am-8pm	9am-8pm	9am-8pm	9am-8pm	9am-8pm	10am-5pm	10am-5pm	10am-5pm
Blundell Medical Clinic	10am-9pm	10am-9pm	10am-9pm	10am-9pm	10am-9pm	10am-5pm	10am-5pm	10am-5pm
Continental Medical Clinic	9am-5:30pm	10am-2:30pm	9am-5:30pm	9am-5:30pm	12:30pm-6pm	10am-5pm	Closed	Closed
Cook Medical Clinic	9am-7pm	9am-6pm	9am-7pm	9am-8:30pm	9am-5pm	Open only if Dr. is available	Open only if Dr. is available	Open only if Dr. is available
Garden City Medical Clinic	9am-6pm	9am-6pm	9am-6pm	9am-6pm	9am-6pm	10am-3pm	10am-3pm	10am-3pm
Ironwood Medical Clinic	9am-5:30pm	9am-5:30pm	9am-5:30pm	9am-5:30pm	9am-5:30pm	10am-4pm	10am-4pm	10am-4pm
Parker Place Medical Clinic	9am-8pm	9am-8pm	9am-8pm	9am-8pm	9am-8pm	10am-6pm	10am-6pm	10am-6pm
Richport Medical Clinic	9:30am-8pm	9:30am-8pm	9:30am-8pm	9:30am-8pm	9:30am-8pm	9pm-1pm	12pm-3pm	Open only if Dr. is available
Seafair Medical Clinic	9am-9pm	9am-9pm	9am-9pm	9am-9pm	9am-9pm	9am-6pm	9am-9pm	9am-9pm
Terra Nova Health Centre	9am-9pm	9am-9pm	9am-9pm	9am-9pm	9am-9pm	9am-9pm	9am-9pm	9am-9pm
Westminster Medical Clinic	9am-8pm	9am-8pm	9am-2:30pm	3pm-8pm	9am-3pm	9am-3pm	9am-1pm	Closed
Vancouver Airport Medical Clinic	8am-6pm	8am-6pm	8am-6pm	8am-6pm	8am-6pm	9am-2pm	Closed	Closed

There are three clinics (i.e., Blundell medical clinic, Seafair Medical Clinic and Terra Nova Health Centre) which open from 9/10 am to 9 pm from Monday to Friday and only one clinic (i.e., Terra Nova Health Centre) in Richmond that opens from 9 am to 9 pm on weekends as well.⁶

While the clinics open at the advertised time, all limit the number of patients as the end of the day approaches to ensure that the clinic closes on time. This practice is a possible source of confusion and frustration for patients. Generally, walk-in clinics will stop accepting patients anywhere from 1 hour to 1.5 hours prior to their advertised closing time depending on the number of clients waiting to be seen (Personal Communication). For patients who need a primary care consultation this leaves limited options and an incentive to seek care from an ED that they know is open 24/7.

Another factor that can influence walk-in clinic closing times is the MSP policy around the maximum number of patients that physician can bill for in a day. Current MSP billing policy allows each physician to recoup 100 percent of the billing amount for the first 50 patients she sees in a day. From 51-55 patients she will only receive 50 percent of the total reimbursable amount, and from the 56th patient on, she will receive no reimbursement for services provided if billed through MSP (Personal Communication). The main purpose of the quota is to encourage primary care physicians to spend adequate time with each patient and to promote high quality care that reflects good/best practice (Personal Communication). However, the quota does not take into consideration that patients who visit GPs in traditional practices often have more complex issues (i.e., patients with chronic conditions and multiple co-morbidities) compared to those who visit clinic physicians (Jones, 2000). Given that 30 percent of the time, a walk-in clinic physician will either come close to or reach her daily limit, and that when the limit is reached the physician will

⁶ Hours of operation were determined by calling each of the 12 walk-in medical clinics. The list of clinics was accessed through the Richmond Health Department located in the Richmond Hospital.

stop accepting patients, patients are ultimately left to deal with unreliable hours of operation and left with limited alternatives (Personal Communication).⁷

There is currently one hospital serving the entire community of Richmond, some residents of Delta municipality, travellers from the Vancouver International Airport and some residents of other surrounding areas. The hospital has approximately 175 inpatient beds and 5 operating rooms, which allows for approximately 2,650 operations and 6,750 surgical day care cases annually. Surgical procedures include general surgery, ophthalmology, ear nose and throat, plastic surgery, vascular, orthopedics, and gynecology. The hospital delivers approximately 1200 babies per year and has a maternity ward, which consists of labour and delivery rooms and a special care nursery. Ambulatory care, which provides services to those who are able to move in and out of the hospital freely (depends on procedure and patients' condition) including blood transfusions, x-rays, chemotherapy, etc, supports 12,500 patients per year. The hospital has one of two sleep labs in the lower mainland for those with sleep disorders and an integrated palliative care program for those transitioning to the end-of-life and experiencing acute medical issues (Richmond Health Services, n.d.b).

Richmond Hospital (RH) and its ED are open 24/7. The ED is equipped to provide a full range of emergency services except the most severe traumas via ground or air ambulance. Vancouver General Hospital (VGH) is the closest, largest and most advanced trauma centre in the region and receives all severe trauma cases. The ED receives approximately 40,000 visits per year. The Department consists of a triage area, a case room (very serious patients), a treatment area (serious patients who need stretchers), a casting room, treatment rooms (less serious cases), fast track, and psychiatric holding (Richmond Health Services, n.d.c). The fast track area treats lower acuity patients. Treating those with minor injuries in a fast track area, as opposed to having them queue up with high acuity patients, results in improved outcomes such as shorter length of

⁷ This excludes non-MSP billed patients. I.e., reciprocal insurance (Ontario Health Insurance Plan, Workers Compensation Board, etc.) and private paying patients.

stays (LOS), and fewer tests administered. Separating the flow of patients also has no known negative medical impacts when compared to those in the usual ED stream (Hampers, Cha, Gutglass, Binns, and Krug, 1999, p. 1153).

Another resource available to Richmond residents is The BC Health Guide Program. This is a provincial program designed to support British Columbians in making better health decisions, including when to seek care from a health professional. It provides access to general health information and advice 24/7. Health care providers are also available by telephone to recommend the most appropriate level of care based on the patients' medical needs. The program uses four distinctive resources: BC HealthGuide Handbook, BC HealthGuide OnLine, BC HealthFiles, and BC NurseLine. The BC Health Guide Handbook provides information on how to recognize and cope with common health concerns and recommends when a visit to a health professional is appropriate. Readers can also educate themselves on how to prevent illness and other home treatment and care options. BC Health Guide Online is powered by a third party software provider named Healthwise. Healthwise maintains a database that is dynamic and constantly updated. It contains medically approved information on 3,500 health topics, tests, procedures and resources. BC Health Files provides readers with facts on BC specific information regarding public safety and health topics. Finally, the BC NurseLine provides BC residents telephone access to a registered nurse 24/7 or a pharmacist from 5 p.m. to 9 a.m. daily. The NurseLine also provides translation services in over 130 languages (BC Health Guide, n.d.).

The intended goal of these integrated products and services is to help reduce pressures on the acute care system including the ED and free health professionals to address cases that are more critical. The resources are also available in other languages besides English and French including Chinese and Punjabi (BC Ministry of Health, 2007b).

Beyond describing current health care services in Richmond, it is also important to describe the current strategic direction that VCH/RHS is heading. First, on August 2, 2007, the

Province announced a one-time allocation of 100 million dollars under its Health Innovation Fund to the health authorities in BC and issued a request for proposals that promote innovation and facilitate improvements in patient care within the public system. The Fund focused on three priority areas: 1) Emergency Room Decongestion, 2) Primary Health Care services, and 3) Pay for Performance (BC Ministry of Health, 2007c).⁸ Second, prior to the announcement of the Fund, VCH was already continuing to build on the foundational work funded and developed through the federal Primary Health Care Transition Fund (2000-2006) and identified in the Primary Health Care Charter (2007). The Charter introduced and recommended the implementation and spread of the Practice Support Program (PSP). This Program will have a direct positive impact on the non-urgent population if implemented broadly and effectively. The remainder of this section briefly describes the funded initiatives under the Innovation Fund and the status of the PSP in Richmond.

Three major projects received Innovation Fund dollars. They are the Emergency Decongestion Pilot (EDP), The Chronic Disease Management (CDM) Care Connectivity Pilot, and the Real Time Acute Bed and Patient Flow Management Project. The EDP is a “pay for performance” initiative that rewards VCH with additional funding for meeting pre-determined targets for moving ED patients into a hospital bed or back to the community. One of the targets for this pilot is for all EDs to achieve a transit/discharge time of two hours or less from the ED for low acuity (i.e., Canadian Triage and Acuity Scale IV and V) patients. The CDM Care Connectivity Pilot is an integrated model of care delivery whose goal is to better match services with the needs of people with multiple chronic diseases. VCH expects this pilot to reduce both ED visits and admissions to acute care for this population. However, it is unlikely that the target population for this pilot is the same population that uses the ED for non-urgent reasons. Typically, by the time this target population reaches the ED their chronic conditions have become

⁸ Pay for performance offers financial incentives for health authorities to increase productivity and quality of care (BC Ministry of Health, 2007c).

more severe and require more complex intervention than a typical non-urgent patient requires. Real Time Acute Bed and Patient Flow Management Project is an Information Technology solution that will standardize patient flow processes across multiple VCH acute sites including Vancouver General Hospital, the University of BC Hospital, GF (George Frederick) Strong rehabilitation centre and Richmond Hospital. The goal is to maximize hospital and facility bed turnover. This initiative targets the inpatient population with more complex and serious issues in need of secondary and tertiary care/services, not those with less and non-urgent primary care issues (Vancouver Coastal Health, 2007).

The PSP is a joint initiative between the BC Medical Association (BCMA), GPs, the BC Ministry of Health and the RHAs, and was developed after extensive consultation with BC family physicians. Practice Support Teams deliver the Program within each of BC's five regional health authorities. The program supports family physicians in the following areas: advanced access, group visits, practice self-assessment, patient self-management and CDM (Impact BC, n.d.). Advanced access is the only component of the Program that will have an impact on the number of non-urgent ED visits. Advanced access attempts to increase GP office efficiency by scheduling patients for same day appointments and thus it attempts to decrease cancellations. Physicians can also capture patients who would normally go to walk-in clinics or the ED therefore increasing continuity of care. Advanced access may also enable GPs to increase their rosters and re-open their practices to new patients. As a region, VCH has engaged approximately one-third of all family physicians, however GPs in Richmond have been more difficult to engage and uptake thus far has been limited (Vancouver Coastal Health, n.d.b; Personal Communication). One possible reason for this is that GPs participating in the CDM Care Connectivity Pilot, which involves significant practice changes, may already feel overloaded. Another possibility is that many Richmond GPs are well established and are simply not interested in changing or altering the way they run their practices.

2.3 Defining the Non-Urgent Patient - Assessing and Assigning Urgency

Identifying non-urgent patients is challenging and studies have used different approaches. The following section describes the tools and approaches found in the literature. There are three main methods used to define acuity or urgency levels in ED settings. Two of the three methods rely on retrospective post-discharge analysis of various data elements. The other method is prospective and based on a triage assessment.

The first method defines urgency based on a retrospective patient/chart review conducted by a panel of health professionals, including physicians and nurses. Multiple studies have used this methodology to define their study's cohort (Shah, Shah and Behbehani, 1996; Laursen and Jensen, 1999; Lang, Davido, Diakite, Agay, Viel, and Flicoteaux, 1996). This methodology reviews each patient's entire admission history including, medications, procedures and referrals to inform the final designation. This method is referred to by some as the "gold standard" in measuring "true urgency", since all of the facts of the case are available; the outcome of the patients is already determined and there is no guess work required (Lee, Lau, Hazelett, Kam, Wong, Wong, and Chow, 2000; Baker and Baker, 1994).

The second method used by Baker and Baker (1994) determines a patient's level of urgency based on a single administrative data element found in a patient's chart/medical record, the standardized discharge diagnosis code from the International Statistical Classification of Diseases, Injuries, and Causes of Death (ICD). The authors acknowledge that using ICD codes alone may fail to capture *all* relevant information needed to determine severity accurately.

Prospective triage assessment, the third methodology, is the approach used in this study. Triage is a French word for "sorting" and enables health care providers to prioritize patients based on urgency as well as limited ED resources (Saint Mary's Health Care, 2006). The primary goals of triage include rapid identification of patients with urgent, life threatening conditions,

determining the most appropriate treatment area for patients presenting to emergency, decreasing congestion in emergency treatment areas, providing ongoing assessment of patients, providing information to patients and families regarding services, and expected care and waiting times. In Canada, ED triaging protocols are determined by the Canadian Association of Emergency Physicians. There are five Canadian Triage and Acuity Scale (CTAS) categorizations. They range from the highest level of acuity (e.g., cardiac arrest) to the lowest level of acuity (e.g., minor bumps and abrasions) (Beveridge, Clarke, Janes, Savage, Thompson, Dodd, Murray, Jordan, Warren, and Vadeboncoeur, 1998).

A patient who is CTAS level I (“Resuscitation”) is typically non-responsive, unstable, completely absent of vital signs, severely dehydrated, and may require resuscitation. These patients will typically be brought into emergency through a separate entrance by an ambulance; however, a level II or lower acuity patient could enter the ED on their own and subsequently deteriorate to level I status while waiting for treatment. In either case, once classified as a level I patient, they will generally be in code or arrest (or appears to be imminent), shock states, unconscious, severe respiratory distress, etc. CTAS protocols recommend that a physician should see anyone who reaches level I status immediately (Beveridge et al., 1998).

A CTAS level II (“Emergent”) case usually presents to the ED with symptoms or conditions that appear to be a potential threat to life, limb or function, requiring rapid medical intervention. Other characteristics may include altered mental state (e.g., cognitive deficits, agitation, lethargy, confusion, seizures, paralysis, and coma), head injury, severe trauma, severe asthmatic attack, sharp or visceral pain (e.g., eye, chest, abdominal, etc.), drug overdose, gastrointestinal bleed, etc. Since a person triaged as level II is conscious or semi-conscious he would be able to express that he is experiencing ‘severe pain’ (i.e., 8-10 on a 10 point scale). For these individuals, CTAS protocol recommends that physician contact should occur within 15 minutes or less of arriving to the ED (Beveridge et al., 1998).

CTAS level III (“Urgent”) conditions are those that could potentially progress to a serious problem requiring emergency intervention. Patients may complain of significant discomfort affecting their ability to function at work or activities of daily living. Patients will often present with head injury, moderate trauma, asthma, mild/moderate chest pain, gastro intestinal bleed (not actively bleeding, with normal vital signs), acute psychosis and/or suicidal, etc. Level III patients often self report moderate levels of pain from 8 – 10 (for minor injuries) and 4 - 7 (headache, back, etc.) on a 10-point pain scale. The recommended time to physician is less than or equal to 30 minutes after the initial triage process (Beveridge et al., 1998).

Patients who are a CTAS level IV (“Less Urgent or Semi Urgent”) who experience issues related to age, distress, or potential for deterioration or complications, would benefit from physician intervention or reassurance within 1-2 hours. CTAS guidelines indicate that the ideal time to a physician is 1 hour or less. Patients will typically be categorized as CTAS IV when they arrive with minor head injury, minor fractures, sprains, contusions, abrasions, lacerations, requiring investigation or intervention, normal vital signs, suicidal/depressed, upper airway congestion, cough, aches, fever, sore throat, chronic vomiting and or diarrhea with no signs of dehydration (Age >2). These patients may also report experiencing acute pain of moderate intensity (i.e., 4-7/10) in areas of the body such as the abdomen, head, chest, and back (Beveridge et al., 1998).

CTAS level V (“Non Urgent”) patients have conditions that may be acute but non-urgent as well as conditions that may be part of a chronic problem with or without evidence of deterioration. They present with minor trauma, contusions, abrasions, minor lacerations not requiring closure by any means, overuse syndromes including tendonitis, and sprains. Nursing interventions may including splinting, cleansing, immunization status and minor analgesics. CTAS V patients also may present to the ED with specific symptoms such as a sore throat and upper respiratory infection, normal vital signs or a low-grade fever. Other conditions may

include vaginal bleeding (i.e., after excluding pregnancy), vomiting alone, and diarrhea alone with no signs of dehydration. Psychiatric patients presenting in emergency may have minor or insignificant medical problems from the provider's perspective but maybe frustrated by a lack of availability of other health care options available in the community. Self-rated pain for these patients will be 4 or less out of 10 (Beveridge et al., 1998).

Protocol indicates that the ideal time to a physician is 1 hour or less for CTAS IV patients and 2 hours or less for CTAS V patients. However, investigation of many of these illnesses/injuries can be delayed for hours, or even referred to other areas of the hospital or health care system (Beveridge et al., 1998). For example, people often arrive in the ED for issues such as minor cuts, lacerations, and abscesses that require draining. However, these issues can be easily addressed in a GP's office (Personal Communication). Irvin et al. (2003) identify a potential shortcoming of this tool in defining urgency. They indicate that triage assessment alone can be inaccurate because it fails to take into account the real or final diagnosis of the patient. Studies validate this shortcoming and show that there can be small portions of patients that fit the less and non-urgent criteria but are admitted to hospital for further observation and or treatment (Vertesi, 2004; Solano, McDuffie, and Gill, 2003). Vertesi (2004) concludes that using the CTAS (levels IV and V) to identify non-urgent patients is not a reliable measure because 4.4 percent of all patients included in the study and defined as non-urgent were in fact admitted to hospital for further treatment or medical evaluation.⁹ However, since the tool is able to identify non-urgent patients accurately 95.6 percent (i.e., the inverse of 4.4 percent identified in Vertesi's study) of the time, the CTAS tool is accurate enough for high-level policy development and planning purposes. For example, based on a sample of over 70,000 ER visits Stenstrom et al. (2003) confirm that the CTAS has excellent strength in predicting clinical and utilization

⁹ 7116 (total non-urgent patients) = 6426 (CTAS level IV patients) + 690 (CTAS level V patients)
 316 (total number of non-urgent patients who were admitted) = 306 (CTAS level IV) + 10 (CTAS level V)
 4.4% (percentage of non-urgent patients who were admitted) = $.0444 = 316/7116$

outcomes. Therefore, not only does a prospective triage protocol to assign urgency have a sufficient level of accuracy for the purposes of high level planning and policy development, but its proven accuracy explains why previous studies use it to define urgency (Field and Lantz, 2006; Derlet, Kinser, Ray, Hamilton, and McKenzie, 1995; Cooke, Arora, and Mason, 2003; Michelle, 1994; Dale, Green, Reid, and Glucksman, 1995; Gill and Riley, 1996; McLain, Price, Weiss, Quinn, Honigman, and Colo, 2000; Grossman, Rich, and Johnson, 1998; Coleman et al., 2001; Afilalo, Marinovich, Afilalo, Colacone, Léger, Unger, and Giguère, 2004).

2.4 A Case for Minimizing Non-Urgent Visits to the ED: Non-Financial and Financial Impacts

2.4.1 Non-Financial Impacts

Non-urgent ED visits have negative impacts on the health care system, health care providers, and patients alike. Understanding these impacts helps put this problem in context and supports the case for change.

From a health care system perspective, treating non-urgent patients in the ED contributes to ED congestion levels (Warren and Isikoff, 1993), significant problems in patient flow (Delaney, 2002), and resource diversion (Merritt, Naamon and Morris, 2000). All of these contribute to reducing the overall effectiveness of the ED.

Many ED staff consider treatment in a primary health care setting to be more appropriate for non-urgent patients. ED physicians and nurses feel increasingly responsible to provide care that should be available outside of the ED in the community. For these staff, not only are non-urgent ED visits viewed as time-consuming but they are also unrewarding professionally. As a result, these individuals are at greater risk of burnout (Delaney, 2002), and ultimately less motivated to help such patients (Sanders, 2000). Non-urgent ED visits add to the already

challenging work conditions that are typical during times of ED overcrowding.¹⁰ This in turn has a negative effect on ED productivity and morale. Looking at the bigger picture, these work conditions do little to support recruitment and retention of highly skilled and trained ED staff human resources (Canadian Association of Emergency Physicians and National Emergency Nurses Affiliation, 2001).

Frustrated staff may in turn project their frustrations onto patients and families. Nyström et al. (2003) studied a cohort of non-urgent ED patients and found that they often fail to receive appropriate attention and satisfactory nursing care. The study also showed that non-urgent patients tried to be 'good' patients by not demanding much attention from nursing personnel. It is difficult to identify who the customer is and who is working for whom in situations like these. Beyond staff frustration and poor behaviour towards non-urgent patients, research evidence indicates that individuals who use the ED for primary care are actually more likely to have poorer health care outcomes compared to those who seek non-urgent care in a primary health care setting (Solano et al., 2003). The remainder of this section explores some of the possible factors that result in poor outcomes.

For patients, one of the most significant impacts of seeking non-urgent care in the ED is waiting. Since the ED triage system attends to the sickest patients first, lower urgency and acuity patients often wait the longest to see a physician (Brand, Kennedy, MacBean, Sundararajan, and Taylor, 2005). Many non-urgent patients wait more than 4 hours in the waiting room before being seen by a physician (American College of Emergency Physicians, 2002). Recent data gathered by the Canadian Institute for Health Information (2005) confirms this. The CIHI data shows that 50 percent of patients triaged as CTAS IV (less urgent) or V (non-urgent) wait over an

¹⁰ A common misconception is that non-urgent ED visits trigger or cause ED overcrowding. ED overcrowding results from an inability to discharge ED patients who no longer require ED care back to the community (e.g., residential care facility) or to an inpatient bed in the hospital. This in effect results in a bottleneck and build up of discharged patients in the ED that continue to occupy beds, space and resources that should be freed up for and utilized by new patients coming into the ED.

hour for their first physician assessment. The data also shows that 10 percent of all less urgent and non-urgent patients wait three hours or more for their first physician assessment, despite recommended times of 60 and 120 minutes for CTAS IV and V patients respectively.

Lengthy delays also occur after the ED physician has assessed patients. CIHI data reveals that 10 percent of CTAS IV or V patients spend four hours or more in the ED waiting for diagnostics, labs, treatment and physician discharge approval. Assuming there is some overlap between less urgent and non-urgent patients who wait hours to see a physician and patients who have to wait hours for labs, diagnostics, treatment and discharge, a person's journey (i.e., arrival to discharge) could be as long at 8 to 12 hours.

In recent decades, a key strategy that has been implemented in EDs to address prolonged waiting times for non-urgent patients is the ED fast track system. A fast track system is akin to the Nexus lane when crossing the US Canadian border and the "9 items or less" lane at the grocery store and improves patient flow and satisfaction (Smith, 2003). Fast track is a parallel stream in an ED and is where most CTAS IV and V patients receive assessment and treatment. The common elements of an ED fast track system include: selection of low acuity patients typically determined by triage protocols, a separate physical space dedicated to low acuity patients, dedicated staff (i.e., nursing and physician) and co-location with a main ED for easy access to the lab and diagnostics used by the main ED (Yoon, 2003).

Another explanation for poor outcomes for those who seek non-urgent care in the ED is that many adult and pediatric non-urgent patients leave without being seen (LWBS) by an appropriate health care provider (Canadian Associations of Emergency Physicians, 2000; Goldman, Macpherson, Schuh, Mulligan, and Pirie, 2005). LWBS describes, "patients who present and are triaged in the emergency department then leave prior to being seen by a physician for assessment and treatment" (Brand et al., 2005). It is well documented that the rate of patients who LWBS is strongly and inversely related to a patient's level of urgency or triage category

(Mohsin, Forero, Ieraci, Bauman, Young, and Santiano, 2007; Brand et al., 2005; Goldman et al., 2005; Goodacre and Webster, 2005) and directly related to the length of time a patient is likely to wait.

Research evidence indicates that people LWBS because they begin feeling better, their problem spontaneously improve, or they feel that their problem is not as bad as they initially perceived and can wait. Other issues around employment, childcare or other commitments, transport considerations, safety concerns in the waiting room, difficulties with ED staff and a perception that the ED is too busy, all explain why patients LWBS. Approximately half of patients who LWBS have been shown to seek alternate care, and are more likely than those who do not LWBS to seek care on the same or next day; this may be with their local GP, returning to the same ED, attending a different ED, or consulting some other provider (Brand et al., 2005).

Data from VGH indicates that CTAS IV and V patients were responsible for 72 percent (1394 out of 1934) of all recorded LWBS cases during fiscal year (FY) 2004. Thus, approximately 4.9 percent (1394 out of 28390) of all less and non-urgent ED patients left without being seen. While there is no data from the RH ED for FY 2004 for LWBS patients, applying the VGH proportion of 5 percent to the total number of CTAS IV and V patients that visited the RH ED in FY 2004, there would have been approximately 900 ($= 4.9\% \times 18349$) patients that left without being seen.

A third possible cause of poor patient outcomes is the lack of care continuity and lower patient satisfaction in the ED compared to primary care settings. EDs provide episodic non-continuous care and are often unable to access a patient's medical records, past history of illness, medications, etc. EDs also often fail to forward the information documenting a patient's visit to the ED back to the patient's GP, if they have one (Personal Communication). Generally, ED physicians have very limited access to information about the patient and therefore may not be

able to provide the most appropriate treatment course if the treatment would change based on information only their GP would have.¹¹

After a patient's ED encounter, the ED staff should request that the patient follow-up with their family physician and for those who do not have one, they should make a referral. In practice however, ED staff often neglect to encourage patients to utilize primary care in the community perpetuating the already discontinuous care non-urgent patients receive by attending the ED in the first place (Dale, 1992; Personal Communication). Language barriers are one possible factor that may explain why ED staff do not refer non-urgent ED visitors back to primary care for follow-up. Also, staff are not recommending follow-up appointments with primary care physicians when it is clear, at the time of discharge from the ED, that follow up is necessary (e.g., abdominal pain of unknown cause) (Sarver and Baker, 2000). Failure to link non-urgent ED patients back to their GPs and to change their patterns of utilization ultimately results in higher re-utilization rates when compared to those who are linked to primary care (Campbell, Silver, Hoch, Østbye, Stewart, Barnsley, Hutchison, Mathews, and Tyrrell, 2005).

Lower patient satisfaction in ED versus primary care, for those with non-urgent issues is a fourth example of a potential cause of poor patient outcomes. EDs provide acute episodic care and as a result, deliver care that is not patient-centred (Dale, 1992). Studies show that patients perceive EDs as unpleasant therapeutic environments (Shactman and Altman, 2002), hectic and stressful places where patients often feel they are treated anonymously (Dale, 1992). Dissatisfaction from non-urgent ED patients also seems to stem from language barriers for non-English speaking patients (Carrasquillo, Orav, Brennan, and Burstin, 1999). This is especially the case during times of ED overcrowding (Shactman and Altman, 2002).

¹¹ EDs often only have access to records related to previous ED visits and hospital admissions, if the ED is attached to an inpatient hospital. Thus, any of the patient's information from a medical record kept by their GP/FP or elsewhere in the community is not easily accessible given the current state of technology in VCH.

Overall, there appear to be three underlying themes responsible for poor outcomes for non-urgent patients in the ED when compared to those who receive care in a primary health care setting. The first is that patients perceive that EDs have a lower degree of patient-centred communication. The second is that ED physicians' attitudes are not as supportive as their colleagues in primary care. The third theme is that patients typically experience longer delays in EDs waiting for assessment and treatment (Hutchison, et al., 2003).

2.4.2 Financial Impacts

In 2007, the BC government spent 42 percent of its total budget on health care services. By 2017, health spending will increase to 70 percent if recent trends continue (BC Ministry of Health, 2007d). Thus, the need for the health care system to maximize its existing resources has never been more important. With significant proportions of ED visits being made by those with non-urgent medical issues, there appears to be a potential for system wide cost savings if it can be shown that treating non-urgent patients outside the ED is less costly than treating them in the ED.

Emergency departments must be prepared to assess and treat patients of both high and low acuity with no notice, at all times of the day and night. To provide such comprehensive and responsive care, emergency services require physical space (i.e., land and a building), diagnostic and treatment equipment, supplies and medication, and emergency trained medical staff on hand (Solano, 2003). Further, to function effectively and safely, EDs require support services such as housekeeping, information systems, material services, facility maintenance, security, and registration and admissions departments (Showstack, 2005, p. 493). Multiple studies have attempted to analyze the costs of non-urgent care provided in the ED versus primary health care settings. The following section describes the conclusions reached by some of these study authors. Some suggest that the average cost of caring for a non-urgent patient who visits the ED is comparable to the cost of a private physician's office visit, or that only negligible savings can be

realized through non-urgent patient diversion, since non-urgent patients consume a small fraction of the ED stretchers and acute-care resources (American College of Emergency Physicians, n.d.; Vertesi, 2004). Others however argue the opposite, that non-urgent care provided in the ED can be significantly more costly than care provided by office based primary care. (Phelps et al., 2000; Cunningham, Clancy, Cohen, and Wilets, 1995; Campbell et al., 2005).

On one hand Williams (1996), found that the average cost of treatment for non-urgent patients was USD \$62, and the marginal cost was USD \$24. The author concluded that the costs of non-urgent care in the ED was relatively low and that the savings from diverting non-urgent patients to a physicians' offices in a primary health care setting, while positive, may be significantly less than is widely believed. On the other hand, administrators at the Orleans Urgent Care Center (OUCC) indicate that cost per patient visit to a community ED easily exceeds the costs at OUCC by 8 to 10 times.¹² They also indicate that when compared to teaching hospitals the potential cost savings are even greater (i.e., teaching hospitals are approximately 2 to 3 times more costly than community based hospitals non-teaching hospitals) (Moritz and Ahuja, 2005). Baker and Baker (1994) found that charges for ED visits were 100 to 150 percent more costly than visits to other non-ED settings. They estimated that the average non-urgent, non-ED visit costs USD \$50, versus the average non-urgent ED visit, which costs USD \$144. They estimate that in 1993 there was roughly \$5 to \$7 billion in potential cost savings in the United States alone. The most recent study to look at costs associated with non-urgent ED utilization concluded that the marginal cost of an outpatient ED visit is actually greater than believed. The authors estimate the marginal cost of an outpatient ED visit to be USD \$300 in non-trauma EDs and greater than USD \$400 for EDs that provide trauma services. Based on evidence provided in a VCH presentation, the estimated cost per ED visit in RH is CDN \$185 whereas the estimated average

¹² Refer to section 5.5 for the description of an UCC

costs per visit at an urgent care centre would be CDN \$50 (Vancouver Coastal Health, 2008b).¹³ These estimates, while insufficiently detailed to support actual decision-making, are helpful in providing a springboard for further analysis and consideration.

Florence (2005) indicates that identifying potential cost savings requires a detailed separation of different types of costs, and that the key to understanding the true costs of care provided in any setting is that costs must be delineated into fixed and variable.¹⁴ Based on this logic, if a significant portion of non-urgent ED costs can be attributed to fixed rather than variable costs, then an alternative that requires a shift of care from a hospital to an alternative setting would likely lead to significant sunk costs and little to no cost savings. Alternatively, if the majority of total costs associated with treating non-urgent patients can be attributed to variable costs, significant cost saving may be achievable. Interestingly, there is limited but contradictory evidence that supports both views (Florence, 2005, Showstack, 2005, p. 494, Solano, 2003).

A number of reasons might explain the contradictory conclusions found in the studies cited above. First, despite the existence of standard accounting rules that define how hospitals should allocate common costs, there is considerable discretion allowed when reporting costs (Showstack, 2005, p. 494). As a result, there is no consistent categorization of costs across facilities. Showstack (2005) describes a grey area in costing called semi-variable costs. These costs can change depending on specific patterns of care or other circumstances. For example, nursing services are resources that could fall under the umbrella of semi-variable costs, and could be either variable or fixed. Given that 75 percent of all spending on health care goes to labour

¹³ This represents the direct care costs and excludes physician fees

¹⁴ Fixed costs are incurred and do not vary, despite the number of ED visits or number of services performed. These costs are commonly referred to as standby costs that are paid for items that must be available for at all times (i.e., 24 hours per day, seven days a week) for either actual or potential demand. Examples of fixed costs may include: the building the ED is located in, some equipment, utilities and staff (i.e., if they are paid an annual salary). Variable costs are dependant on the services and supplies used by each patient/visit, and rises with the increase in the number of patients serviced. These costs generally exist in the form of materials and supplies such as pharmaceuticals, some equipment supplies and medical items (Solano, 2003).

(Standing Senate Committee on Social Affairs, Science and Technology, 2002), how an administrator or the finance department classifies labour in the ED would likely determine the outcome of any cost-benefit analysis.

Another confounding factor is whether the services provided in the ED are even comparable to those provided in a primary health care setting for non-urgent patients (Solberg, Maciosek, Sperl-Hillen, Crain, Engebretson, Asplin, and O'Connor, 2004). For example, the burden of investigatory proof required in an ED is greater than in the primary care setting, and every patient who arrives in the ED is treated as a potential emergency. Each patient receives a complete work-up, if necessary, and the ED physician must rely on immediate and often complex laboratory and diagnostic testing to exclude serious illness prior to discharging patients. Contrast the above with the approach, techniques and investigatory rigor employed by primary care physicians, which are typically less intense, include 'watchful waiting', and follow up check-ups. This is the case even when the primary care physician is uncertain about a patient's problem, unless the patient has an acute issue requiring ED care. Watchful waiting and return check-ups are not available to emergency physicians. This difference in approach to patient care can make direct comparisons in service intensity between care provided in primary care versus the ED difficult (Solberg et al., 2004; Solano et al., 2003).

Overall, the case for reducing the number of non-urgent ED visits is compelling for both non-financial and financial reasons. From the perspectives of the health care system, health care providers and most importantly patients, the ED is not an appropriate place for non-urgent patients to be seeking assessment and treatment. Non-urgent ED visits retard patient flow, underutilize the expert knowledge and skills of ED staff, and result in poorer outcomes for patients when compared to primary care settings. From a financial perspective, research evidence and internal data from VCH and RHS overwhelmingly suggest that there are significant potential costs savings associated with shifting care for non-urgent patients from EDs to primary

health care settings. However, what remains unclear is the magnitude of the savings potential. Multiple issues confound the cost-benefit calculation and the methods used to classify costs will have a significant impact on the outcome of the calculation. Administrators and researchers alike need to have a better understanding of the ‘black box’ that is hospital cost accounting. Fully understanding what is happening inside one hospital or ED requires detailed patient-level cost and clinical data and sophisticated analyses to develop precise estimates of the true economic costs of providing care (Showstack, 2005, p. 494). Until this happens, the true economic burden of non-urgent ED visits will continue to be up for debate.

2.5 Why do People with Non-Urgent Issues Visit the ED

The decision to seek care in an ED is complex and influenced by multiple factors (Sharma, Simon, Bakewell, Ellerbeck, Fox, and Wallace, 2000). It appears that demographic characteristics, variations in perception of illness severity between lay people and health care providers, and poorly structured and delivered primary health care services, all drive non-urgent ED visits. The following section highlights some of the research evidence around each of these areas.

2.5.1 Demographic Characteristics

Research shows that there is a disproportionate percentage of non-urgent ED visits attributable to younger age groups relative to the age distribution of urgent ED patients (Lang et al., 1996). In particular, the very young (i.e., 0-2) are more likely to be brought to the ED by a caregiver for non-urgent reasons than other age cohorts (Cunningham et al., 1995). Guttman, Zimmerman, and Nelson (2003) found that the reason for this was that parents “were not willing to risk a child’s well-being”. The visit to the ED, as one parent explained, is the “quickest way to find out what’s wrong [because the] child is extremely important to you.” They also found that the underlying concepts of reassurance and official approval both play a factor in a parent’s

decision to take their child to the ED. Studies find a negative correlation between a person's age and the likelihood of visiting the emergency for a medically non-urgent reason (Bianco, Pileggi, and Angelillo, 2003; Shah et al., 2005). For example, Shah et al. (1996) found that the likelihood of a non-urgent visit from someone age 25 or younger was approximately 1.79 times greater than from someone 50 years and older.

With the exception of one study conducted in the Middle East, it appears that sex can play a factor in non-urgent ED visits (Shah et al., 1996). Bianco et al. (2003) found that females were more likely to present to emergency with non-urgent issues. Two other studies confirmed this finding and observed noticeably higher proportions of female non-urgent ED patients in their sample populations (McLain et al., 2000; Gutherz, and Bacon, 2001).

Only one study found that a person's level of education was (positively) related to the likelihood of presenting to the ED for a non-urgent reason (Shah et al., 1996). The study found that those with secondary and higher levels of education were 1.73 times more likely to present to emergency when compared to those without formal education. Burnett and Grover (1996) found that 63 percent of sampled patients were educated to a level of at least high school.¹⁵

Ethnicity was another demographic element captured in a number of studies, but most only made this observation and did not try to explain it. Only one study looked at the relationship between ethnicity and the likelihood of presenting to emergency for non-urgent reasons. Shah et al. (1996) determined that ethnicity did not play a factor in determining patterns of non-urgent ED utilization. No studies could be found that looked at utilization patterns of other ethnic groups such as Asian or South Asians.

Studies in France, Canada, and the US examine the impact of a person's income on non-urgent use of the ED. Financial hardship is often a significant factor in a person's decision to visit the ED for non-urgent reasons. For example, in the US, Gill et al. (1996) found that 74

¹⁵ However statistical significance was not ascertained.

percent of their study cohort earned an annual income below USD \$20,000. Another study conducted in France found that the majority of the non-urgent sample was “socially fragile” but did not indicate a specific income level or range (Lang et al., 1996). Emergency physicians in the U.S. experience this first-hand as there are an estimated 47 million uninsured U.S. residents and millions more that are under-insured (Appleby, 2006). The nation's nearly 4,000 EDs act as a safety net and gateway for as many as three out of four uninsured patients in the US (American College of Emergency Physicians, n.d.).

Given Canada’s universal health care system, one would assume that income would not be a factor in a non-urgent patient’s decision to visit the ED. However, the Canadian study too observed that a significant proportion of its non-urgent sample population earned less than CDN \$20,000, as a household, per year (Burnett and Grover, 1996). Upon closer analysis, it is not difficult to identify a link between income and non-urgent ED utilization. For example, the Canadian health care system only provides full coverage for its citizens in the hospital setting, and all services and medications required during an ED or hospital stay are “free”. Outside the hospital, patients must pay out-of-pocket for some services and all prescriptions, unless covered by an extended health benefits plan provided through an employer or third party private insurance company. However, since employers do not typically offer extended health plans to employees in lower income jobs (e.g., retail), these people have a financial incentive to seek non-urgent care and medications in an ED. Therefore, many people who cannot afford to pay for medical care, have no basic health insurance, are underinsured and do not have jobs that provide extended health care benefits, may turn to EDs for access to “free” care and medications.

2.5.2 Perceptions of Urgency

Moving beyond demographic factors, studies cite a person’s own perceived need for immediate and urgent care as a reason why individuals visit the ED who are classified as non-urgent based on medical criteria. For example, Field and Lantz (2006) found that relatively few

of the 235 individuals identified as non-urgent (using CTAS IV and V as the trigger) considered themselves to be using the ED inappropriately. In a large study conducted in the U.S. by Young et al., (1996) 45 percent of ambulatory patients thought their condition was either urgent or emergent or that they were too ill to receive care anywhere else. Gill and Riley (1996) found that an overwhelming 82 percent of sampled non-urgent patients viewed themselves as urgent, and Northington, Brice and Zou (2005) found that 79 percent (220/279) of their sample self-identified as urgent. Burnett and Grover (1996) asked non-urgent patients where they thought the "best" place for them would be to receive care for their current medical complaint, and reported that 60 percent (120/200) stated the ED. Padgetta and Brodsky (1992) concluded from their study on a pediatric population that while ED physicians may view upper respiratory infections and fevers in children as either trivial or not urgent, a child's parent(s) and family may perceive these to be both urgent and possibly even life threatening. Clearly, the research evidence highlights the gap between what health care providers classify as urgent and what lay people perceive to be urgent.

2.5.3 Structure, Delivery, and Access to Primary Health Care Services

All users of EDs, both non-urgent and urgent, rely on the ED because they know it is always there 24/7. When access to primary care is limited, the ED by default becomes a "safety net"; it becomes the one place where people will not be turned away (Bernstein et al., 1997).

Second, many non-urgent patients go to the ED instead of other available alternatives because they recognize that EDs offer the most complete care - one stop shopping (Guttman et al., 2003). Evidence shows that as many as 55 percent of non-urgent ED visits occur because EDs offer greater convenience (Boushy and Dubinsky, 1999). When compared to primary care, EDs offer more timely access to a wider range of services and are more efficient and expedient at diagnosing medical conditions than physicians' offices (American College of Emergency Physicians, n.d.). Patients know when they go to the ED that they will be assessed, diagnosed and treated in a matter of hours. Simultaneously, they know that access to the assessments,

diagnostics and treatment in a primary care setting will likely occur over a number of days if not weeks. This is the case particularly when a person may require services accessible in an ED including x-rays, casting, lab/blood work, suturing, pharmaceuticals, specialist or emergency physician evaluation/assessment including psychiatric evaluation, etc. (Field and Lantz, 2006; Canadian Associations of Emergency Physicians, 2000). While most, if not all, of these services are accessible through primary care, access to them requires more time and effort on behalf of patients to arrange coordinate and travel to; whereas in an ED, the patient's journey from arrival to discharge is coordinated by medical staff and requires very little effort from patients themselves.

A third influential factor related to non-urgent ED visits the lack of a solid patient-provider relationship. Studies show that disruption in a sustained relationship (e.g., poor accessibility) between one patient and one doctor can lead to an increase in ED utilization (Petersen, Burstin, O'Neil, Orav, and Brennan, 1998; Rosenblatt, Wright, Baldwin, Chan, Clitherow, Chen, and Hart, 2000). Studies also suggest that while simply having a regular source of care (i.e., primary care physician) appears to be a factor associated with decreased utilization of EDs amongst the general elderly population (Ittu, McCusker, Ciampi, Vadeboncoeur, Roberge, Larouche, Verdon, and Pineault, 2007), it has no significant impact on ED utilization for non-urgent patients (Gill and Riley, 1996; Field and Lantz, 2006).¹⁶ Thus, simply having a GP (i.e., a regular source of care) does not necessarily mean that patients will go to them for non-urgent issues; the quality of the patient-physician relationship is more important. This relationship however likely depends on a number of factors including a physician's ability to provide relevant, accurate and timely information, trust and confidence in the physician's skills and abilities, and

¹⁶ This finding may seem non-intuitive, as most people would presume that not having a primary care provider would result in higher non-urgent ED visits. However, within the Canadian health care system, alternatives exist for people with non-urgent issues in the form of walk-in clinics. In fact, since clinics do not require appointments, are typically open more often and for longer hours than traditional GP practices, some people may actually prefer walk-in clinics over their GP/FPs.

availability of the physician when needed by the patient. I present some of these issues in more detail below.

A fourth factor at the root of non-urgent ED visits is failure by physicians to educate their patients. A multi centre study in Toronto, Canada involving 948 ambulatory patients, found that 9 percent of the 948 patients sampled indicated that they had a primary care provider, and that most (i.e., 76%) primary care physicians are not educating their patients about which situations warrant an ED visit (Boushy and Dubinsky, 1999). The study also reported that up to 54 percent of primary care physicians are not informing their patients about which services they offer in their own offices. If patients do not feel that their GP is providing them with adequate or accurate information, the level of trust and confidence in them as an expert may be compromised and may result in reluctance to seek support from them when future issues arise. Instead, patients may prefer the ED as an alternative.

Fifth, all physicians should be addressing non-urgent patients in their offices but some inappropriately refer patients to the ED. The following account is an excerpt from an online submission from a member of the public to the Conversations On Health describing two occasions of inappropriate referrals made by a physician:

From personal experience I was directed to Emergency for a bad cut on my hand which required 5 stitches. I argued to have it done in his [the doctor's] office and was told 'I don't want to mess up my office'. Second case – I visited the Dr. to have wart removed...a procedure he had done in his office once before. He said to meet him at Emergency. I questioned why. He said his [wart] burner...wasn't working properly and that 'I'm not spending money on that... there's one at Emergency' (Province of British Columbia, n.d.b).

Not only are inappropriate ED referrals taking place during regular office hours but they are also taking place after hours when GP offices and walk-in clinics are closed (Massachusetts Health Policy Forum, 2001). In Richmond, when a GPs office is closed, patients who call typically encounter a voice message answering service indicating that if they are able to wait until the morning, to call back then and make an appointment, but to go to the ED immediately if

urgent care is needed. These may be appropriate directions when only an in-person consultation will suffice and the only service available is the ED (i.e., between 11 pm -7am). However, during other times, alternative such as telephone consultations and walk-in clinics may be more appropriate and available. Thus, the evidence indicates that physicians themselves are actively and passively advising patients, some who do not require ED care, to go to the ED, when they should be making their patients aware of other options, when they are available and when it is medically appropriate.

A sixth factor that likely degrades the patient-physician relationship and may lead patients to substitute an ED visit for a GP visit is a physician's perceived competency and ability to communicate. Some patients indicate that their non-urgent ED visits are due to the inability of their primary care physician to make proper diagnoses (Lee et al., 2000). Others who completed lab work-ups report that they either never received results or that their results were never clearly explained to them (The Commonwealth Fund, 2004).¹⁷ Consequently, non-urgent patients may visit the ED for non-urgent issues for a second opinion or reassurance (Guttman et al., 2003).

The seventh and possibly most significant factor related to non-urgent ED visits is insufficient timely access to primary care. Evidence indicates that patients prefer to seek medical help at a time that they choose rather than arranging appointments days later when they may have other important commitments (Steele, 1995, p. 147). Therefore, for non-urgent patients who would like to see a care provider immediately, the ED is the only available option when GP offices and walk-in clinics are closed (Lee et al., 2000). In addition, during regular office hours workers are often unable to take time off to see their physicians within 1 or 2 days for unexpected illnesses or injuries. For these patients there are no other options other than the ED (American College of Emergency Physicians, n.d.).

¹⁷ One possible explanation a GPs may incorrectly diagnoses a patient is that 3 party false positive and negative test results do occur which can lead to an incorrect course of action.

In a 5 nation study conducted by The Commonwealth Fund (2004) which included Australia, Canada, New Zealand, the United States and the United Kingdom, “U.S. and Canadian adults are the least likely to see a doctor the same day when sick and most likely to encounter waits of six days or more, a waiting time rare in New Zealand or Australia. The study found that 59 percent of Canadians reported “difficulty in getting care on nights, weekends, and holidays”. This was second highest only to the U.S. (63%). Not surprisingly, the use of EDs for non-urgent issues was highest in countries with the lowest rates of same-day access to physicians. A recent study by CIHI (2005) revealed that 18 percent of Canadians who end up in EDs indicate that their GP could instead have treated them if they had been available. This is similar to figures from the U.S., but more than in other countries. It also appears that caregivers of pediatric populations react similarly. Guttman et al. (2003) found that 71 percent of their pediatric sample and 90 percent of the adult sample rated same day appointments as a factor that was “very” or “extremely” influential in their decision to use the ED.

One final issue related to primary care access and specific to the British Columbia context is the maximum number of patients a fee-for-service physician remunerated through the MSP can bill for in a day. As mentioned in section 2.2, the current MSP billing policies allow each physician to recoup 100 percent of the billing amount for the first 50 patients he sees in a day. From 51-55 patients he will only receive 50 percent of the total reimbursable amount and from the 56th patient on, he will receive no reimbursement. This policy inadvertently limits access to the only face-to-face, same day physician consultation available other than the ED. However, this point may be moot for a certain portion of the non-urgent population since some patients will require blood work and diagnostic imaging which are not accessible in the community outside of regular office hours. Thus, even if walk-in clinics do not close before their

advertised closing times, the absence of labs and diagnostics in the community outside of regular office hours leaves no other options for some non-urgent patients who will need these services.

The reasons non-urgent patients visit EDs are complex and multifaceted, and include demographic factors, variations on perceptions of urgency and poorly structured, poorly delivered, and insufficient access to primary health care services. Research evidence suggests that non-urgent patients are often young, female, and from lower income brackets. Evidence also identifies a number of reasons and factors related to non-urgent ED visits. These include:

- Genuine belief that their symptoms or the symptoms of the person they are caring for are urgent.
- Poor access to primary care services both during and after hours
- EDs are the only reliable (24/7) sources of health care
- EDs are convenient and offer “one-stop-shopping”
- Poor relationships with primary care provider
- Poor previous experience (mis-diagnosis or unable to diagnose)
- Primary care physicians not educating patients on what is non-urgent and what can be done in office
- Primary care physicians making inappropriate referrals

These findings lay the foundation for developing a variety of possible solutions to address the root causes of non-urgent ED utilization; and like the root causes, solutions will need to be multifaceted.

3: Methodology – Study Population and Design

The analytical approach used in this paper draws on three methodologies for data collection: 1) hospital administrative data, ED patient surveys, and expert interviews. I analyze and triangulate the results from each data collection method to inform the final set of policy options, evaluation criterion, and policy recommendations. The following section describes each method in detail.

3.1 Hospital Administrative Data

The literature indicates that “a lack of empirical evidence on how non-urgent demand and utilization of EDs is distributed during the week and by the time of day” (Solano, 2003) has made it a challenge to understand the nature and patterns of utilization of the non-urgent population. This is not the case however with RHS and VCH. The organization ensures accountability through a balanced scorecard approach, which reports on key high-level organizational performance indicators. These indicators provide senior leaders throughout the organization an overview of how the organization is running. VCH/RHS therefore relies heavily on its QUIST department, which collects, manages and reports this information. The types of information managed by QUIST includes bed maps, fact sheets, balanced score card indicators, volume and efficiency reports, admissions, discharges, transfers, census, surgical wait times, Alternate Level of Care Initiative, Community Access & Utilization Team, continuing care, finance-general ledger, finance-payroll, finance –workload, patient/client feedback, emergency department, etc. The ED administrative data analyzed below has been gathered from the ED cube within the larger QUIST database and only applies to the department of emergency services in RH for FY 2003

(i.e., March 28th, 2003 – April 1st, 2004).¹⁸ The data drawn from QUIST is not a representative sample, but rather the *total number of patients* that presented to the Richmond ED between March 28, 2003 and April 1, 2004.

3.2 Survey

Any attempt to make the health care system more patient-centred, requires that health administrators, policy makers and providers all understand the patients' perspective and needs. I undertook a survey of ED clients or their designate(s) at RH to understand the utilization patterns of non-urgent patients who use the ED. I approached potential participants, based on a convenience sample approach, in the ED only after the ED nurse had triaged them and they entered either the acute or minor injuries (fast track) waiting room. Surveys were conducted on various days (weekdays - 44% of respondents and weekends – 56% of respondents) and at various times (9am – 1 am) throughout the month of March, 2005 in an attempt to capture a representative sample.

Those who agreed to participate had the choice of filling out a survey form themselves or completing the survey through an interview process. Examples of participants who chose the latter option were those in pain or who experienced an injury to a writing limb. The survey questionnaire consisted of 22 dichotomous (yes/no), ordinal, and ranking questions. Data was collect on four main subject areas. The first portion captured demographic and socioeconomic information. The second captured the urgency level of the patients based on a 10-point self-assessed pain/discomfort scale. The third asked if the patient attempted to seek care in a primary health care setting prior to visiting the ED and if so what type. The final portion of the survey

¹⁸ Richmond ED data in the QUIST ED cube is not as robust as the data collected and maintained from the VGH ED so in one instance, data from the VGH ED will be presented as a proxy. In particular, there is no data from QUIST about the number of LWBS cases in Richmond Hospital, whereas VGH does track this data element.

asked participants to identify why they came to the ED and what may have prevented them from coming. Please refer to the Appendix for the questionnaire.

Patients in severe distress (e.g., vomiting), under the influence of alcohol or drugs, or who arrived by ambulance (separate waiting area from walk in patients' waiting area) were excluded from the study as they likely would have been categorized as urgent or could have threatened my safety. Each prospective participant was informed that their participation was strictly voluntary and that refusal to participate would in no way affect their treatment in the ED/hospital.

Overall, 47 percent (100/212) of those approached participated in the study. Of the 100 surveys submitted/collected, 97 were valid in that respondents completed the question about their level of pain or discomfort. From the 97 valid surveys, 14 respondents were determined to be non-urgent. I categorized respondents as non-urgent based on the self or representative assessed 10-point pain/discomfort scale. As discussed above in section 2.3, the pain scale is one of the major assessment criteria used to determine a patient's CTAS rating. A rating of 0 represents no pain/discomfort while a rating of 10 represents the worst pain /discomfort imaginable. According to CTAS, a person who rates their level of pain from 0-3 inclusive would likely be categorized as "non-urgent" (i.e., CTAS V), while a person who rates their level of pain from 4-7 inclusive could be triaged as "less-urgent" (i.e., CTAS IV) or "urgent" (i.e., CTAS III) depending on the nature and origin of the pain. A pain rating of 8-10 inclusive, would likely be triaged as "urgent" or "emergent" (i.e., CTAS II), and again this would depend on the nature and origin of the pain. There is no pain rating taken from patients categorized as CTAS I ("resuscitation") since they are typically non-responsive and or disoriented (e.g., cardiac arrest, major trauma, shock states, altered mental states, etc.). To be consistent with the literature, the goal of the survey was to capture a sample of "less urgent" and "non-urgent" patients based on CTAS criteria. However, without additional clinical assessment information beyond the self-assessed level of pain, it was

not possible to separate those who would likely have been categorized as CTAS IV versus CTAS III, since a person who indicates a level of pain from 4-7 could fall into either category depending on other assessment information collected by a triage nurse.¹⁹ Therefore, to maximize the likelihood that I captured the correct population and minimize the likelihood that false positives were included the criteria for inclusion as a non-urgent patient in this study was a pain rating of 0-3; this is consistent with the CTAS category V only.

3.3 Interviews

Face-to-face interviews were conducted with a number of key stakeholders including: a Regional Medical Director, Primary Care Physician, Social Worker, Primary Care Manager, Primary Care Director, and Regional Emergency Department Leaders. The purpose of the interviews was to:

1. Validate suggested policy options
2. Identify other policy options that were not already suggested and that may be effective in their opinion
3. Have interviewees provide input on what previous initiatives may have been considered, planned or implemented in VCH/RHS related to the policy options discussed
4. Validate suggested criterion used to evaluate policy options
5. Identify other evaluation criterion that were not already suggested
6. Identify which policy option or combination of options is most realistic and feasible.

In accordance with the Simon Fraser University Research Ethics Boards conditions of approval, the identities of interviewees will remain anonymous and have been and will be cited generally as “Personal Communication” when referenced throughout this study.

¹⁹ Ideally, a CTAS score should have been collected for each patient surveyed as the overall score is much more reliable than pain criteria alone. However, the manager of the department did not grant authorization to patient’s CTAS scores and therefore, the pain scale was the only indicator that could be utilized.

4: Results

This section describes the findings from the ED administrative data and pilot ED patient survey and compares them against the research evidence where evidence exists. The hospital administrative data results discussed below for all patients/visits to the RH ED in a given year, whereas the survey relies on a small sample of participants that may not be representative of the overall population.

4.1 Hospital Administrative Data

Between March 28th, 2003 and April 1st, 2004, there were 38,632 RH ED visits. Of those 38,632 visits, 18,349 were either less urgent (14,424 - CTAS IV) or non-urgent (3,935 - CTAS V). Thus, 47.5 percent of all RH ED visits in FY 2004 were either less or non-urgent, the majority of which likely could have been addressed in a non-ED setting. The following analysis identifies patterns of utilization for the 18,349 non-urgent ED visits in FY 2004.

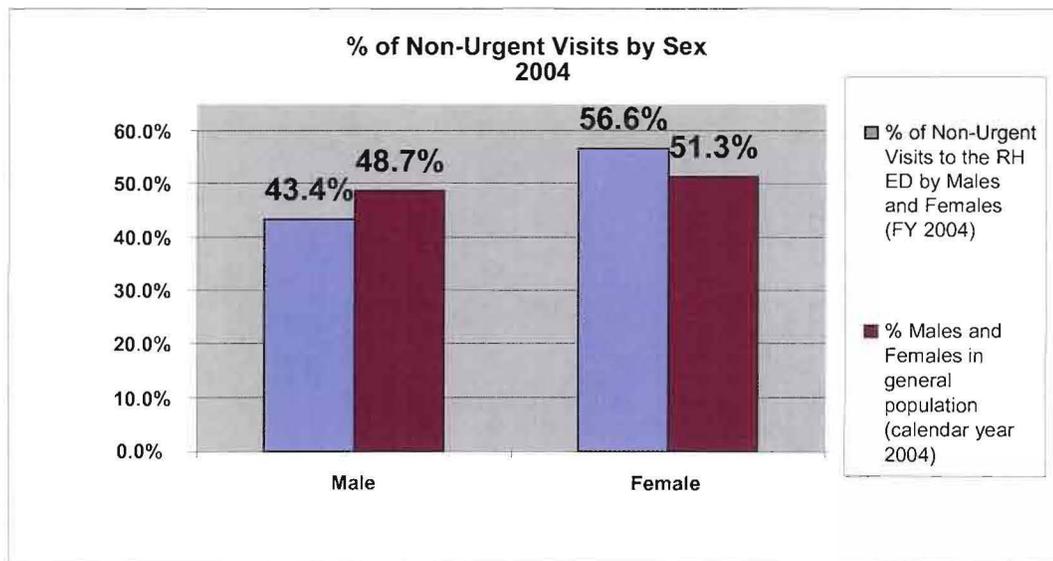
Figure 1 illustrates the distribution of non-urgent ED visits by sex. In FY 2004, females represented the majority of visits (57% - 10,381/18,349) and males the minority (43% - 7,968/18,349). When comparing the utilization rates between females and males and their relative percent distributions in the general population, females visited the ED more often than

males for non-urgent reasons.²⁰ This data is consistent with what previous studies have observed and typifies the normal pattern of utilization.

One possible explanation for the apparently lower ED utilization by men for non-urgent reasons is that men are more likely to exhibit traditional masculine behaviour and may delay help seeking when they experience illness (Galdas, Cheater, and Marshall, 2005). This type of behaviour can be problematic if the male has a condition that becomes urgent when left untreated. Conversely, this type of behaviour reduces the demand for health care services if the male has a condition that resolves on its own. Interestingly, when looking at the gender distribution of urgent (CTAS I, II and III) ED visits the distribution reverses and males are the “heavier” users of the ED (i.e., 53% of all visits in FY 2004 were made by males, while 47% were made by females).

²⁰ In 2004, amongst the general population, females comprised the majority but only by a small margin (51% - 91,281/178,062). If translated into per 1000 population terms the result is 114 visits /1,000 females and 92 visits /1,000 males in the population. Based on the proportion of the total population in 2004, it is clear that females are visiting the ED more often than males. In addition, the population figures are in calendar years while the data from VCH is in FYs, so a direct comparison cannot be made. However, since the gender mix within a population takes years to change, comparing 2004 FY and calendar year should not be an issue.

Figure 1 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Sex



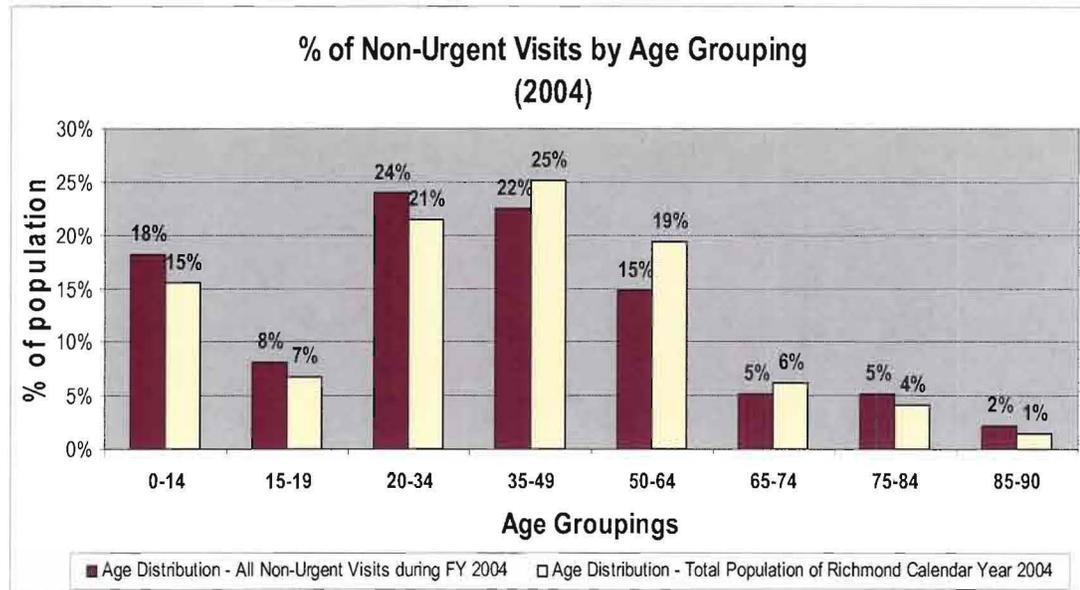
Source: QUIST ED cube data; BC Stats, Service BC, BC Ministry of Labour and Citizens' Services. (2008)

Figure 2 below compares the age distribution of non-urgent ED visitors with the age distribution of the general population.²¹ Age groups 0-14, 15-19, 20-34, 75-84 and 85-90 all utilized the ED for non-urgent reasons more often than the 35-49, 50-64 and 65-74 age cohorts, after adjusting for the age distribution in the general population. When translated into per 1,000 population terms, the result is 121 visits/1,000 population in the 0-14 cohort, 121 visits/1,000 population in the 15-19 age cohort, 115 visits/1,000 population in the 20-34 age cohort, 92 visits/1,000 population in the 35-49 age cohort, 78 visits/1,000 population in the 50-64 age cohort, 87 visits/1,000 population in the 65-74 age cohort, 128 visits/1,000 population in the 75-84 age cohort and 164 visits/1,000 population in the 85+ age cohort.²²

²¹ The population figures are based on calendar year while the data from VCH is based on FY so a direct comparison cannot be made. However, since the gender mix within a population takes years to change, comparing 2004 FY and calendar year should not be an issue

²² The aged population often experiences social isolation and loneliness and come to ED because they know that someone will be there (Personal Communication).

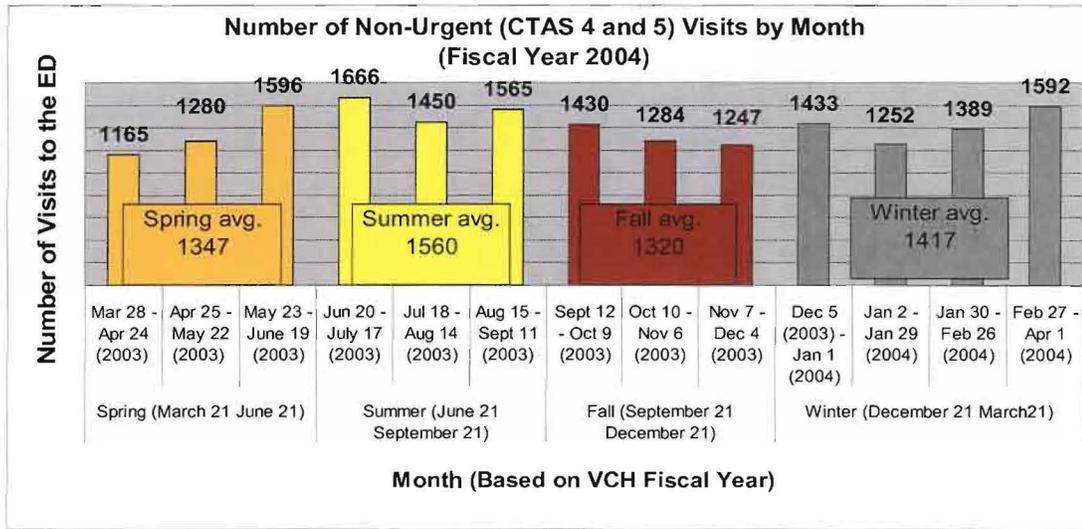
Figure 2 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Age



Source: QUIST ED cube data; BC Stats, Health Data Warehouse and BC Ministry of Health Services. (2007)

Figure 3 below illustrates the variation in non-urgent ED utilization from period to period and season to season during FY 2004. In 2004, the greatest number of non-urgent visits occurred during the summer in the 4th fiscal period (i.e., June 20, 2003 - June 19, 2003). The lowest number of visits occurred during the spring in the 1st fiscal period (i.e., March 28, 2003 – April 24, 2003). On average, the RH ED saw the greatest number of CTAS IV and V patients during the summer months with an average of 1,560 visits. The second busiest season was winter. A likely explanation for this is that people are typically more physically active during the summer and winter seasons, and are therefore more likely to experience injury. Another possible explanation for the increase in CTAS IV and V visits during the winter months is that many people spend more time indoors and are more likely to transmit and contract communicable illnesses such as the flu.

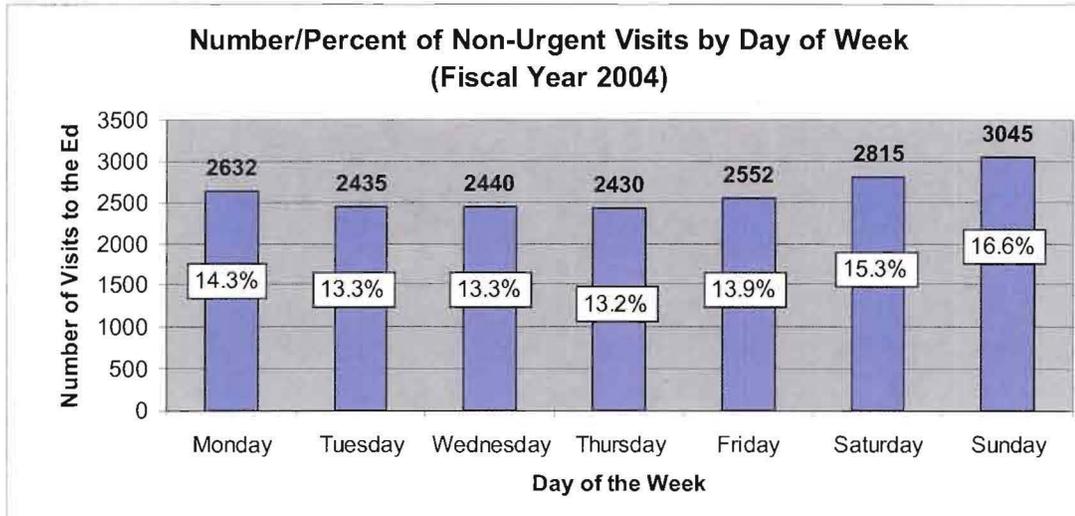
Figure 3 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by (FY) Period and Season



Source QUIST ED cube data

Figures 4 and 5 below show the patterns of utilization of the non-urgent population by day of week and time of day. The number of visits is relatively stable during the middle of the week (i.e., Tuesday – Thursday inclusive), and increases as the weekend approaches and reaches peak volumes on Sundays. A possible explanation for the higher patient volumes during the weekends is that for many primary care practices, hours of availability on Saturdays are limited and on Sundays only some walk-in clinics are open.

Figure 4 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Day of Week

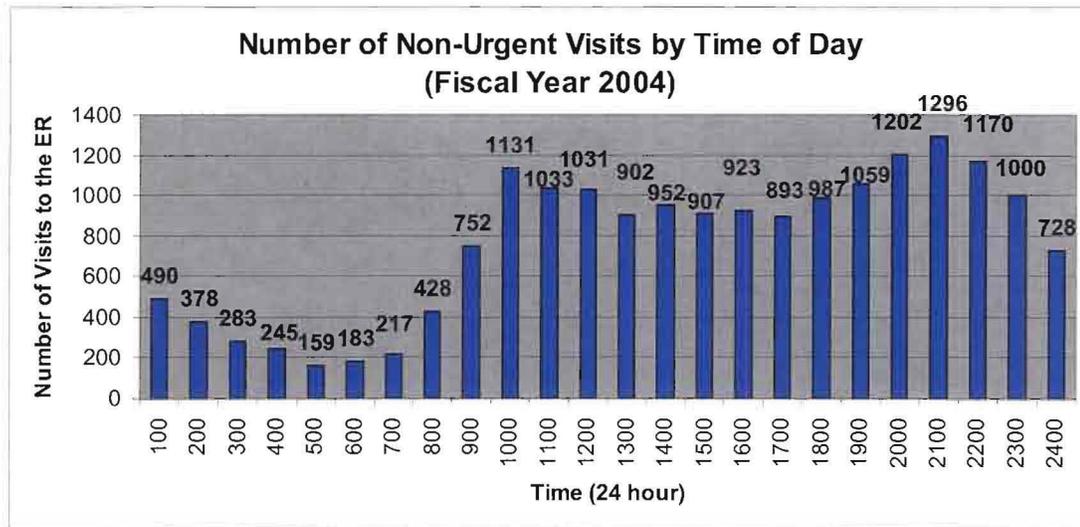


Source QUIST ED cube data

Figure 5 shows that the number of non-urgent visits was at its greatest between 10am and 11pm (inclusive) and at its lowest from 1am to 8am. During the busiest times there appear to be some variation in the frequency of visits. The busy period shows a bi-modal distribution with peaks at 10 am and 9pm. 8am to 10am is the window of time when activity ramps up, and 11pm to 1 am is when activity slows.

The most obvious explanation for the significant variation in non-urgent visits during the day versus the early morning is that during the early morning, most people are asleep. This means that they are less likely to injure themselves, have others injure them or experience problematic symptoms related to a minor flu for example. One explanation for the dip in activity between 1pm and 5pm is the fact that people are typically at work and school during these times and will likely find it challenging to leave work for extended periods. Additionally, these hours represent the times when walk-in clinics will most likely be open and able to accept patients without appointments.

Figure 5 Non-Urgent (i.e., CTAS IV and V) Visits Distributed by Time of Day



Source QUIST ED cube data

4.2 ED Survey at Richmond Hospital

4.2.1 Demographic

The overwhelming majority (86% - 12/14) of non-urgent respondents live in Richmond. Fifty eight percent (7/12) of those who live in Richmond have lived there for at least 2 years, 8 percent (1/12) for 1-2 years, 17 percent (2/12) for 6 month to 1 year and the remaining 17 percent (2/12) have lived in Richmond for 6 months or less. Fifty percent (7/14) of non-urgent respondents presented to the ED on a weekday or weeknight and 50 percent (7/14) came on the weekend. Fifty seven percent (8/14) arrived at the ED when at least one primary care alternative (i.e., GP or a walk-in clinic) advertised to be open.²³

The majority (79% - 11/14) of non-urgent respondents were male and only a small number (21% - 3/14) were female. This sample of respondents captured by this survey in terms of sex is not consistent with the literature or the non-urgent (CTAS IV and V) population that visited the Richmond ED in FY 2004. The ethnic composition of respondents generally reflected

²³ Please refer to the table 1 in the Background section of this paper for the advertised hours of operation for Richmond walk-in-clinics.

that of the overall population of Richmond, with 50 percent (7/14) being Asian, 36 percent (5/14) Caucasian, 7 percent (1/14) Indo-Canadian, and 7 percent (1/14) indicating mixed ethnicity.

Thirty six percent (5/14) of non-urgent respondents belonged to the 30-39 age cohort, 21 percent (3/14) in the 40-49 cohort, 21 percent (3/14) in the 50 and over cohort, 14 percent (2/14) in the 20-29 age cohort and 7 percent (1/14) in the 0-9 age cohort. The percentage of respondents in the 0-9, 10-20 (There were no respondents from this age cohort), and 20-29 cohorts are below the proportions found in the 2004 QUIST data. Respondents from the 30-39 age range were over-sampled and the proportions of respondents from age groups 40-49 and 50 and over both appear to be consistent with the proportions in the QUIST data.

All non-urgent respondents had completed high school or their high school equivalency. Twenty nine percent (4/14) had some college or technical school training and sixty four percent (9/14) of non-urgent respondents had a minimum of 4 years of college education. Thus, the majority of respondents were well educated. The majority (64% - 9/14) of respondents arrived to the ED in their own vehicles, 14 percent (1/14) in a friends vehicle, 7 percent (1/14) by taxi, 7 percent (1/14) by public transit, and 7 percent (1/14) by some “other” means.

4.2.2 Care Related Data Elements

Seventy nine percent (11/14) of respondents indicated that they have a family doctor and the balance (3/14) did not. This finding supports the research evidence which indicates that simply having a family physician does not guarantee that patients will not visit the ED for non-urgent reasons. When medical care is required, 79 percent (11/14) indicated they seek treatment with their family doctor, 7 percent (1/14) indicated walk-in clinics, 7 percent (1/14) indicated a combination of their family doctor and walk-in clinics, and 7 percent (1/14) indicated the ED. However, of the 11 who typically seek treatment with their family doctor, only 4 attempted to make an appointment with their GP prior to attending the ED. Seventy one percent (10/14)

indicated that this visit was their first visits in the past 12 months, 7 percent (1/14) the second, 7 percent (1/14) the third and 2 provided no response. Over half of the respondents (57% - 8/14) were self-referred to the ED, 29 percent (4/14) were referred by their family doctor, 7 percent (1/14) were referred by a walk-in clinic, and 7 percent (1/14) referred by some “other” source. Of the 14 non-urgent respondents, only 21 percent (3/11) were aware of the free 24 hour NurseLine available to all BC residents. However, no one attempted to call it prior to visiting the ED. When asked to indicate the top reasons for today’s ED visit, based on a defined set of options, the participants indicated the reasons listed in table 2 below. Not surprisingly, the responses indicated are consistent with the literature.

Table 2 Survey Data - Reasons for this Particular Visit to the ED

Top reasons for this visit to ED	# of times indicated	% of times indicated
Need immediate treatment	8	25%
No other place available for treatment	8	25%
Unable to get treatment during office hours	5	16%
Unsure if need medical attention	5	16%
Do not know if there is another place for treatment	3	9%
Do not have a family physician	1	3%
Other (Might need X-ray) ²⁴	1	3%
Walk-in clinic too far away	1	3%
Total # of responses	32	100%

When asked if they would not have come to ED today if they could have scheduled a doctor’s appointment within one week, 2-3 days, 2-3 hours or 24 hours, only 1/14 respondents

²⁴ Diagnostics such as x-rays and labs were not provided in list of options. The respondent that indicated that they might need x-rays did so by writing it out under the “other, please specify” option provide in the survey.

would not have come to the ED if they could have scheduled a GP visits within 24 hours. Forty three percent (6/14) still would have come to the ED, 36 percent (5/14) would still have come to the ED since a medical professional advised the visits, and 14 percent (2/14) provided no response. According to the literature, non-urgent patients prefer immediate (e.g., immediately or within 1-2 hours) access to medical consultation. However, scheduling an appointment immediately was not on the list of response options in the survey. I suspect, based on the literature, more respondents from the “would still have come to the ED” group would forgo a non-urgent ED visit if they could have scheduled an appointment with a GP immediately.

When asked what is most likely to happen when you are having difficulty obtaining service from a doctor’s office, 43 percent (6/14) of respondents indicated they would visit the ED, 29 percent (4/14) would opt to go without treatment, 14 percent (2/14) would treat themselves, and 1 respondent did not respond to this survey question. Seventy nine percent of respondents prefer to receive non-emergency care in a doctor’s office rather than in the ED, though the remainder (3/11) did not. Interestingly, all four respondents that indicated they would go without treatment were in fact male.²⁵

Finally, when asked if they would still have come to the ED if a clinic had been open, 50 percent (6/12) of respondents indicated that they would still have come to the ED even if a clinic had been open, while the other half (6/12) would have opted for the clinic. Two of fourteen participants did not respond to this question. Interestingly, 2/6 who indicated that they would have gone to a clinic if one had been open actually arrived in the ED when at least one walk-in clinic in Richmond was advertised to be open (i.e., between 9am-8pm). Another interesting

²⁵ Of the four who indicated that they would go without treatment if they were having difficulty obtaining service from a doctor’s office, two of the males provided as their top reason for visiting the ED that they were in need of immediate treatment. However, the third and fourth indicated as their top reasons that there were no other places available for treatment and that he was unable to get treatment during office hours. The responses from the 3rd and 4th men appear to be contradictory to their response to this question regarding what they are most likely to do when they are having difficulty getting service from a doctor’s office.

finding regarding the 6 who would have gone to a clinic is that only one of these individuals indicated that they would have avoided this ED visit if they could have scheduled an appointment with their GP within 24 hours. One might expect there to have been more overlap between respondents who would have gone to a clinic had one been open and respondents who would have avoided this ED visit if they could have scheduled an appointment with a GP within 24 hours. However, this is not the case. Two respondents who indicated that they would have gone to a clinic visited the ED that day under the advice of a medical professional. This indicates that these two patients may have been interested in a second opinion from another primary care physician. The other three respondents who indicated that they would have gone to a clinic if one had been available indicated that they still would have come to the ED even if could have scheduled an appointment with a GP within 24 hours. This suggests that some non-urgent patients will avoid an ED visit if immediate (less than 24 hours) access to a clinic is available. This finding also may suggest that some non-urgent patients prefer clinics to GP offices; however, the data collected in the survey cannot confirm this hypothesis.

Based on the data collected and analyzed from QUIST and the pilot patient survey in the RH ED, there are a number of interesting findings that help to identify areas of opportunity and improvement. Those in a few age cohorts may be using the ED for non-urgent reasons more often than others. Females appear to use the ED for non-urgent issues more often than males. Summer and winter seasons and weekends are the times when the highest volumes of non-urgent patients visit the ED. During each day between the hours of 10am and 11pm, the Richmond ED receives its highest volume of patients.

While there are other issues highlighted by the results, the most significant relate to the primary health care sector. For a number of reasons it is clear that many people are not attempting to seek care in primary health care settings prior to visiting the ED. Firstly, the majority of all respondents were self-referred. Secondly, this population is, for the most part,

unaware that the NurseLine even exists. Thirdly, for those who do know of the NurseLine, no one used it. Interestingly, 50 percent (6/12) of respondents would have opted for a clinic had one been open at the time they participated in the survey. Some visited the ED based on the recommendation of a primary health care physician despite the fact that they were non-urgent at the time of the survey. Finally, most non-urgent patients surveyed cited four major reasons responsible for their ED visit, the majority of which relate to primary care. These findings combined with the literature review results paint a relatively consistent and complex picture that shows the root causes of non-urgent ED visits. These findings provide the basis and rationale for the opportunities explored in the following section.

5: Policy Options

This section describes five potential policy options. All options take into consideration findings from the literature, RH ED administrative data, and survey results discussed above as well as the expert interview findings and the current fiscal climate in VCH. Decision makers can adopt and implement these options individually or together in combinations. The five options are:

1. Maintain the status quo
2. Introduce user fees for non-urgent ED visits
3. Improve education and communication for patients and families around how and under what circumstances to use what services
4. Improve and expand access to and quality of primary care services *currently* available
5. Improve and expand access to primary care services through the introduction of an urgent care centre (UCC)

5.1 Option 1: Status Quo

Maintaining the status quo requires no change in the current design or functioning of the health care system. Thus, the health care system will continue to operate as described in section 2.2. To review, the status quo has the following attributes 1) a primary care system that fails to provide sufficient access to primary care for non-urgent patients both during and after hours and 2) a strategic direction that for the most part fails to recognize that non-urgent patients in the ED are a problem. Therefore, maintaining the status quo is likely to have no positive impact on the number of non-urgent patients that visit the ED. If the current course continues, the RH ED will experience similar if not larger proportions of non-urgent ED visits over the long run as the population continues to grow and age, and physician supply continues to shrink relative to the overall population.

BC's population growth and aging are creating greater demand on health care services and increased pressure on the health care system. Add to this the fact that there is already a shortage of family physicians across Canada and more and more new physicians are choosing to specialize rather than practice family medicine and many GPs with long established roots are retiring. The GPs still practicing are left to absorb new as well as orphaned patients (e.g., those whose GP retires from practice) (BC Medical Association, 2005; Provincial Medical Education Plan, 2001). It is also clear that family practice is not supporting those who need it since the majority of Canadian GPs provide office hours only during the day (i.e., 8am-5pm), and essentially no access to same-day appointments. Walk-in clinics, which were introduced to improve access to same day appointments and fill the after hours void for primary care have, for the most part, provided only partial and inconsistent reprieve. Generally, clinics only offer limited hours of operation and access, and clinic coverage on weekends is very weak.

VCH/RHS will continue to focus the significant majority of its energy on initiatives that target improving efficiency and effectiveness (i.e., Emergency Decongestion Pilot - EDP) and on the chronic disease population (i.e., Integrated Health Networks and Chronic Disease Management Connectivity Pilot). The non-urgent population will continue to receive far less attention (i.e., Practice Support Program - advanced access). Not only does preliminary data show that in Richmond the EDP is having little impact on the non-urgent patient population (Personal Communication), but even if eventually successful, the net effect for the system will not all be positive. By reducing the average time for non-urgent patients to get in and out of the ED, the ED becomes an even more attractive place to visit for non-urgent care relative to current primary care alternatives. Ultimately, if successful, the EDP will widen the convenience gap even further. VCH has overlooked this unintended consequence at the strategic level. There is however some movement in the right direction. The Practice Support Program will enable timely

access to GP appointments for patients with non-urgent issues and reduce the number of non-urgent ED visits.

Despite the fact that many patients who visit the ED for non-urgent reasons can be treated by a GP, the majority of interventions reviewed in the literature are ED based, and do not attempt to address the problem at its root within the primary care system (Weinick, Billings, and Burstin, 2002). The four remaining options described below are proposed solutions that look beyond the walls of the ED and address the roots of the problem.

5.2 Option 2: User Fees

The goal of this option is to provide an incentive for non-urgent patients to exhaust all other appropriate primary health care options prior to coming to the ED, while at the same time, ensuring that no penalties are applied to those who visit the ED when no other options exist or if they are low income patients. Therefore, this option requires the implementation of a monetary fee that will be charged to non-urgent ED visitors who have not shown due diligence in seeking care for their non-urgent issue in a primary health care setting.

User fees are a ‘hot button’ topic for many Canadians. Many are opposed to user fees, and others see them as a necessary way of raising additional funds for health care or as a way of limiting exploitation of the public health care system. It was not that long ago that user fees were a feature of the Canadian health care system. In the 1960s and 1970s, some provinces allowed user fees and permitted extra billing by physicians for a variety of health care services. In 1984, following a review of the system by Justice Emmett Hall (1980), the federal health minister, introduced the Canada Health Act (CHA). The main purpose of the act was to discourage the use of extra-billing and user fees, and to ensure that there were no financial barriers limiting access to the health care system, particularly for low-income individuals. Despite the fact that the CHA now prohibits user fees for medically necessary services, including ED services, many support the use

of user fees as a response to the growing fiscal sustainability challenges and perceived abuse by those users who exhibit moral hazard (Romanow, 2002).²⁶

Determining how (e.g., administrative systems would need to be established), when (e.g., prior to receiving treatment or before they leave the ED, in the mail post discharge), and under what specific circumstances (i.e., what are the criteria) non-urgent patients will be charged a fee requires extensive examination and engagement with all stakeholders and is beyond the scope of this study. However, below is a list of some of the key issues for consideration prior to implementing a user fee system.

- Policies
 - Criteria must be established and agreed upon that clearly identified those who should and should not be charged a user fee. For example, if a non-urgent patient arrives in the ED and makes no prior attempt(s) to utilize alternative primary care services that would have been appropriate for the issue they are presenting for, a fee is charged.
 - A user-fee calculation methodology is required. This methodology could take the form of a sliding scale, an income testing system or even a basic flat fee.
 - Criteria must build in exemptions. To ensure that the system is fair (i.e., not penalizing certain clients more or less than others), the user fee amount charged to individuals should be linked to their ability to pay (Personal Communication).
 - Where during the patient's journey will payment of the fee be required? For example, will the fee be collected when patients arrive in the ED, after triage and prior to receiving ED care, at the point of discharge from the ED, weeks or months after the episode by mail?. Etc.

- Collection systems
 - Who in the health care system will collect the fee from patients and how might this impact workflow in the already stressed ED?
 - If collection occurs in the ED, will point-of-sale equipment (e.g., debit or credit card processing machines) be required?

²⁶ Moral Hazard occurs when a person behave differently depending on the proportion of risk/cost the person faces.

- More generally, what approach to collection results in the fewest default payments?
- The development of an evaluation and outcomes framework to track the intended and unintended outcomes of the user fee system

5.3 Option 3: Improve Education and Communication for Patients and Families Around How and Under What Circumstances to use What Services

This options calls for an improvement in education for non-urgent and potential non-urgent ED patients, as well as communication between the health care system and patients around how and when it is most appropriate to use particular primary care services. In a publicly funded health care system, there is an implicit expectation on users and administrators to behave responsibly when managing and using health care services respectively. The user fee option above is one incentive that has shown to influence user behaviour. However, it falls short in recognizing the key role that administrators must also play in providing accurate information on when, where and under what circumstances to access health care services. Administrators and decision makers cannot reasonably expect users to behave “responsibly” if they do not know what it means to behave responsibly. A number of findings discussed in Chapter 4 suggest a need to improve the health IQ of those who use the ED for non-urgent reasons and to improve the way the health care system delivers this information. Some of these findings include:

- A person’s own perceived need for immediate and urgent care is one of the reasons why medically non-urgent visits are made to the ED. This finding clearly represents a gap between what health care providers know to require immediate care, based on predefined criteria such as CTAS and what lay people believe requires immediate care.
- Non-urgent ED visitors are often unsure if they need medical attention and may need to be reassured that their issue(s) is not of a serious nature. This is particularly relevant to pediatric populations and their caregivers.

- Often individuals do not know if there are other places available in the community that can address their medical issues. For example, the Richmond ED pilot survey found that only 21 percent of non-urgent respondents were aware that there is a free 24-hour NurseLine available to residents of BC.²⁷
- A frequently cited reason for non-urgent ED visits is that there are no other options available. However, survey respondents came to the ED at times walk-in clinics advertise to be open. Had these patients known about the open walk-in clinic(s) prior to visiting the ED, they may have gone there instead.
- Thirty percent (4/14) of survey respondents lived in Richmond for 1 year or less, which may indicate that new residents are not aware of the scope of services available in the community or when it is most appropriate to utilize them.
- Primary care physicians may not be educating their patients about which situations warrant an ED visit.
- Primary care physicians may not be informing their patients about which services are offered in the office.

The first goal of the education strategy is to ensure that all potential non-urgent ED users, which includes all Richmond residents and some non-residents (e.g., travellers from the airport and those who visit from surrounding communities outside Richmond)

1. know what all of their primary health care options are, when they are accessible/available, and when it is most appropriate to use each service, or at a minimum
2. that all potential non-urgent ED visitors have easy access to resources that they can refer to that will inform them and enable them to make the most appropriate decisions both in terms self management and care seeking if required.

For example, information that needs to be better communicated and more readily available includes:

1. When it is appropriate to go to the ED immediately? This requires identifying and defining specific indicators (i.e., signs and symptoms) for patients and caregivers.

²⁷ While simply being aware of a service does not necessarily mean that people will use it, they certainly will not use the service if they are unaware of its existence.

2. Contact information, locations and hours of operation of GPs who are accepting new patients for those that do not have a family physician
3. Contact information, locations and hours of operation of walk-in clinics
4. A list the most common illnesses that can be treated in a primary care setting and do not require ED services
5. A description of each step a person should take when an issue is not emergent but that they would like to have addressed immediately. For example,
 - i. First, check the BC Health Guide. The BC Health Guide has information about....and is a great resource for minor issues such as earaches, colds, and the flu...etc.
 - ii. Second, call the BC NurseLine. For example, the a pamphlet could indicate that “if the BC Health Guide does not address your questions or concerns adequately, or if you feel like you want to speak with a health care professional about your issues, please call the free NurseLine. If you have any questions about medications, please call the NurseLine between the hours of 9am-5pm, as there is a pharmacist taking calls between those hours. This service is free of charge and is available 24 hours a day, 7 days a week.
 - iii. Third, if during office hours, check to see if your family doctor can fit you into the schedule, or call and drop by your local walk-in clinic if one is open.
 - iv. Fourth, if none of the above options are able address your issue(s) and the issue has not yet resolved on its own, you may want visit the ED.
 - v. Fifth, if you need to see a health care professional there are a number of walk-in clinics in your neighbourhood that may still be open. The list below shows the hours of operation, locations and contact numbers of each walk-in clinic in Richmond.
 - vi. Finally, if none of the above resources address your issues(s) you can either wait until the morning and visit your GP or a walk-in clinic, or visit the Emergency Department. However, please note that the ED prioritizes based on urgency and not on a first come first serve basis. So if you attend the ED for a non-urgent issue, please be aware that you could be waiting in the ED for more than 4 hours before seeing a physician.

Potential mediums for dissemination include the internet (e.g., VCH website), newspapers, radio, pamphlets, and refrigerator magnets for example. Presentations, posters and pamphlets should be available to individuals at community centres, community health centres, places of religious gathering, schools, community and public education forums, immigrant

services, etc. If provided in pamphlets, booklets or other paper based mediums, information must be clear, concise, in plain language for those with low levels of literacy, and available in multiple languages (e.g., English, Punjabi, Chinese, etc.). The duration of the campaign must be long-term and sustained, as it will take time to change the habits of the population and for these services to gain the trust of users. Information must also be dynamic in terms contact information, GP availability and hours of operation, since services and availability can change frequently.

The second goal of the education strategy is to ensure that key health care providers often involved in a non-urgent patient's journey through the system (e.g., GPs and clinic physicians) take every opportunity to educate their patients about non-urgent services they provide or that are available in the community. With improved education for providers also comes improved communication. It is critical that the standard messaging be developed and across the health care system. It will not be helpful if different providers provide contradictory information. In terms of accountability, health care providers in the ED and in primary health care settings should be accountable for the education of their own patients. This is particularly true in two scenarios. First, when they recognize that a patient under their care has not used the system in the most optimal way (e.g., using the ED for non-urgent reasons). Second, when they recognize an opportunity to be proactive (e.g., after a non-urgent visits his GP for a potentially reoccurring issue or after the GP follows up with him after visiting the ED for non-urgent reasons).

5.4 Option 4: Improve and Expand Existing Primary Care Services Available in the Community

The options described above address two drivers of non-urgent ED visits. These are responsible/irresponsible behaviour by users and inadequate knowledge around what primary care services exists, when they are available, and when it is most appropriate to use which services. However, even if user fees eliminate moral hazard, and every individual's health IQ improves enabling them to make the most appropriate decisions, there will still be a significant number of

non-urgent ED visits. Barriers to effective, timely, and reliable access to primary health care for non-urgent issues is arguably the most significant factor influencing non-urgent ED visits. Thus, implementing option 4, an improved and expanded primary care system that aims to improve accessibility to and convenience of regular and after-hours primary care services is most likely to have the greatest impact on non-urgent ED visits.

There is no shortage of evidence identifying limited access to an unreliable primary health care as one of the most significant root causes of non-urgent ED visits. For example, despite the fact that nearly 11/14 of non-urgent patients surveyed in the Richmond ED have a family physician, only 1/14 respondent attempted to make an appointment with their GP prior to visiting the ED; and 3/11 respondents indicated that they prefer receiving non-urgent care in the ED over their GP's office. Further, the Richmond ED experiences some of its highest non-urgent patient volumes during regular GP office hours. This suggests that there are barriers to accessing GPs without making an appointment in advance. In addition, after-hours access to labs and diagnostic in a primary care setting does not exist, severely limiting the depth of investigations available in a primary health care setting, even if primary care physicians are available after-hours. Please refer to sections 2.5 and 3.2 for other primary health care that impact non-urgent ED visits.

This option consists of six components, each of which aims to improve or expand primary care services already in existence in Richmond and address each of the problems listed directly above and in sections 2.5 and 3.2.

The first component of this option requires the widespread adoption of advanced access scheduling by all traditional GPs. Advanced access scheduling is the latest evolution in schedule optimization. It takes place in GP offices and calls for the re-engineering of physician office based practices so that patients can see a physician on a day and time that is most convenient for them (Manitoba Health, n.d.). It requires a significant departure from the previous methods

employed for scheduling patients. In the traditional practice model, each day's schedule is completely booked in advance, often long in advance. With this approach, all same-day urgent care cases beyond those who are already booked, are either added on top of existing appointments or deflected to a future date or provider (e.g., walk-in clinic or the ED). Non-urgent patients however go to the bottom of the priority list and at best receive a future appointment slot. With this system, patients with non-urgent issues may not see their physician for days, weeks, and possibly even months, if the patient and physician's schedules rarely overlap.

In the second evolution of scheduling called the 'carve-out' model, there is more flexibility built into each day's schedule than the traditional model. Each day approximately 60 percent of appointment slots are booked in advance and 40 percent remain open for those who require same-day urgent care. In this model, non-urgent patients again receive the lowest priority and a future appointment if they are willing to wait. With advanced access scheduling, approximately 30 percent of each day's appointments are for those who call and book in advance and the majority (70%) of appointments are open for patients who call that day for urgent, non-urgent and preventive visits (Murray and Tantau, 2000). Of the three models, advanced access is the only one that builds in opportunities for same day visits for non-urgent patients. This is a critical factor in reducing non-urgent ED visits.

The second component of this option is to expand after-hours availability of traditional GPs and/or walk-in clinics. Research evidence indicates that once patients have used a GP out of hours centre they are more likely to be a repeat user (Rajpar, Smith, and Cooke, 2000). The most logical approach is to begin with the walk-in clinic physicians since most of them already provide some level of after-hours service. Since one of the most critical factor in having walk-in clinics and GPs available after-hours, is remuneration, it is critical that MSP fee codes reflect the additional burden on physicians who decide to provide services after-hours. As one interview health care expert indicated "if you want physicians to work longer and later, then you must pay

them” (Personal Communication). This requires negotiations between the BCMA, MSP and the health authority around billing codes and possibly revisions to the current MSP 50 patients/day quota policy. Currently, MSP only looks at the number of cases per day seen by a physician and does not take into consideration the case mix (complexity) of patients. MSP criteria must also consider factors beyond the number of cases seen per day such as the complexity of patients seen in a day. Exceptions to the policy must allow for remuneration beyond the hard quota if the case mix for the day for any given physician is less complex and each patient requires less time.

An alternative that could extend the hours of operation of walk-in clinics, and would avoid having to revisit the quota, is simply to adjust clinic physicians’ schedules. Rather than having one or two clinic physicians scheduled for 7-8 hours per day, three physicians rotate per day and each works a 5-6 hour shift. For example, one physician is scheduled for the morning shift (e.g., 8am-1pm), one for the afternoon shift (e.g., 1pm-6pm) and one for the evening shift (e.g., 6pm- 11pm). Even with this schedule, the compensation issue is unavoidable, since physicians who work “undesirable” shifts will need to be compensated accordingly. Expanding access to GPs and walk-in clinics will thus require some adjustment of fee-for-service billing codes. While this scheduling method may benefit patients if clinics are able to see more patients and stay open later/longer, it is important to note that it will reduce the amount of income each physician can make within a clinic.²⁸ Scheduling physicians so that they have less work simply to avoid the quota may not be agreeable to physicians whose highest priority is on income generation.²⁹ For this reason, this alternative is not formally included in this option but is an alternative to renegotiating the quota that requires further exploration.

Improvement in access to GPs and/or walk-in clinics will not eliminate all non-urgent visits to the ED. Based on previous experience, knowledge or intuition, many individuals will

²⁸ However, each physician now has more free time to do other things including pick up part time work and/or if they value leisure to use the extra time for more leisure activities.

²⁹ Physicians who are interested most in maximizing their income will prefer each day to reach the quota.

anticipate that they will require blood work and or diagnostic imaging to diagnose their issue(s). Some of these individuals may also recognize that the process around accessing and getting results from lab and diagnostic tests in primary care can take days, weeks, and in some cases months, whereas accessing these services in ED can be done in a shorter amount of time.³⁰ In addition, unlike hospitals, lab and diagnostic services may be in multiple geographically disbursed locations. Thus, the third component of this option aims to improve access to and maximize convenience for those who require non-urgent services beyond physician consultation including diagnostic imaging, labs, and pharmacy. To achieve this it is recommended that clusters be developed and strategically located in Richmond that co-locate GPs, labs, diagnostic and pharmacy services in one office or building for example. While there are examples of co-located services in many communities, rarely if ever, is there representation from all primary and secondary support services. Further, with the exception of some community pharmacies that are often open after hours, services that are co-located do not necessarily have the same hours of operation. This option requires multiple purpose built service clusters, accountable to the health authority that will result in a quick, convenient and seamless patient experience each time non-urgent primary care services are required. The scale of each network (i.e., number of GPs, size of the lab, number of diagnostic imaging machines, etc.) will depend on the population in each area and will require a critical mass of clients to be financially sustainable.

The fourth component of this option aims to expedite the turnaround time for testing and proposes the implementation of a lab and diagnostic imaging system that sends each patient's results in real time. This process, for patients who require such tests, is by far the most time consuming portion of a typical patient's overall journey in a primary health care system. And since the process of arriving at a definitive diagnosis is often a process of elimination for

³⁰ The process can take months when multiple rounds of testing are required due to tainted test results or a tainted sample for example. Further, most people have work and personal commitments which can makes it difficult to find the time to test and retest.

physicians, patients can be subjected to multiple rounds of lab and diagnostic testing before a physician can determine a final diagnosis and appropriate treatment course. Technology will be a key factor in reducing the turn around times as current, practice is to mail and fax hard copies of results. A secured information transfer system could significantly reduce the amount of time spent waiting for results and improve communication between primary and secondary support services as well as. An option might be to access the same IT platform as the PACS system currently in use in Vancouver Coastal Health that allows for real time sharing of medical x-rays and other imaging films throughout the hospital system.

The fifth component of this option aims to expand the number of GPs in the community. There is a growing shortage of family practice physicians in Canada, and physicians currently practicing are at their maximum patient load capacity.³¹ The situation in the community of Richmond is no different, as evidenced by the declining number of GPs accepting new clients in Richmond (Personal Communication). The solution requires increasing the capacity (i.e., helping to make there practices more efficient and effective) of GPs currently practicing as well as increasing the overall pool of GPs (Personal Communication). We require a long-term strategy that begins with the medical education system, which needs to provide more inducement for students to become family practitioners. An example would be to allow more opportunities to develop and expand specific skills and knowledge, as well as provide more opportunity to earn a higher income.

The sixth and final component of this option calls for the development of a strategy that ensures that primary care physicians are held accountable for cherry picking clients or choosing not to see clients with issues that fall under their umbrella of expertise. To reduce the number of non-urgent ED patients, GPs and walk-in clinic physicians must not redirect clearly non-urgent patients that can be seen and treated in their offices and must be held accountable when

³¹ Advanced Access could however free up some capacity ho w adopt the scheduling system.

redirection occurs. A first step would be to identify how much variation there is in services provided from practice to practice. This would identify which standards require development and implement to ensure consistency in services provided across primary health care. The result could be the development of standard operating procedures that are applicable to all GPs and clinic physicians. In addition, physicians' after-hours answering services should not, as a second step, automatically refer patients to the ED if they feel they cannot wait until the morning. Instead, answering services should direct patients to the most appropriate resources and could in fact have an option (e.g., press button 3 if you would like to speak directly to a nurse) that directly forwards after hours callers to the BC NurseLine for example. GP offices should also be forwarding patients to walk-in clinics.

5.5 Option 5: Urgent Care Centre(s)

The fifth and final option is to introduce and integrate one or more Urgent Care Centres (UCCs) into the primary care system in Richmond. An UCC provides medical care supported by emergency physicians and nurses for urgent and non-urgent medical problems and offers service levels that fall between a family physicians office/walk-in clinic and an ED. Generally, "... [U]rgent care centres function as overflow valves for the public, when timely appointments to a primary care physician office are not available or after regular office hours when patients needing immediate attention would otherwise be diverted to a hospital emergency department" (Urgent Care Association of America, n.d.). Since the current reality is that timely appointments are for the most part unavailable either during and particularly after-hours, a UCC is a sensible solution for decision makers not looking to overhaul the entire primary care system. In terms of addressing major causes of non-urgent ED visits an UCC addresses many of the same aspects described above in option 4.

Urgent care centres are relatively new to the primary health care delivery system. They have existed in Canada since 1989 when the first centre opened in Windsor Ontario. The Windsor site emulated UCCs in the US. Since the first UCC opened in Newark, Delaware in 1973, they have become a well-established mode of primary health care in the US with over 10,000 centres now established across the nation (Urgent Care Association of America, 2008, July 9). Since 1989, the number of UCCs in Canada has grown from 1 to 25 (Bauer, Hauser, McGee, Reardon, Stanton, Wallace, Watt, Wills, and Worthington, 1998). Interestingly, there are currently 57 UCC in California alone (Urgent Care Association of America, 2008), more than double the number that exists in all of Canada.

UCCs vary from walk-in clinics and family physician offices in a number of ways including: onsite access to lab and x-ray facilities during all hours of operation, staffing (i.e., emergency physicians) and access to equipment that can allow expert staff to stabilize and resuscitate acutely ill patients (Bauer et al., 1998). During regular office hours, UCCs do not focus on patients with non-urgent medical conditions and will often refer these individuals back to their GP or a walk-in clinic.³² On the other end of the acuity spectrum, UCCs also do not accept patients that arrive by ambulance or who require admission to hospital and these patients would all continue to go to the ED (Moritz and Ahuja, 2005). Practitioners that work in UCCs should have privileges at the hospital and therefore the ability to admit or initiate the hospital admission processes if necessary. UCCs typically do not offer appointments and do not provide on-going follow up medical care. Based on the data gathered from the hospital administrative data it appears that the UCC would need to be open 7 days/week, especially on Sundays and generally between the hours of 9am and midnight to accommodate the busy periods in the ED.

³² Given the current challenges with same-day appointment and after-hours access to primary care physician consultation, and if no other options are adopted to increase access to primary care, the UCC in Richmond would need to support non-urgent patient both during and after regular office hours.

Analysis that is more detailed is required to see if the peak times are consistent across day of the week. Hours of operation would also be function of critical mass and actual patient volumes.

Problems the UCC can manage include but are not exclusive to:

- Extremity trauma (e.g., undisplaced fractures, dislocations, lacerations and foreign bodies, burns).
- Eye problems requiring slit lamp examination (e.g., foreign bodies, corneal abrasions, iritis)
- Skin infections (e.g., abscesses requiring I&D, cellulitis requiring IV antibiotics)
- Allergic reactions
- Abdominal pain including gynecological problems
- Acute dyspnea including asthma (inhalation therapy)
- Headaches (including migraines requiring intravenous therapy)
- Rehydration (e.g., Gastroenteritis)
- Chest pain (e.g., diagnosis and stabilization of MI's and arrhythmia's)
- Resuscitation if necessary (e.g., intubation)

Procedures the UCC can carry out include but are not exclusive to:

- Slit lamp examination
- Inhalation therapy for asthma
- Reduction of dislocations (e.g., shoulder and fingers)
- Plaster cast and splint applications (e.g., undisplaced fractures)
- Joint aspiration and injections
- Suturing lacerations and extensor tendons
- Removal of foreign bodies and I&D of abscesses
- Catheterization
- IV for rehydration and drug therapy
- Nasal packing

6: Assessment

6.1 Criteria Used to Evaluate Policy Options

This section identifies and describes 4 major criteria that will be used to evaluate each policy option described in section 5. The criteria include: 1) effectiveness 2) estimated time required to see intended results 3) costs, and 4) stakeholder support. All but the second and third criterion have multiple indicators. Each option will receive a separate score for each indicator. Aggregating each of the scores received for each indicator yields a subtotal rating that measures how well an option satisfies a particular criterion. Finally, I total the subtotals from each criterion to produce the overall score of each option. I use these scores in conjunction with additional issues raised by experts through personal interviews and the current health care environment to recommend an option or combination of options.

Table 3 Evaluation - Criterion, Definition, Indicator and Scoring Scale

Criterion	Definition	Indicator	Scoring Scale
Effectiveness	The degree to which each option addresses each of the 5 major underlying factors responsible for driving non-urgent ED visits	<ul style="list-style-type: none"> ▪ Limited health IQ of patients (Improved health IQ of consumers) ▪ Physically scattered services in primary care (centrally located GP/WIC medical and support services) ▪ Significant time lag investigating and diagnosing issue in primary care vs. ED (Reduced journey time from diagnostic testing -diagnosis) ▪ Limited and inconsistent access to primary care services in general (expanded PC service availability aligned with QUIST data and more standardization from clinic to clinic) ▪ Weak relationships between patients and their family physician (Improved provider-patient relationship) 	0, 1, 2
Implementation Time Horizon	The length of time it takes each option to be fully implemented	<ul style="list-style-type: none"> ▪ Length of time in years required to implement an option 	0, 1, 2
Cost	The overall cost (intermediate and long-run) implications of each option	<ul style="list-style-type: none"> ▪ Net short run, intermediate, and long run operational and capital costs 	-6, -3, 0, 3, 6
Stakeholder Support	The degree to which each option has support from key stakeholders	<ul style="list-style-type: none"> ▪ Federal ▪ Provincial ▪ Health care providers ▪ Administrators ▪ Patients/public 	0, 4

6.1.1 Effectiveness

The first criterion used to evaluate policy options measures how effective each option is at addressing the major root causes of non-urgent ED visits. That said, very few interventions targeted at keeping non-urgent patients out of the ED have been attempted and evaluated in the literature (Weinick et al., 2002). Further, most interventions that have been attempted and evaluated previously have been implemented in the ED and fail to address the diversity of root causes responsible for driving non-urgent ED visits. Thus, due to the lack of research evidence that directly assesses the efficacy of given interventions on non-urgent ED visits, the next best approach is to assess the expected impact of each option has on each of the root causes of non-urgent ED utilization.

This criterion measures the degree to which an option addresses each of the five major underlying factors (indicators) responsible for driving non-urgent ED visits. The first factor is limited health IQ of patients. Users must be aware of and understand when it is appropriate to access which health care services and when these services are available. At a minimum, users must know where and how to access resources that can aid them in making clinically and fiscally sound decisions. Without this knowledge, they are more likely to rely in the ED for services they could have accessed in a primary health care setting. Access to the current primary health care system is limited, requires more effort and time to coordinate and navigate as opposed to accessing services in the ED.³³ Primary care services are physically disorganized and non-integrated, as evidenced by the many “standalone” GPs, clinic physicians and critical support services scattered throughout the community. Moreover, waiting for test results, interpretation of results, and physician follow up (i.e., If you do not hear back from me in the next two weeks, your test results are fine) can take much longer when compared to the ED. People know the ED

³³ Granted, not all patients prefer to be passive participants in the coordination of health care services they require.

will always be there for them whenever they need it, whereas access to even same day and after-hours primary care services is very limited and inconsistent. A final major factor at the root of non-urgent ED visits is weak patient-provider relationships.³⁴ The net result of these gaps is a lengthier (i.e., time and distance) patient journey, wasted time travelling and inconvenience for users, and increased reliance on the ED for non-urgent reasons. Since there are 5 major underlying factors (indicators) responsible for driving non-urgent ED visits, I assign each option five separate scores and the overall criterion score will be determined after aggregating the scores. The table below describes each value in more detail.

Table 4 Effectiveness Scoring Scale

Value/Score	Definition
0	No impact or negative impact
1	Moderate positive impact
2	Significant positive impact

6.1.2 Implementation Time Horizon

This criterion estimates the time, in years, required to implement each option. The faster implementation may occur, the sooner decision makers may be able to realize a return on investment and achieve the intended outcome(s).

If an option can be implemented successfully in a short period (e.g., less than 1 year), the problem the option is designed to address may be referred to as a “quick win” or “low hanging fruit”. These are typically less complex in that they only require minor changes to secondary systems such as operational quality and efficiency improvements, as opposed to an overhaul of a

³⁴ While no evidence could be found that identifies what defines a “good” vs. a “bad” or “high quality” vs. a “low quality” relationship, intuitively issues like care provider continuity, communication, trust, respect, perceived competence, accuracy and quality of information provided, availability, etc. are all likely to be contributing factors.

major system such as the public health insurance system. Further, these do not require a significant amount of stakeholder input nor do they have significant budgets attached to them. An option that falls within this category also generally indicates a readiness for change by all stakeholders involved, and the absence of foreseeable political barriers to implementation. An option that addresses a complex issue could also fall into this category if it is a re-review of a previous submission to an old problem. This could occur if the timing, during the first submission, did not allow for its implementation but a second submission opportunity arose. In such a situation, the option could be addressing a significant systems level issue but because the preparatory work is already complete from the previous cycle(s), less would be required to bring it forward again. In either case, implementation of an option in 1 year or less is favourable in the eyes of decision makers, and receives 2 points in this evaluation.

Options implemented in a period of 1-2 years will receive 1 point. Typically, the issues these options address are relatively more complex than options that are designed to address “quick win” issues. They require larger budgets and multiple levels of decision-making. Options that fall within this category are broader require more than incremental change to minor and secondary systems and processes and may require some participation by stakeholders outside of a single organization such as the BCMA and the Ministry of Health. This added complexity results in a slower planning and implementation process relative to “quick win” situations.

Finally, options that fall within the third category are characteristically very complex and involve many stakeholders from multiple agencies and organizations. Implementing these takes significant amounts of energy, resources and time (i.e., at least 2 years). Options that fall within this category will likely involve fundamental primary and secondary system change or redesign. These options address issues that may be longstanding or engrained in the health care system and involve major aspects of the system such as acute care, community care, residential care and primary care. Vetting and implementing these types of options requires involvement from senior

leadership and executives in the organizations involved as well as provincial and possibly federal agencies. While the “payoff” resulting from successful implementation of these types of options can be significant, the likelihood of significant budget overruns, bureaucratic barriers, a changing and challenging political landscape, leadership changes, technological advances, etc. all threaten successful implementation. For this reason, options that fall into this category receive a scored of “0”.

Table 5 Implementation Time Horizon Scoring Scale

Value/Score	Definition
0	Can be implemented in the long run (2 years plus)
1	Can be completely implemented in the intermediate run (1year >, <2years)
2	Can be completely implemented in the short run (< 1 year)

6.1.3 Costs

The responsible use of health care dollars is especially critical at this point in time given the \$50+ million budget deficit faced by Vancouver Coastal Health in 2007/2008 (CBC News, 2007). Given the importance of a balanced budget to the short and intermediate term stability of positions held by senior management in the Health Authority, there is an increased emphasis in VCH on deficit reduction. Evidence of this includes the rapid implementation and spread of efficiency methodologies (e.g., “Lean”) throughout the organization, designed to reduce waste and maximize efficiency. Some VCH staff sense during this heavy deficit period that senior leadership, when making decisions, places the greatest value on the “mighty dollar” and relatively less value on value for money or net benefit (Personal Communication). Senior leaders may be focusing too narrowly on this short-term budgetary problem and under appreciating the bigger picture in the form of long-run monetary and non-monetary benefits that may offset today’s investment. For these reasons, this criterion has a higher weight relative to the first two criteria

included in this evaluation. This criterion measures, at a high level, the estimated net short, intermediate and long run capital and operational cost required to implement a particular option. Options will be assigned a score of -6 (significant cost outlay), -3 (moderate cost outlay), 0 (cost neutral), 3 (moderate cost savings), or 6 (significant cost saving). The table below summarizes the scoring system used for this criterion.

Table 6 Costs Scoring Scale

Value/Score	Definition
-6	Significant cost outlay
-3	Moderate cost outlay
0	Cost neutral
3	Moderate cost savings
6	Significant cost saving

6.1.4 Stakeholder Support

The health care system and the delivery of health care services is complex and requires input, participation, and most importantly buy-in/no opposition from multiple stakeholders, possibly at many different levels (e.g., operational, managerial, corporate, provincial, and federal) in order to function efficiently and effectively. Strong support from all stakeholders can make planning and implementation both effortless and seamless. However, opposition from one or more stakeholder groups can make implementing new initiatives very challenging and in many cases impossible. Given the impact that stakeholders have on the vetting and implementation options, this criterion also has a higher weight relative to first two criterion included in this evaluation. Identifying, understanding and mitigating, if possible, stakeholder opposition is critical to the success of any option, and while this process is beyond the scope of this evaluation,

this evaluation does take the first step by identifying which key stakeholder groups are likely to support and which are likely to oppose the implementation of each potential option.

Five stakeholder groups significantly influence regulation, design, delivery or utilization of health care service and the overall system. These groups are the Federal government, the Provincial government, health care providers, health care administrators, and patients/public. Given that there are five groups each option will be assigned five separate scores and the overall criterion score will be determined after aggregating the scores. I assign scores based on the table below.

Table 7 Stakeholder Support Scoring Scale

Value/Score	Definition
0	Expressed opposition
4	Expressed support OR no expressed opposition

6.2 Evaluation

The evaluation matrix below identifies how each policy option scores against each indicator and criterion and overall. The row at the bottom of the matrix provides the overall score for each option and allows decisions makers to compare each option again another. It is important to note that the output from the evaluation matrix above is *not* intended to be a scientific decision making tool but rather utilized in a general way to aid preliminary discussion(s).

Table 8 Evaluation Matrix

Criterion	Indicator	Option				
		Status Quo	User fees	Improve health IQ	Improve and Expand Primary Care Services	Urgent Care Centre(s)
Effectiveness	Limited health IQ of patient	0	0	2	0	0
	Physically scattered services in primary care	0	0	0	2	2
	Significant time lag investigating and diagnosing issue in primary care vs. ED	0	0	0	2	2
	Limited and inconsistent access to primary care	0	0	0	2	2
	Weak relationships between patients and their family physician	0	0	0	2	0
	Subtotal	0	0	2	8	6
Implementation Time Horizon	The length of time it takes for the option to be fully implemented	0	0	2	0	1
	Subtotal	0	0	2	0	1
Costs	Net short run, intermediate, and long run operational and capital costs	-3	-6	-3	-6	-3
	Subtotal	-3	-6	-3	-6	-3
	Federal	0	0	4	4	4
Stakeholders Support	Provincial	0	0	4	4	4
	Health care providers	0	0	4	4	4
	Administrators	0	0	4	4	4
	Patients/Public	0	0	4	4	4
	Subtotal	0	0	20	20	20
Overall Score		-3	-6	21	22	24

7: Evaluation Scoring Rationale

The evaluation matrix above provides a numerical summary of each option's performance with respect to each of the evaluation criterion. Overall, option 5 scored the highest with 24 points. Options 4 and 3 scored nearly as high with 22 and 21 points respectively. Options 1 and 2 both received negative scores overall (i.e., -3 and -6 respectively) and performed poorly based on the criterion utilized in this evaluation. As this evaluation is not scientific, the point spread between the 3 options that scored the highest and the 2 that scored the lowest is immaterial. What is important is the spread between the 3 options that scored positively and the 2 that scored poorly. The following section describes the rationale behind the scores received for each criterion.

7.1 Effectiveness

7.1.1 Limited Health IQ

Only one of the five options evaluated has an expected positive impact on the limited knowledge that many non-urgent ED users have regarding when it is most appropriate to access primary care versus the ED, and when these services are available. Option 3's sole focus is to address the gaps in the health IQ of the population, and therefore receives the highest score of 2; options 1, 2, 4 and 5 all received a score of 0.

7.1.2 Convenience

Options 4 and 5 both scored positively and will reduce the convenience gap between primary care and ED services. In fact, both received the highest scores possible for each of the components related to convenience. No points were awarded to options 1, 2 or 3 as none of these

address convenience for non-urgent patients seeking care in a primary care setting. In the current system (status quo), access to primary care services will worsen over time due to increasing demand (i.e., population increases and orphaned patients due to physician retirement) along with an inadequate supply of GPs. Option 4, with its proposed multi-clusters (i.e., physicians/support services), real time lab and diagnostic testing and results, expanded after hours access to GPs or walk-in clinics and same day access to GPs through advanced access scheduling, requires significant change to the primary care system and how the business currently operates.

Alternatively, option 5 addresses each of the three components that derive convenience and does so without requiring significant changes to the current system. For example, even when compared to an ED fast track, an UCC in theory should provide shorter total journey times for those who require labs and diagnostics, since patients who visit the UCC do not compete with ED and admitted hospital patients for the same resources (i.e., lab and diagnostics). In the ED, non-urgent patients are constantly reprioritized in lab and diagnostic imaging queues when there are more urgent cases in the acute portion of the ED (i.e., typically where CTAS 1-3 patients are treated) and throughout the hospital.

7.1.3 Weak Relationships Between Patients and Their Family Physician

Options 1, 2, 3 and 5 have no positive impact on the factors that likely influence patient-provider relationships such as communication, trust, respect, perceived competence, accuracy and quality of information provided, availability, etc. Conversely, option 4 will have a significant impact on patient-provider relationships. Option 1 proposes continued reliance on the ED for a major portion of non-urgent care in Richmond. However, the ED is never a place for care provider continuity as the philosophy in the ED is acute/episodic care (Personal Communication). The positive impact option 2 could have on patient-provider relationships is an indirect one. If user fees are effective non-urgent patients may make more of an effort to see their GP, utilize them more often, and through increased effort to see their GP they may develop better

relationships. However, is only likely to occur for a small proportion of the population, if at all, since limited access will still ultimately be a problem. Therefore, this option received a score of 0 for this criterion. Based on the typical definition of an UCC described above, option 5 like in an ED operates on an episodic care philosophy (Robinson, n.d.). For this reason, option 5 also fails to achieve or enable a “good” patient-provider relationship.

Since option 3 recommends that primary care physicians be more involved in educating their patients about how, when and where to access primary care services for non-urgent issues, it is possible that communication, respect for the physician, and perceived competence all improve, thus partially supporting a good or high quality relationship. However, there are more factors that influence a good relationship than can be addressed indirectly through this option. Therefore, this option also received a score of 0.

Option 4 significantly improves accessibility to and reliability of primary care physicians as well as some of other factors likely to contribute to a “good” patient-provider relationship. First, if patients perceive their GPs to be more accessible during and after hours, patients will be more likely to utilize them. Second, if GPs redirect non-urgent patients to the ED less often for issues that are addressable in their offices, patients will likely perceive them to be more competent and have a greater respect for them. Finally, if the overall pool of GPs in the community increases and patients have more choice in whom they can have as a GP, patients are less likely to accept a physician with whom they have a poor relationship.

7.2 Implementation Time Horizon

Option 3 is likely to be implemented in a time horizon of less than 1 year while option 5 between 1 and 2 years. Option 2 and 4 will take significant lengths of time to implement and therefore receive scores of 0. This criterion cannot be applied to option 1, the status quo, as there is no implementation required. Option 2 recommends the introduction of user fees, regulated and

legislated under federal law. This option is politically complex and requires input from many stakeholders, multiple agencies and organizations as well as the public. Implementing this option would result in a fundamental shift in the foundations of the health care system and would likely result in significant system redesign. Option 4 is also very complex. In the best-case scenario, experts estimate that it will take up to five years to realize even partial reduction in the number of non-urgent ED visits due to the ramp up time required to implement the option (Personal Communication). However, other issues are likely to lengthen that estimate. Not only is there significant shortages of family physicians but there are also fewer and fewer GPs are accepting new patients. Further, based on medical school enrolment statistics it appears that medical students are avoiding family practice and that many graduating family physicians are choosing not to practice full scope family medicine (Robinson, n.d.). From past it is also clear that primary health care transformation efforts that are already underway have already taken a very long time to implement. For example, with a 10.17 million dollar budget and broad support, the Primary Health Care Transition Fund (2000-2006) monies have come and gone and the primary health care system still has a long way to go (Vancouver Coastal Health, 2002). Yet there remains significant changes that still haven't taken place across BC and Canada. Thus, even if the primary care system is eventually improved and expanded in the long run, implementing all of the components recommended in the option will take many years.

Option 3 could be planned and implemented with very little external (i.e., non VCH) stakeholder consultation and input and could be led by VCH's communications department with relative ease. Time would be required to develop the information on which issues and conditions require ED and which ones can be dealt with in a primary care setting. Resources would also need to be deployed to assemble a database of all services available in the community, including types of services provided, contact information, locations for example. As this is a long-term education campaign, the "first wave" could likely be completed within 1 year. However,

effective spread of information and sustained retention of the target audience requires constant updating and dissemination, so these activities will need to occur in perpetuity.

Option 5 is unique in that Richmond Health Services has previously considered an UCC in as a part of a larger primary health care access centre proposal. However, the UCC portion of the proposal did not receive funding. It took approximately a decade to get the concept of an UCC to a point where it was written into a proposal and presented to the VCH senior executive team (Personal Communication). If starting with no foundation, this option would have been scored 0. However, much if not all of the groundwork has been laid and a proposal already exists which may only require minor tweaks. For this reason, option 5 receives a score of 1, and if funded this time around could likely be operational within 1-2 years.

7.3 Costs

In terms of costs, all options incurred a moderate or significant cost outlay. Remaining with the status quo will not result in any direct planning, capital or implementation costs, and this option may be attractive given the significant deficit situation faced by VCH. In the short-run, a decision not to implement new projects aimed at reducing non-urgent visits to the ED will allow scarce resources to be focused on other potentially higher priority areas. However, over the long run a decision to continue with the status quo will result in a moderate accumulation of costs that could have been avoided. For example, in 2004 18,349 ED visits were for less urgent (14,424 - CTAS IV) or non-urgent (3,935 - CTAS V) reasons. Based on previous evidence, 4.4 percent of all those triaged as CTAS IV and V require admission to the hospital while the remaining 95.6 percent are discharged from the ED directly (Verstesi, 2004). Applying this percentage to the total number of CTAS IV and V ED visits in 2004 yields 17,542 ($=18,349 - 18,349 \cdot 0.044$) that likely could have been addressed outside of the ED. In terms of costs, as previously identified,

the average ED visit in either VCH or RHS, excluding physicians fees, costs \$185,³⁵ where as the average fee billed to MSP by a clinic physician \$30 per client, which covers both physician fees and the overhead costs of operating the clinic (Vancouver Coastal Health, 2008b; Personal Communication). Thus, there is approximately \$2.7 million [$=(\$185 * 17,542 \text{ ED visits}) - (\$30 * 17,542)$] in potentially avoidable costs per year for the system, if non-urgent patients could be cared for by a GP rather than the ED.^{36,37}

Currently, there is no research evidence that estimates, at a detailed or even high level, how much it would cost to plan and implement a user fee system at a provincial or national level. Thus, any discussion exploring the cost implications can only take place in hypothetical terms. First, given the national significance of user fees and federal legislation (i.e., CHA), the amount of public consultation required to modify the CHA would likely cost somewhere in the hundreds of millions of dollars. This estimate would be in line with the cost of the last national referendum held in 1992 for a different issue (Elections Canada, n.d.). If the consultation results in inadequate support for user fees and no change to the CHA, all of the resources invested will be unrecoverable/sunk costs. In terms of the actual costs and benefits involved in utilizing a user fee system, while there will be revenue generated, it will be modest and likely more than offset by the on going administrative costs (Romanow, 2002). For example, implementing and operating a user fee system will require the development of new policies, information management and information systems, training, as well as billing and collection and default payment branches (Personal Communication). This option could also require additional capital investment with the acquisition of point-of-sales machines and other equipment required to enable real-time fee collection. Further, collection itself can be a significant challenge, as many people likely cannot

³⁵ This represents the direct care costs and excludes physician fees

³⁶ Once ED physician salaries are factored in, avoidable costs will grow significantly. This example also excludes any limited time resource/capital/infrastructure investment required to support/enable a change in location of care for non-urgent patients.

³⁷ Obviously, this shift could not occur without incurring costs in the short and intermediate term but the amount saved annually over the long run would eventually bring the costs back into the black.

or will not pay. This could occur frequently given that Richmond's ED receives many patients from other places as it is close to the airport (Personal Communication). Finally, from clinical and quality of care perspectives, user fees may cause some people to decide to forgo non-urgent but necessary treatment entirely. "The result may be higher costs in the long run...because people delay treatment until their condition gets worse" (Romanow, 2002). Overall, implementing a user fee system requires significant upfront costs that may never be recouped and significant ongoing costs to maintain. Therefore, this option receives a score of -6.

While relatively low in complexity, experts believe that option 3 (the health IQ), will still require a moderate amount of resources to execute effectively over the long run, as it must target a change in both behaviour and culture (Personal Communication). This expert assessment appears to be appropriate after considering the implementation cost against the marginal reduction in non-urgent visits this initiative will likely yield. This initiative requires training and education for health care providers and patients, information tools and training kits, clinical guideline development, a communication plan, distribution materials (pamphlets), radio and television advertising costs, etc. For these reasons, option 3 can be expected to require a moderate cost outlay and receives a score of -3.

Option 4 receives a score of -6 as there are significant upfront and ongoing cost outlays needed to implement and maintain it. This is the most complex option of the five proposed and involves extensive changes to the primary health care system. And while the actual per visit costs associated with a non-urgent office based GP visit is known and appears to be minor (i.e., average of \$30 billed to MSP per visit) the total costs required to make the transformational changes necessary are not. For example, "[c]urrently, most primary health care practices do not have computers or software to schedule advanced or same-day access so this will be required.... Barriers to information management, such as privacy interpretations and the current lack of

technology, training and support in primary health care offices, must be rapidly solved” (BC Ministry of Health, 2007a).

Advanced access is likely to be the least costly component of option 4 but will cost a minimum of half a million dollars to implement in Richmond. Currently, the VCH Practice Support Team module funds each GP and their Medical Office Assistants (MOA) for 3 learning sessions and 2 action periods at \$2788, and in total there are 189 practicing physicians in Richmond at the moment (Personal Communication; College of Physicians and Surgeons of BC, n.d.). Educating and training all 189 physicians and their MOAs on advanced access would cost approximately \$527,000.³⁸ Add to this the costs associated with additional funding for physicians who will offer expanded after hours availability of traditional GPs and or walk-in clinics. Also, add to this, the cost of re-negotiating the daily patient volume quotas set by MSP. Further, add the costs involved with expanding access of labs and diagnostics and implementing electronic data transfer systems to reduce turn around times for labs and diagnostics. Finally, consider the costs associated with expand the number of GPs in the community. All components considered this option quickly becomes one of, if not the most expensive of the five options to implement.

Option 5 receives a score of -3 and is expected to result in moderate cost outlays. There are only 25 UCCs across Canada since the concept in Canada is relatively new. Consequently, no easily accessible data exists on the net long run costs related to developing, implementing and operating a UCC. Orleans Urgent Care Centre (OUCC) indicates that cost per patient visit to area community ED easily exceeds costs at OUCC by 8 to 10 times.³⁹ OUCC also indicates that with respect to teaching hospitals the potential cost savings are even greater when shifting to UCCs because teaching hospitals are approximately 2 to 3 times more costly than community based EDs (Moritz and Ahuja, 2005). If implemented in isolation, UCCs will provide a less costly alternative to non-urgent care provided in the ED. VCH/RHS estimate that the costs per patient

³⁸ \$2,788*189

³⁹ Refer to Policy Options section for description of an Urgent Care Centre

seen at a UCC, if developed in Richmond, will be approximately CDN \$50 versus CDN \$185 in the ED (Vancouver Coastal Health, 2008b). However, even after discounting all potentially avoidable costs, and developing and operating the facility through a cost minimizing public-private-partnership arrangement, an UCC cannot be developed without incurring costs (Personal Communication). Since the magnitude of this cost is currently unknown, more analysis is required into the precise capital and operational costs associated with erecting an UCC in Richmond. However, when compared to the expected significant cost outlay required by options 2 and 4, option 5 will likely be moderate.

7.4 Stakeholders Support

Options 3, 4 and 5 all scored equally well with regard to the stakeholder support criterion and each receives an overall score of 20/20. Conversely, Options 1 and 2 perform poorly and both receive overall scores of 0/20. Opposition to the status quo is evident from the federal government based on three major indicators: the Commission on the Future of Health Care in Canada, funding provided for the Primary Health Care Transition Fund, and First Ministers Accord. All indicate the federal government's recognition that the primary health care system and the system in general are in need of reform. The federal government will clearly oppose option 2 since user fees are in direct violation of illegal and contradict section 19 of the Canada Health Act (Health Canada, 2004a). Option 3 will receive support from the federal government. The excerpt below from the Romanow Commission report clearly articulates the need for improved and expanded health literacy.

Canadians need comprehensive and integrated pools of credible information that are presented in intellectually appealing and user-friendly formats; timely access to relevant and credible health information; optimal skills to process and understand the relevance of health information; and receptive environments where they are able to use information as part of decisions they make about their health and health care (Romanow, 2002).

Evidence of support from the federal government for option 4 comes in the form of the \$576 million dollars distributed to the provinces and territories to support fundamental changes to primary health care delivery (Health Canada., 2004b). BC's approved portion was slightly greater than \$74 million (Health Canada, 2006). In 2003, the federal budget, following the Health Accord in the same year also identified \$16 billion over five years to support primary health care (Health Canada., 2004b). In terms of UCCs, the federal government has no jurisdiction over how health authorities structure their primary care system unless it directly violates the CHA. More telling however, is the fact that there are 25 UCC across Canada already and if the federal government opposed them, they would not exist. Therefore, option 5 receives a score of 4.

With significantly more influence on how health care services are delivered in BC, the provincial government either supports or does not oppose options 3, 4 and 5 and so each receives a score of 4. The provincial and federal governments oppose options 1 and 2. Online discussion question # 10, from the Conversations on Health clearly indicates that the Province views non-urgent patients in the ED as a problem. The question, directly references the CIHI study that found that 57 percent of all ED visits in Canada are for less and non-urgent reasons and asks for public input on what physical location and service alternatives are needed to better support people who do not require ED level care (Province of British Columbia, n.d.b). Additionally, the Primary Health Care Charter explicitly identifies ED utilization by CTAS IV and V patients as a concern that must be understood and that a commitment to finding solutions to integrate care for this population is necessary (BC Ministry of Health, 2007a).

Since provinces receive a financial penalty in the form of reduced transfer payments, they would be opposed to the implementation of user fees.⁴⁰ However, it is uncertain whether the government of BC would still oppose them if they were legal or had no financial penalty

⁴⁰ However, provinces such as Alberta that can be financially self-reliant (e.g., oil and gas) will be less influenced by such a threat.

associated with them. Option 2 receives a score of 0 for this element of the criterion. Regarding option 3, there is no direct evidence that the Province supports improving the health IQ of its population. However, the Primary Health Care Charter indicates that “patients often do not have sufficient information and supports to make decisions about their health and implement changes” (BC Ministry of Health, 2007a). That said, it is extremely unlikely that the Province would advocate against a well informed patient population. Thus, this option receives a score of 4. Option 4 has significant support from the provincial government, as evidenced in the Primary Health Care Charter and by the Province’s partnership with the BCMA and health authorities to implement the Practice Support Program, which supports the spread of advanced access. Improved access to primary health care is the Charter’s first of seven major priorities. The Charter also recognizes that secondary and tertiary services such as laboratory and imaging services require better alignment for improved integration with primary health care in general. Finally, the Charter indicates that significant resources are necessary in order to attract and retain additional family physicians (BC Ministry of Health, 2007a). Option 5 also receives a score of 4, as long as it does not contravene the CHA and affect transfer payments. There are already 2 UCC operating in Vancouver. VCH operates one UCC that is located at the University of British Columbia hospital. The other is privately owned and operated and is co-located with the False Creek Surgical Centre. If the provincial government opposed UCCs, neither facility would be operating. Therefore, option 5 receives a score of 4.

Support from health care providers for each of 5 options is mixed. There is some resistance to options 1 and 2, and support for options 3, 4 and 5. For example, the Hospital Employees’ Union (2007) submitted a response to the Conversations on Health that describes the union’s opposition to the status quo: “Hospitals are the most expensive place to provide medical care. But British Columbians are forced to turn to hospitals, particularly emergency rooms, when they lack better options for care”. Like other stakeholder groups, health care providers seem split

when it comes to user fees. For example, in a recent vote by members of the Canadian Medical Association (CMA) at the 2007 annual conference, anti-user fee advocates defeated a user-fee motion by only a small margin. Fifty percent of CMA physicians were opposed, 48 percent for and 2 percent abstained. If the motion had had majority support, it would have become CMA policy, and the Association would then have begun lobbying the federal government to change the Canada Health Act to allow user fees (Fayerman P, 2007, August 23). Clearly, this is a polarizing issue and so option 2 receives a score of 0. No evidence exists indicating that health care providers oppose option 3. Thus, it receives a score of 4.

There is significant evidence that health care providers broadly support various components of option 4. For example, the organization representing physicians in BC entered a tripartite agreement with the provincial government and the health authorities to launch the Practice Support Program, previously described (BC Medical Association, 2007). The Society of General Practitioners of British Columbia (2007), also indicate that “the single biggest threat to the efficiency, effectiveness and sustainability of British Columbia’s health care system is the decline in the number of family doctors and the failure of the health and education systems to recruit, train and retain family doctors to attractive, long term careers”. The BC Nurses’ Union (2007) also expresses its support for option 4 when they point out that 2 of the keys to improving the health care system are “directing resources and energy to improving primary health care and [a]ddressing the shortage of nurses, doctors and other health care providers”. Expert interviews also review that health care providers strongly support the need to address after-hours messaging to inform patients of all options that are available to them (Personal Communication). Option 5 would not significantly impact many health care providers and the decision to implement UCCs in Richmond would be an internal decision made by senior leadership and the operation of the UCC likely contracted out. GPs may be reluctant to support an UCC, as it would add another provider who could “cherry pick” in the same way walk-in clinics are perceived and have been

shown to (Jones, 2000). Walk-in clinics may also oppose the development of an UCC because there would be competition for the same clients. However, overall, both are likely to support the UCC since many GPs and walk-in clinics will likely be unwilling to extend their operating hours to the necessary time as indicated by the QUIST data. Ultimately, GPs and walk-in clinics have no impact on the development or operation of an UCC so even if they opposed its development, they would have virtually no influence over the likelihood of it being implementation. For these reasons, option 5 receives a score of 4.

I capture assessment of stakeholder support from the administrators group entirely through interviews with experienced administrators in VCH. Overall, administrators support the implementation of options 3, 4 and 5 and to varying degree oppose options 1 and 2. According to administrators, the current system is “completely unsustainable”, and the “status quo is not an option since we don’t have enough health care dollars to sustain the way things are going (Personal Communications). Another administrator recognizes however that “we haven’t got many resources because the well is dry” (Personal Communication). Opinions toward option 2 (user fees) were surprisingly positive from experts. However, there was apprehension and opposition from some. For example, one expert indicated that it is not a bad strategy as long as there are options (i.e., not implemented alone) and the fee doesn’t just put up a barrier to accessing the only services available” (Personal Communication). Another administrator echoed the previous response and said “I think that [user fees] could be a good thing, provided the health care system provides other options in the community.... we can’t just deny people” (Personal Communication). Due to the apprehension from administrators regarding the implementation of user fees without also implementing other changes, option 2 received a score of 0.

There was unanimous support from administrators to implement option 3 as evidenced by one person’s response to the question: should RHS consider improving the health IQ of non-urgent patients regarding what services are available, how to access them, and when it is

appropriate to access them? The administrator's response was "yes absolutely. Education is one of the primary things that has to be done, and is where a lot of money should be spent" (Personal Communication). As with option 3, administrators overwhelmingly support option 4 and its various components. The following quotations from interviews with expert administrators provide evidence of this support and therefore this option received a score of 4.

Over time, the volume of (urgent and non-urgent) ED visits will decrease with a solid primary care system (Personal Communication).

For any of the strategies that are put in place in the future, the focus needs to be on enhancing primary health of the pt. Strategies that focus on the ED should really be secondary – a more upstream approach is needed (Personal Communication).

This approach not only supports the CTAS IV and V patients but also looks further up stream and better supports people in maintaining their health and reducing the number of acute problems, thereby reducing the number of ED visits; Whereas other strategies may only bounce people around in terms of their location of treatment (Personal Communication).

Supporting the development of primary care is the way to go and is the critical component of the health care system (Personal Communication).

Finally, while most administrators supported the implementation of option 5, one argued that it is better to make changes to the system we have than to add another layer/provider to the mix. However, the administrator that made that comment did not indicate that they would oppose option 5 but rather provided that as a caveat. The following quotations from interviews with expert administrators provide evidence of support for this option and the rationale for why this option received a score of 4.

I think UCCs are so underutilized. The one (UCC) that we've got in the Vancouver area is a little gold mine... that's not being used efficiently (Personal Communication).

Definitely urgent care centres (Personal Communication).

The final stakeholder group and arguably the most important are patients and the public. Assessment of stakeholder support from the patient/public group was captured entirely through feedback from the Conversations on Health. Overall, patients and the public broadly support the implementation of options 3, 4 and 5 and like other stakeholder groups oppose to varying degree options 1 and 2. Based on the responses to online discussion 10, all respondents recognized and agree that non-urgent patients in the ED are a problem that needs to be addressed (Province of British Columbia, n.d.b). This is the reason why option 1 receives a score of 0. User fees have been and continue to be one of the most polarizing health care issues debated amongst Canadians today, so it is no surprise that there are strong opinions from both sides. For example, “[t]he Canada Health Act and its principles came up throughout the Conversation on Health, alternately as the positive foundation for our health care system, a fundamental right of all Canadians, and the sacred cow that stops us from making positive changes” (Province of British Columbia, n.d.c). In an online poll conducted as part of the Conversation that asked “[s]hould there be user fees charged to patients who use emergency rooms for non-urgent purposes”, 49 percent of respondents strongly agree, 17 percent agree, 15 percent disagree, and 17 percent strongly disagree (Province of British Columbia, n.d.d). Given that 32 percent of respondents oppose to charging user fees for non-urgent ED visits this option receives a score of 0. Option 3 appears to be well supported by the public as “participants emphasize supporting a shift in the public perception of emergency care and re-defining urgent and non-urgent care” (Province of British Columbia, n.d.e). Participants in the Conversation further explicitly indicate that they “would like to see more accountability on how resources are used by health care providers and consumers, as well as more public education on the design, capacity and cost of the health care system”. Participants, for the most part, agree that we need to inform the public about what the system is and what it can provide (Province of British Columbia, n.d.b). For these reasons, option 3 receives a score of 4. Option 4 also receives a score of 4 and is well supported by the patient/provider stakeholder group. For example, the public generally supports the idea that in

order to “improve access to primary health care,... government needs to give patients more choice on the types of primary health care providers they can access as well as educating and attracting more primary health care providers and looking at their scope of practice” (Province of British Columbia, n.d.e). Many participants also believe that “[c]linics should be accessible to the public 24 hours a day, seven days a week to ease the burden on emergency rooms”. In fact, all online poll participants either agreed or strongly agreed that “MRI, X-ray, and other machinery should have extended operating hours” (Province of British Columbia, n.d.f). Finally, for the same reasons that option 4 received a score of 4, option 5 also receives a score of 4.

8: Recommendations

Based on the evaluation of proposed options above and the fact that implementing any of the options in isolation will fail to address all of the root causes in a timely manor, the following section outlines multiple recommendations. The recommendations below offer a strategy to reducing the proportion and number of non-urgent ED patients who visit RH in both the intermediate term and long run. They also address most of root causes driving the policy problem.

8.1 Recommendation 1 - Improve and Expand Primary Care Services Already Existing in the Community

The first recommendation is that implementation of option 4 begin immediately. To begin with, Vancouver Coastal Health and Richmond Health Services need to continue to push forward on initiatives like the Practice Support Program and advanced access, but also develop models of after-hours care that are agreeable to GPs and/or walk-in clinic physicians. Walk-in clinic hours must be standardized as to increase reliability and availability. This will likely require collaborating with other health authorities to lobby the province to re-negotiate payment models and or levels of physician remuneration. Part of this re-negotiation should include a discussion around the impact of the 50 patient per day quota. This may also require establishing an accountability framework for clinic physicians who simply “close up shop” at their discretion.

Labs and diagnostic imaging should be located in clusters with physicians in strategic location throughout Richmond ensuring that patients throughout the city have quick and convenient access to all services necessary to assess, diagnose and treat non-urgent issues. VCH and RHS also need to reduce the turnaround time for labs and diagnostics to be conducted,

processed, results sent to the physicians, interpreted and patients notified of their results. Whether through electronic transfer of information or some other means, the overall turnaround time related to these services must improve. VCH and RHS must take steps to ensure that GPs and especially walk-in clinics are not sending non-urgent patients to the ED for issues that can be addressed in their offices. One of the least costly components of this option is to adjust after-hours referral practices for primary care physicians. Ensuring that all after-hours physician office voice messages direct patients to a variety of possible alternatives (e.g., BC HealthGuide and NurseLine) rather than the ED alone is critical. This could occur through the development of professional practice standards.

8.2 Recommendation 2 - Develop an Urgent Care Centre

Due to the scope of recommendation 8.1 above, it is likely to consume significant energy and many of VCH/RHS's resources over the short and long run. However, what the evaluation above identifies is that the amount of time required to implement all components of option 4 and for it to bear fruit will be significant. One expert interviewed estimated that even after fully implementing option 4, which would take many years, that it would likely take at least another five years to see partial improvement in the number of non-urgent ED visits (Personal Communication). Therefore, recognizing that this policy problem requires at least partial improvement in the near future, VCH and RHS should re-consider developing the UCC that was originally part of the 2007 Primary Access Centre proposal. This would in effect alleviate the need, in the short and intermediate run, to establish a walk-in clinic and independent lab and imaging services near the hospital/ED recommended in option 4. Erecting an UCC near the hospital would also lower the risk associated with redirecting non-urgent patients from the ED to an alternative setting, since UCCs can handle even the most difficult (i.e., CTAS I) patients who arrive in the ED. This would be an option that currently does not exist in Richmond and would

be of significant benefit since many people, even after learning of other alternatives, may still visit the ED for reassurance, or because they do not yet trust alternative services, etc.

8.3 Recommendation 3 – Develop an Education and Communication Strategy Focused on Individuals Who Use the ED for Non-Urgent Issues

Developing an education and communication strategy for the public, as one interviewee indicated is something we need. However, they also indicate that “there is no point if we don’t have any other options to provide... where the heck are they going to go?” (Personal Communication). The type of information provided to the public will depend on the services that are available at the time. As long as the ED remains the only after-hours location available that can treat minor injuries and illnesses, it makes little sense to tell people not to use the ED. Thus, if decision makers decide to implement recommendations 1 and/or 2, this strategy would be most effective once changes from recommendations 1 and/or 2 have taken affect. For example, a prime opportunity to do focused education is at the point when most physicians have switched to advanced access scheduling and/or an UCC has been developed. Ultimately, educating the public needs to be a dynamic process and continue in perpetuity to ensure that it is always aware of the options available and how and when to access them.

8.4 Recommendation 4 - Conduct a Detailed/Comprehensive Financial Assessment of Non-Urgent ED Visits Compared to Other Alternatives

One of the pieces of information that could raise the profile and importance of this problem in VCH/RHS is the identification of the exact cost impact associated with shifting non-urgent ED care to alternative settings in the community. VCH and RHS needs to conduct a detailed financial impact assessment of non-urgent visits in EDs, which look beyond the immediate costs to ED and incorporates costs and benefits that ripple throughout the entire

system resulting from the shift of non-urgent ED patients to other locations. As previously mentioned administrators and researchers need to have a better understanding of the ‘black box’ that is hospital cost accounting.

8.5 Recommendation 5 - Shift how VCH and RHS Plan for Future Health Care Services and Redesign – Needs Based Versus Utilization Based Planning

“The policy goal of shifting non urgent visits from the emergency department to non-emergency health care settings is commonly devised, planned, and implemented without considering patients’ perspectives” (McLain et al., 2000). The health care system needs to do a better job of understand the needs of its patients. This study draws on the unique approach of surveying patients often used in research, but rarely in practice. Traditionally, the health care system plans and forecasts based on historical utilization data and not by recognizing and understanding the constantly changing needs of patients themselves. VCH and RHS already draw on existing administrative hospital data to see what procedures and clinical issues characterize the populations it serves. The organization now needs to conduct more extensive, multi-site, needs assessments, with a larger sample of patients through surveys, focus groups, telephone follow up post ED discharge, etc, to identify both medical and non medical reasons for their visits. The goal would be to identify both clinical and non-clinical (e.g., socio-economic, etc.) factors that contribute to their decision to come to the ED. In the past, administrators were quick to label patients as “abusers” of the system, but based on the survey information gathered in this study, it is clear that non-urgent ED visits are more a reflection of poor system design than user abuse. If the system cannot ensure that services are easily accessible and available on a consistent and reliable basis, patients have no other choice than to gravitate towards the services that get them the best care in the most timely fashion, which in most cases is the ED.

9: Conclusions

This study attempts to understand why non-urgent patients visit the Richmond ED, and to propose, evaluate and recommend solutions that will address the root causes of this problem over the short and long run. However, when considering the full scope of the problem and the many roots that feed it, it becomes clear that this is a complex and multifaceted problem, which requires complex and multifaceted strategies to address it. Through a review of the research, RH administrative data, survey data and expert interviews, this study proposes a number of policy options to Vancouver Coastal Health and Richmond Health Services that in concert set out a comprehensive strategy for reducing non-urgent ED visits in Richmond.

Research evidence and survey data from RH ED patients indicates that people are choosing the ED for non-urgent reasons because:

1. Patients don't know what primary care service exist or when they are available,
2. There is a significant gap in convenience between ED and primary care services,
3. There is limited and inconsistent access to primary care services, and
4. Patients have weak relationships with their GPs.

Given these root causes, I propose and evaluate five potential options, then recommend three to implement as a package. These options are improving and expanding primary care services already existing in the community, developing an Urgent Care Centre, and developing an education and communication strategy focused on those whom use the ED for non-urgent issues. Other recommendations include implementing a larger scale survey on patients' reasons for visiting the ED, to ensure that patients have a voice, and conducting a financial assessment of

non-urgent ED visits compared to other alternatives to identify what the true costs are of caring for non-urgent patients in the ED versus other locations.

Emergency Departments began as places to treat seriously ill and injured individuals who require urgent and emergent care; however, these days, with a weakening primary health care system, EDs have become a de facto safety net. Ultimately, if the system does not establish and maintain a solid and reliable primary care system based on a model that enables continuity of care, the situation will continue to be a revolving door and the number of non-urgent patients in the ED will continue to grow.

Appendix: ED Survey

I am a graduate student at Simon Fraser University who is conducting a survey as part of my thesis for a Masters degree in Public Policy. I am investigating ER (emergency room) patient characteristics and patient health service utilization patterns.

If you choose to participate in this research study you may refuse to answer any question. If you have any questions regarding this survey you may contact my thesis supervisor, Dr. Nancy Olewiler at 604.291.5289 (olewiler@sfu.ca).

Whether you agree to participate or not in this survey, the speed or quality of treatment received in the hospital will not be affected. Finally, by signing the previous consent form you have acknowledged that you have read and understand all of the contents of the consent form including the purpose of this study as well as your rights as a participant in this study.

When you complete this survey, please place it in the designated box marked "Surveys Here".

Please indicate your answer with a check mark [√], or fill in your answer where appropriate.

1. Do you live in Richmond?
 Yes No

2. How long have you been a resident of Richmond?
 6 months or less
 6 months - 1 year
 1 year - 2 years
 longer than 2 years

3. What is your gender?
 Female Male

4. What is your ethnic origin (or race)?
 Caucasian (European)
 Asian/pacific
 African
 Arab
 Indo Canadian (Indian)
 Aboriginal (Indigenous Indian and Inuit)
 Hispanic/Latino
 Mixed Background
 Other

5. Which of the following age groups do you belong to?
- 0 - 9 Years
 - 10-19 Years
 - 20-29 Years
 - 30-39 Years
 - 40-49 Years
 - 50 and over
6. What is the highest level of education that you have completed?
- Less than 8th grade
 - Completed 8th grade
 - High School/GED
 - Some College/Tech
 - 4 year College/More
 - Unknown
7. Estimated household income:
- Less than \$10,000
 - \$10,001-\$30,000
 - \$30,001-\$50,000
 - \$50,001-\$70,000
 - \$70,001 +
-
8. Please place yourself on a scale of 1 – 10 in terms of the level of discomfort or pain that you are currently experiencing
- 1 2 3 4 5 6 7 8 9 10
- No pain or discomfort Worst pain or discomfort you have ever experienced
9. How did you arrive at the ER?
- Own Vehicle
 - Friend's Vehicle
 - Public Transit
 - Taxi
 - Ambulance
 - other
10. Where do you typically seek treatment when medical care is needed?
- Family Doctor Walk-in Clinic ER Other
11. Did you attempt to make an appointment with your GP before coming to the emergency room? Yes No
12. Did you seek medical treatment from a walk-in clinic before coming to the ER?
- Yes No
13. Are you aware that there is a free 24 hour nurse line available to all resident of BC? Yes No
14. Before coming to the ER, did you attempt to contact the 24 hour BC nurse line?
- Yes No

15. You were advised to visit the ER by_____.
 No one Family Doctor Walk-in Clinic Nurse Line Other_____

16. Please rank the top three reasons for this visit to the ER?
(1 = most important, 3=least important)
 No other place for treatment is available
 Do not know if there is another place for treatment
 Need immediate treatment
 Unsure if needed medical attention
 Unable to get treatment at normal office hours
 Have prior obligations (e.g., work, child care, etc.) during office hours so
came to the ER after
 Do not have family physician
 Walk-in clinic too far away
 No transportation to go somewhere else
 Other (please specify)_____

17. I would not have come to ER today if I could have scheduled a doctor's
appointment?
 Within 24 hrs Within 2-3days Within one week Would still have
come to the ER Other (please specify)_____

18. Do you have a family doctor?
 Yes No

If you answered No please specify why you do not have a family doctor below

19. The number of times you have gone to the ER in the past 12 months, including
this visit? _____

20. What is most likely to happen when you are having difficulty obtaining service
from a doctor's office?
 Go without treatment
 Go to ER
 Treat self
 Other

21. Do you prefer to receive non-emergency care in a doctor's office rather than in
the ER? Yes No

22. I would not have come to the ER today if a clinic had been open?
 Yes No

=====
Thank you for taking the time to completing this survey. Your input is highly valued.

Bibliography

Works Cited

- Afilalo, J., Marinovich, A., Afilalo, M., Colacone, A., Léger, R., Unger, B., and Giguère, C. (2004). Nonurgent emergency department patient characteristics and barriers to primary care. *Academic Emergency Medicine* 11(12):1302-10. Abstract retrieved on December 26, 2008, from <http://www.ncbi.nlm.nih.gov/pubmed/15576521?dopt=AbstractPlus>
- American College of Emergency Physicians. (2002). Responding to emergency department overcrowding: a guidebook for chapters. Retrieved July 30, 2008, from <http://www.acep.org/assets/0/16/746/1100/2148/E254198E-DE1E-4339-86A1-4D943C935767.pdf>
- American College of Emergency Physicians. (n.d.). Costs of emergency care. Retrieved November 16, 2007, from <http://www.acep.org/patients.aspx?LinkIdentifier=id&id=25902&fid=1754&Mo=No&acepTitle=Costs%20of%20Emergency%20Care>
- Appleby, J. (2006). Ranks of uninsured Americans grow. Retrieved October 9, 2008, from http://www.usatoday.com/money/industries/health/2006-08-29-health-insurance-coverage_x.htm
- Baker, L.C., and Baker, L.S. (1994). Excess cost of emergency department visits for non-urgent care. *Health Affairs (Millwood)* 13:162-171. Retrieved February 11, 2005, from <http://content.healthaffairs.org/cgi/reprint/13/5/162?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=baker&andorexactfulltext=and&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>
- Bauer, S., Hauser, J., McGee, S., Reardon, M., Stanton, S., Wallace, G., Watt, G., Wills, C., and Worthington, J. (1998). Riverside urgent care center: functional plan.
- BC Health Guide. (n.d.). BC healthguide - about the program. Retrieved October 7, 2008, from <http://www.bchealthguide.org/aboutprogram.stm>
- BC Medical Association. (2005). Family doctor week. Retrieved October 22, 2008, from <http://www.bcma.org/files/FDWRRelease.pdf>
- BC Medical Association. (2007). Physicians speak up. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/media/Conversation_on_Health_BCMA.pdf
- BC Ministry of Health. (2004a). Health authorities. Retrieved June 8, 2005, from <http://www.healthservices.gov.bc.ca/socsec/index.html>
- BC Ministry of Health. (2007a). Primary health care charter: a collaborative approach. Retrieved October 23, 2008, from http://www.health.gov.bc.ca/phc/pdf/phc_charter.pdf

- BC Ministry of Health. (2007b). BC healthguide program supports better health decisions. Retrieved October 7, 2008, from http://www2.news.gov.bc.ca/news_releases_2005-2009/2007HEALTH0013-000165.pdf
- BC Ministry of Health. (2007c). Patients to benefit through health innovation funding. Retrieved September 7, 2008, from http://www.vch.ca/news/docs/2007_08_02_iFunding.pdf
- BC Ministry of Health. (2007d). Conversation on health – health care by the numbers. Retrieved November 14, 2007, from http://www.bcconversationonhealth.ca/EN/health_by_numbers/
- BC Nurses' Union. (2007). BC nurses' union submission to the conversation on health. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/media/BCNU_Brief_to_COH.pdf
- BC Stats, Health Data Warehouse and BC Ministry of Health Services. (2007). Population estimates (1986-2006) and projections (2007-2036) by BC STATS, Service.
- BC Stats, Service BC, BC Ministry of Labour and Citizens' Services. (2008) Population estimates (1986-2007) and projections (2007-2036). Retrieved June 12, 2008, from <http://www.bcstats.gov.bc.ca/data/pop/pop/dynamic/PopulationStatistics/Query.asp?category=Health&type=HS&topic=Estimates&agegroup=Standard&subtype=®ion=31&year=2004&agegroup=totals&gender=a&output=browser&rowsperpage=100>
- Bernstein, E., Bernstein, J., Lowe, R.A., Crowder, V.R., Kellermann, A.L., Lowenstein, S.R., et al. (1997). Timely access to health care: the critical role of EM. Retrieved May 13, 2005, from <http://www.saem.org/inform/access.htm>
- Beveridge, R., Clarke, B., Janes, L., Savage, N., Thompson, J., Dodd, G., Murray, M., Jordan, C.N., Warren, D., and Vadeboncoeur, A. (1998). Implementation Guidelines for the Canadian Emergency Department Triage & Acuity Scale (CTAS). Retrieved January 29, 2005, from <http://www.caep.ca/002.policies/002-docs/ctased16.doc>
- Bianco, A., Pileggi, C., and Angelillo, I.F. (2003). Non-urgent visits to a hospital emergency department in Italy. *Public Health* 117(4): 250-255. Retrieved June 17, 2005, from Elsevier Inc.
- Boushy, D., and Dubinsky, I. (1999). Primary care physician and patient factors that result in patients seeking emergency care in a hospital setting: the patient's perspective. *Journal of Emergency Medicine* 17(3):405-12. Retrieved November 15, 2007, from Elsevier Science Ltd.
- Brand, C., Kennedy, M., MacBean, C., Sundararajan, V., and Taylor, D. (2005). Patients who 'leave without being seen' (LWBS) from an emergency department. Retrieved January 13, 2008, from <http://www.health.vic.gov.au/emergency/lwbs.pdf>
- Burnett, M.G., and Grover, S.A. (1996). Use of the emergency department for nonurgent care during regular business hours. *Canadian Medical Association Journal* 154 (9): 1345-1351. Retrieved December 20, 2004, from http://www.cmaj.ca/cgi/content/abstract/154/9/1345?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=grover&andorexactfulltext=and&searchid=1108441998547_6421&stored_search=&FIRSTINDEX=0&sortspec=relevance&resourcetype=1&journalcode=cmaj

- Campbell, K.M., Silver, R.W., Hoch, J.S., Østbye, T., Stewart, M., Barnsley, J., Hutchison, B., Mathews, M., and Tyrrell, C. (2005). Re-utilization outcomes and costs of minor acute illness treated at family physician offices, walk-in clinics, and emergency departments. *Canadian Family Physician* 51:82-3. Retrieved September 20, 2007, from <http://www.cfpc.ca/cfp/2005/Jan/vol51-jan-research-3.asp>
- Canadian Association of Emergency Physicians. (2003). Access to acute care in the setting of emergency department overcrowding. *Canadian Journal of Emergency Medicine* 5(2):1-9. Retrieved January 10, 2005 from <http://www.caep.ca/002.policies/002-01.guidelines/overcrowding-march2003.htm>
- Canadian Association of Emergency Physicians. (2000). Position statement - emergency department overcrowding. Retrieved April 7, 2005, from <http://www.caep.ca/002.policies/002-docs/caep-overcrowding.pdf#search='nonurgent%20Patients%20who%20leave%20emergency%20room'>
- Canadian Association of Emergency Physicians. (n.d.). Emergency Department Overcrowding. Retrieved August 19, 2008 from <http://www.caep.ca/template.asp?id=C66C924CF39543D9AF7E62BAB1A67835>
- Canadian Association of Emergency Physicians and National Emergency Nurses Affiliation. (2001). Joint position statement on emergency department overcrowding. *Canadian Journal of Emergency Medicine* 3(2). Retrieved July 30, 2008, from <http://www.caep.ca/page.asp?id=8C4EABCDE66146658B90444689BAFD72>
- Canadian Institute for Health Information. (2005). Understanding emergency department wait times: who is using emergency departments and how long are they waiting? Retrieved October 1, 2007, from http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=download_form_e&cw_sku=WAITTIMEREPORTPDF&cw_ctt=1&cw_dform=N
- Carrasquillo, O., Orav, E.J., Brennan, T.A., and Burstin, H.R. (1999). Impact of language barriers on patient satisfaction in an emergency department. *Journal of General Internal Medicine* 14(2):82-7. Retrieved November 20, 2007, from PubMed
- CBC News. (2007). Health authority eases pain of budget cuts. Retrieved June 25, 2008, from <http://www.cbc.ca/canada/british-columbia/story/2007/01/17/bc-vcha.html>
- City of Richmond. (n.d.). About Richmond Profile. Retrieved March 14, 2005, from <http://www.richmond.ca/discover/about/profile.htm>
- City of Richmond. (2003). Hot facts. Retrieved June 8, 2005, from http://www.richmond.ca/_shared/assets/pp_hf_256259.pdf
- Coleman, P., Irons, R., and Nicholl, J. (2001). Will alternative immediate services reduce demands for non-urgent treatment at accident and emergency? *Emergency Medicine Journal* 18:482-487. Retrieved April 6, 2005, from http://emj.bmjournals.com/cgi/content/full/18/6/482?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=Will+alternative+immediate+services+reduce+demand+for+non-urgent+treatment+at+a&andorexactfulltext=and&searchid=1112856732615_3&stored_search=&FIRSTINDEX=0&sortspec=relevance&resourcetype=1&journalcode=emermed

- College of Physicians and Surgeons of BC. (n.d.). Physician Directory. Retrieved June 8, 2005, from https://www.cpsbc.ca/cps/physician_directory/search.do
- Cooke, M.W., Arora, P., and Mason, S. (2003). Discharge from triage: modelling the potential in different types of emergency department. *Emergency Medicine Journal* 20:131-133. Retrieved June 17, 2005, from http://emj.bmjournals.com/cgi/content/full/20/2/131?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=non-urgent&andorexactfulltext=and&searchid=1118997142898_95&stored_search=&FIRSTINDEX=10&sortspec=relevance&resourcetype=1&journalcode=emermed
- Cunningham, P., Clancy, C., Cohen, J., and Wilets, M. (1995). The use of hospital emergency departments for non-urgent health problems: a national perspective. *Medical Care Research Review* 52(4): 453-474. Retrieved November 15, 2007, from Sage Publications
- Dale, D., Green, J., Reid, F., and Glucksman, E. (1995). Primary care in the accident and emergency department: Prospective identification of patients. *British Medical Journal* 311(12):423-426. Retrieved April 6, 2005, from <http://bmj.bmjournals.com/cgi/content/abstract/311/7002/423>
- Dale, J. (1992). Primary care: the old bugbear of accident and emergency services. *British Journal of General Practice*. March 42(356): 90-91. Abstract retrieved November 20, 2007, from PubMed
- Delaney, S.M. (2002). Emergency and acute care system – background research part I. Retrieved April 6, 2005, from <http://www.nihp.org/Reports/EACS-Research1.htm>
- Derlet, R.W., Kinser, D., Ray, L., Hamilton, B., and McKenzie, J. (1995). Prospective identification and triage of nonemergency patients out of an emergency department. *Annals of Emergency Medicine* 25: 215-223. Retrieved December 27, 2008, from Elsevier Science LTD
- Eggertson, L. (2004). ED problems result of bed shortages, doctors contend. *Canadian Medical Association Journal* 170 (11): 1653-1654. Retrieved December 26, 2008, from http://www.cmaj.ca/cgi/content/full/170/11/1653?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=Eggertson+&fulltext=ED+problems+result+of+bed+shortages%2C+doctors+contend&andorexactfulltext=and&searchid=1112856985442_50&stored_search=&FIRSTINDEX=0&sortspec=relevance&resourcetype=1&journalcode=cmaj
- Elections Canada. (n.d.). Cost of last referendum - plebiscite. Retrieved July 22, 2008, from http://www.elections.ca/loi/com2000/Statistics/sta03_e.html
- Fayerman, P. (2007, August 23). Medical user-fee motion vote narrowly fails. *Vancouver Sun*. Retrieved July 7, 2008, from <http://www.canada.com/globaltv/national/story.html?id=2c616914-1b81-4270-ab3b-497c8a4c2962&k=74472>
- Field, S., and Lantz, A. (2006). Emergency department use by CTAS levels IV and V patients. *Canadian Journal of Emergency Medicine* 8(5):317-22. Retrieved September 21, 2007, from <http://caep.ca/template.asp?id=6040333037C14AA2B9FDC1B0ABF997C4>

- Florence, C.S. (2005). Nonurgent care in the emergency department: can we save by shifting the site of care? *Annals of Emergency Medicine*. Retrieved December 10, 2005, from http://www2.us.elsevierhealth.com/scripts/om.dll/serve?action=searchDB&searchDBfor=art&artType=fullfree&id=as0196064405000028&special=hilite&query=%5Ball_fields%5D%28non-urgent%2C%29
- Galdas, P.M., Cheater, F., and Marshall, P. (2005). Men and health help-seeking behaviour: literature review. *Journal Advanced Nursing* 49(6):616-23. Abstract retrieved from PubMed.
- Gill, J.M., and Riley, A.W. (1996). Nonurgent use of hospital emergency departments: urgency from the patient's perspective. *Journal of Family Practice*. Retrieved April 6, 2005, from http://www.findarticles.com/p/articles/mi_m0689/is_n5_v42/ai_18314619
- Goldman, R.D., Macpherson, A., Schuh, S., Mulligan, C., and Pirie, J. (2005). Patients who leave the pediatric emergency department without being seen: a case-control study. *Canadian Medical Association Journal* 172(1):39-43. Abstract retrieved November 20, 2007, from PubMed.
- Goodacre, S., and Webster, A. (2005). Who waits longest in the emergency department and who leaves without being seen? *Emergency Medicine Journal* 22:93-96. Retrieved June 17, 2005, from http://emj.bmjournals.com/cgi/content/abstract/22/2/93?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=non+urgent+waiting&andorexactfulltext=and&searchid=1118996204544_90&stored_search=&FIRSTINDEX=0&sortspec=relevance&resource=1&journalcode=emermed
- Grossman, L.K., Rich, L.N., and Johnson, C. (1998). Decreasing nonurgent emergency department utilization by medicaid children. *Pediatrics* 102 (1):20-24. Retrieved January 23, 2005, from <http://pediatrics.aappublications.org/cgi/reprint/102/1/20>
- Gutherz, C., and Bacon, S. (2001). Why patients with primary care physicians use the emergency department for non-urgent care. *Journal of Biology & Medicine* 18(4): 171-176. Retrieved February 12, 2005, from EBSCO Academic Elite.
- Guttman, N., Zimmerman, D.R., and Nelson, M.S. (2003). The Many faces of access: reasons for medically nonurgent emergency department visits. *Journal of Health Politics, Policy and Law* 28(6):1089. Retrieved March 21, 2005, from ABI Inform.
- Hampers, L.C., Cha, S., Gutglass, D.J., Binns, H.J., and Krug, S.E. (1999). Fast track and the pediatric emergency department: resource utilization and patient outcomes. *Academic Emergency Medicine* 6(11): 1153-1159. Retrieved July 28, 2008, from <http://www3.interscience.wiley.com/cgi-bin/fulltext/119828330/PDFSTART>
- Health Canada. (2004a). Canada health act – overview. Retrieved October 22, 2008, from <http://www.hc-sc.gc.ca/hcs-sss/medi-assur/cha-lcs/overview-apercu-eng.php>
- Health Canada. (2004b). Primary health care transition fund – frequently asked questions. Retrieved October 22, 2008, from <http://www.hc-sc.gc.ca/hcs-sss/prim/phctf-fassp/faq/index-eng.php>
- Health Canada. (2006). British Columbia provincial/territorial envelope. Retrieved October 22, 2008 from, http://www.apps.hc-sc.gc.ca/hcs-sss/prim/phctf-fassp/pchtf.nsf/WebProject_E/0002?OpenDocument

- Hospital Employees' Union. (2007). HEU submission to B.C.'s conversation on health. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/media/HEU_Submission_to_Conversation_on_Health.pdf
- Hutchison, B. (2000). The place of walk-in clinics in healthcare systems. *British Medical Journal* 321: 909-910. Retrieved January 19, 2005, from http://bmj.bmjournals.com/cgi/reprint/321/7266/909?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=hutchison&fulltext=walk-in+clinics&andorexactfulltext=and&searchid=1108436223451_25748&stored_search=&FIRSTINDEX=0&sortspec=relevance&resourcetype=1
- Impact BC. (n.d.). Practice support program. Retrieved October 13, 2008, from <http://www.impactbc.ca/practicesupport>
- Irvin, C., Fox, J., and Smude, B. (2003). Are there disparities in emergency care for uninsured, medicaid, and privately insured patients? *Academic Emergency Medicine* 10(11):1271-1277. Retrieved January 4, 2005, from Wiley-Blackwell
- Ittu, R.L., McCusker, J., Ciampi, A., Vadeboncoeur, A.M., Roberge, D., Larouche, D., Verdon, J., and Pineault, R. (2007). Continuity of primary care and emergency department utilization among elderly people. *Canadian Medical Association Journal* 177(11):1362-8. Retrieved June 11, 2008, from <http://www.cmaj.ca/cgi/content/full/177/11/1362>
- Jones, M. (2000). Walk-in primary medical care centres: lessons from Canada. *British Medical Journal* 321: 928-931. Retrieved February 1, 2005 from http://bmj.bmjournals.com/cgi/reprint/321/7266/928?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=jones&fulltext=walk-in+primary+medical+&andorexactfulltext=and&searchid=1108441407041_26460&stored_search=&FIRSTINDEX=0&sortspec=relevance&resourcetype=1
- Lang, T., Davido, A., Diakite, B., Agay, E., Viel, J.F., and Flicoteaux, B. (1996). Non-urgent care in the hospital medical emergency department in France: how much and which health needs does it reflect? *Journal of Epidemiology and Community Health* 50(4):456-62. Abstract retrieved December 26, 2008, from <http://jech.bmj.com/cgi/content/abstract/50/4/456>
- Laursen, M.B., and Jensen, H.P. (1999). Many patients treated in the emergency department could be treated by a general practitioner on call. *Ugeskr Laeger* 161(33):4624-4627. Abstract retrieved February 9, 2005, from PubMed
- Law, C.K., and Yip, P.S. (2002). Acute care service utilisation and the possible impacts of a user-fee policy in Hong Kong. *Hong Kong Medical Journal* 8 (5): 348-53. Retrieved March 21, 2005, from Academic Search Elite
- Lee, A., Lau, F.L., Hazelett, C.B., Kam, C.W., Wong, P., Wong, T.W., and Chow, S. (2000). Factors associated with non-urgent utilization of accident and emergency services: a case-control study in Hong Kong. *Social Science & Medicine* 51(7): 1075-1085. Retrieved July 13, 2005, from Elsevier Science Ltd.
- Manitoba Health. (n.d.). Advanced access initiative. Retrieved September 24, 2008, from <http://www.gov.mb.ca/health/phc/advanced.html>

- Massachusetts Health Policy Forum. (2001). Emergency department overcrowding in Massachusetts: making room in our hospitals. Retrieved April 6, 2005, from <http://www.forumsinstitute.org/pubs/mass/ers2001.pdf#search='Emergency%20Department%20overcrowding%20in%20massachusetts%3A%20making%20room%20in%20our%20hospitals>
- McLain, J.K., Price, D.W., Weiss, B., Quinn, A.A., Honigman, B., and Colo, D. (2000). Seeking care for nonurgent medical conditions in the emergency department: through the eyes of the patient. *Journal of Emergency Nursing* 26: 554-63. Retrieved April 6, 2005, from Elsevier Science Ltd.
- Merritt, B., Naamon, E., and Morris, S. (2000). The influence of an urgent care center on the frequency of the ed visits in an urban hospital setting. *American Journal of Emergency Medicine* 18(2):123-125. Retrieved February 14, 2005, from Elsevier Science Ltd.
- Miller, G.B., and Nantes S. (1989). Walk-in Clinics and Primary Care: Review of the Literature. *Canadian Family Physician* 35: 2019–2022. Retrieved August 22, 2008, from <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2280919>
- Michelle, T.A. (1994). Non-urgent emergency department visits – whose definition? *Annals of Emergency Medicine* 24: 961-963. Retrieved October 2, 2004, from Elsevier Science Ltd
- Mohsin, M., Forero, R., Ieraci, S., Bauman, A.E., Young, L., and Santiano, N. (2007). A population follow-up study of patients who left an emergency department without being seen by a medical officer. *Emergency Medical Journal* 24(3):175-9. Abstract retrieved November 15, 2007, from PubMed.
- Moritz, M., and Ahuja, J. (2005). Orleans urgent care centre: a model of care. Submitted to senator Wilbert Keon on January 5, 2005.
- Murray, M., and Tantau, C. (2000). Same-day appointments: exploding the access paradigm. *Family Practice Management*. Retrieved September 24, 2008, from <http://www.aafp.org/fpm/20000900/45same.pdf>
- Northington, W.E., Brice, J.H., and Zou, B. (2005). Use of an emergency department by nonurgent patients. *American Journal of Emergency Medicine* 23: 131-137. Retrieved April 6, 2005, from Elsevier Science LTD.
- Nyström, M., Nydén, K., and Petersson, M. (2003). Being a non-urgent patient in an emergency care unit - a strive to maintain personal integrity. *Accident and Emergency Nursing* 11: 22–26. Retrieved April 6, 2005, from Elsevier Science Ltd.
- Ontario Hospital Association and the Government of Ontario. (2003). Hospital report 2003: emergency department care. Retrieved April 6, 2005, from <http://www.hospitalreport.ca/pdf/2003/2003EDFullReportRev.pdf>
- Padgetta, D.K., and Brodsky, B. (1992). Psychosocial factors influencing non-urgent use of the emergency room: a review of the literature and recommendations for research and improved service delivery. *Social Science and Medicine* 35(9): 1189-1197. Retrieved June 30, 2005, from Elsevier Science Ltd.

- Petersen, L.A., Burstin, H.R., O'Neil, A.C., Orav, E.J., and Brennan, T.A. (1998). Non-urgent emergency department visits: the effect of having a regular doctor. *Medical Care* 36(8):1249-1255. Abstract retrieved November 16, 2007, from <http://www.lww-medicalcare.com/pt/re/medcare/abstract.00005650-199808000-00012.htm;jsessionid=H9TpvhktbJgJkzKDv0b4JNDRtDDDFGTGG4BWM2xptkmZXhGpXnJhN!1600246195!181195629!8091!-1>
- Phelps, K., Taylor, C., Kimmel, S., Negal, R., Klien, W., and Puczynski, S. (2000). Factors associated with emergency department utilization for non-urgent pediatric problems. *Archives of Family Medicine* 9: 1086-1092. Retrieved January 15, 2005, from <http://archfami.ama-assn.org/cgi/content/full/9/10/1086?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=Factors+associated+with+emergency+department+utilization+for+non-urgent+pediatric+problems&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>
- Province of British Columbia. (n.d.a). Conversation on health – home. Retrieved November 22, 2008, from <http://www.bcconversationonhealth.ca/EN/home/>
- Province of British Columbia. (n.d.b). Conversation on health: the online discussion – question 10. Retrieved September 7, 2008, from http://www.bcconversationonhealth.ca/EN/the_online_discussion/the_online_discussion_-_question_10/
- Province of British Columbia. (n.d.c). Conversation on health - Canada health act and its principles. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/EN/envisioning_a_strong_and_sustainable_system_of_care/canada_health_act_and_its_principles/#faqItem5745-2
- Province of British Columbia. (n.d.d). Conversation on health - health care web polls results. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/EN/health_care_web_polls/health_care_web_poll_results/
- Province of British Columbia. (n.d.e). Conversation on health – access. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/EN/envisioning_a_strong_and_sustainable_system_of_care/access/#faqItem5756-1
- Province of British Columbia. (n.d.f). Conversation on health - health care web polls more input from British Columbians results. Retrieved October 22, 2008, from http://www.bcconversationonhealth.ca/EN/health_care_web_polls/health_care_web_polls_more_input_from_british_columbians_results/
- Provincial Medical Education Plan. (2001). Meeting BC's needs for physicians: a discussion paper describing a vision for medical education in British Columbia. Retrieved October 22, 2008, from <http://www.publicaffairs.ubc.ca/media/releases/2001/mr-01-08b.pdf>
- Rajpar, S.F., Smith, M.A., and Cooke, M.W. (2000). Study of choice between accident and emergency departments and general practice centres for out of hours primary care problems. *Emergency Medicine Journal* 17:18-21. Retrieved February 22, 2005, from <http://emj.bmjournals.com/cgi/content/full/17/1/18>

- Richardson, L.D., and Hwang, U. (2001). Access to care: a review of the emergency medicine literature. *Academic Emergency Medicine* 8(11):1030-6. Abstract retrieved June 30, 2005, from <http://www.aemj.org/cgi/content/abstract/8/11/1030>
- Richmond Health Service. (2001a). Richmond health service. Retrieved June 8, 2005, from http://www.rhss.bc.ca/bins/content_page.asp?cid=108
- Richmond Health Services. (2001b). Health services and programs. Retrieved June 8, 2005, from http://rhslive.clarity.ca/bins/content_page.asp?cid=106
- Richmond Health Services. (n.d.a). Family physicians. Retrieved June 8, 2005 from http://www.richmondhealth.ca/data/1/rec_docs/189_New%20Patients.xls
- Richmond Health Services. (n.d.b). Richmond hospital. Retrieved June 8, 2005, from http://www.richmondhealth.ca/bins/content_page.asp?cid=106-133
- Richmond Health Services. (n.d.c). Emergency department. Retrieved June 8, 2005, from http://www.richmondhealth.ca/bins/content_page.asp?cid=106-133-141
- Robinson, D.A. (n.d.). Primary care: what is it? Who provides it? Why does it need to be reformed? Retrieved July 9, 2008, from <http://www.ecms.org/Windsor%20Star%20Articles/Primary%20Care%20is%20Where%20it%20Starts%20-%20Dr.%20Derek%20Robinson.pdf>
- Romanow, R. (2002). Building on values: the future of health care in Canada. Retrieved October 13, 2004, from http://www.hc-sc.gc.ca/english/pdf/romanow/pdfs/HCC_Final_Report.pdf
- Rosenblatt, R.A., Wright, G.E., Baldwin, L.M., Chan, L., Clitherow, P., Chen, F.M., and Hart, L.G. (2000). The effect of the doctor-patient relationship on emergency department use among the elderly. *American Journal of Public Health* 90(1):97-102. Retrieved November 19, 2007, from <http://www.ajph.org/cgi/reprint/90/1/97>
- Saint Mary's Health Care. (2006). What is Triage. Retrieved October 27, 2008, from <http://www.smmmc.org/clinicalservices/emergency/triage.shtml>
- Sanders, J. (2000). A review of health professional attitudes and patient perceptions on 'inappropriate' accident and emergency attendances. The implications for current minor injury service provision in England and Wales. *Journal of Advanced Nursing* 31(5):1097-105. Retrieved November 20, 2007, from Blackwell Synergy
- Sarver, J., and Baker, D.W. (2000). Effect of language barriers on follow-up appointments after an emergency department visit. *Journal of General Intern Medicine* 15(4): 256-264. Retrieved November 20, 2007, from PubMed
- Shactman, D., and Altman, S. (2002). Utilization and overcrowding of hospital emergency departments. Retrieved November 16, 2007, from <http://council.brandeis.edu/pubs/ShactmanED.pdf>
- Shah, N.M., Shah, M.A., and Behbehani, J. (1996). Predictors of non-urgent utilization of hospital emergency services in Kuwait. *Social Science & Medicine* 42(9): 1313-1323. Retrieved from Elsevier Science Ltd.

- Sharma, V., Simon, S.D., Bakewell, J.M., Ellerbeck, E.F., Fox, M.H., and Wallace, D.D. (2000). Factors influencing infant visits to emergency departments. *Pediatrics* 106(5):1031-9. Retrieved June 11, 2008 from <http://pediatrics.aappublications.org/cgi/content/full/106/5/1031>
- Showstack, J. (2005). The costs of providing nonurgent care in emergency departments. *Annals of Emergency Medicine* 45:493-494. Retrieved November 16, 2007, from http://www.usc.edu/schools/sppd/research/healthresearch/images/pdf_reportpapers/cost%20of%20providing%20nonurgent%20care%20in%20ED.pdf
- Smith, R. (2003). Fast-tracking helps emergency health care—report. Retrieved October 7, 2008, from http://www.uofaweb.ualberta.ca/expressnews_template/print.cfm?id=4350
- Society of General Practitioners of British Columbia. (2007). Family practice recommendation for British Columbia's health care system. Retrieved October 22, 200, from http://www.bcconversationonhealth.ca/media/SGP_Conversation%20on%20Health_Submission.pdf
- Solano, P.L., McDuffie, M.J., and Gill, J.M. (2003). Financial benefits of the community health access program: cost savings through reductions of emergency department visits and hospitalizations. Retrieved November 16, 2007, from <http://www.udel.edu/healthserpolresgrp/chapfinalreport.pdf>
- Solberg, L.I., Maciosek, M.V., Sperl-Hillen, J.M., Crain, L., Engebretson, K., Asplin, B.R., and O'Connor, P.J. (2004). Does improved access to care affect utilization and costs for patients with chronic conditions? *American Journal of Managed Care* 10:717-722. Retrieved October 24, 2004 from <http://www.americanjournalofmanagedcare.com/article.cfm?ID=2718>
- Standing Senate Committee on Social Affairs, Science and Technology. (2002). The health of Canadians – the federal role. volume six: recommendations for reform. Retrieved February 26, 2005, from <http://www.parl.gc.ca/37/2/parlbus/commbus/senate/com-e/soci-e/rep-e/repoct02vol6highlights-e.htm#CHAPTER%20FOUR>
- Statistics Canada. (2001). Life expectancy. Retrieved June 8, 2005, from http://www.statcan.ca/english/freepub/82-221-XIE/2004002/tables/html/1431_01.htm
- Statistics Canada. (2002). The daily. Retrieved June 8, 2005, from <http://www.statcan.ca/Daily/English/020704/d020704b.htm>
- Stenstrom, R., Grafstein, E., Innes, G., and Christenson, J. (2003). The predictive validity of the Canadian triage and acuity scale (CTAS). *Canadian Journal of Emergency Medicine* 5(3):179-209. Retrieved July 10, 2005, from <http://www.caep.ca/004.cjem-jcmu/004-00.cjem/vol-5.2003/v53.179-209.htm>
- Steele, J. (1995). Inappropriate the patient or the service? *Accident and Emergency Nursing* 3: 146-149. Retrieved December 27, 2008, from Elsevier Science LTD.
- The Commonwealth Fund. (2004). New commonwealth fund survey spotlights strengths and gaps of health care systems in U.S., Canada, the U.K. and other nations. Retrieved July 28, 2008, from http://www.commonwealthfund.org/newsroom/newsroom_show.htm?doc_id=244495

- Urgent Care Association of America. (2008, July 9). In Wikipedia, The Free Encyclopedia. Retrieved July 9, 2008, from http://en.wikipedia.org/w/index.php?title=Urgent_Care_Association_of_America&oldid=224496540
- Urgent Care Association of America. (2008). Urgent care centers by state. Retrieved July 9, 2008, from http://www.ucaoa.org/buyers/ucaoa_orgs.php
- Urgent Care Association of America. (n.d.). Urgent care: compliment to primary care. Retrieved July 28, 2008, from <http://www.ucaoa.org/urgentcare.html>
- Vancouver Airport Authority. (n.d.). Who we are. Retrieved August 22, 2008, from <http://www.yvr.ca/authority/whoweare>
- Vancouver Coastal Health. (2002). Questions and answers on the primary health care transition fund December 2002. Retrieved November 19, 2008, from http://www.vch.ca/professionals/docs/phcn/phc_questions_answers.pdf
- Vancouver Coastal Health. (2007). VCH Innovation Fund Projects. Retrieved July 3, 2008, from http://www.vch.ca/news/docs/2007_08_02_iFundbg.pdf
- Vancouver Coastal Health. (2008a). Community health and urgent care centre - Richmond health services (primary health care access centre).
- Vancouver Coastal Health. (2008b). Richmond community health and urgent care centre (CHUCC) - finance & audit committee. [Power Point Slides]. VCH Confidential/Internal.
- Vancouver Coastal Health. (n.d.a). About us our vision & role. Retrieved June 8, 2005, from http://www.vch.ca/about_us/about_us_vision_and_role.htm
- Vancouver Coastal Health. (n.d.b). Practice support program. Retrieved October 13, 2008, from http://www.vch.ca/professionals/docs/phcn/practice_supp.pdf
- Vertesi, L. (2004). Does the Canadian emergency department triage and acuity scale identify non-urgent patients who can be triaged away from the emergency room? *Canadian Journal of Emergency Medicine* 6(5) p. 337-342. Retrieved on December 26, 2008, from <http://caep.ca/template.asp?id=1D03AE99708B40E19ED270F9212D7672>
- Warren, B.H. and Isikoff, S.J. (1993). Comparative costs of urgent care services in university-based clinical sites. *Archives of Family Medicine* 2:523-528. Retrieved April 7, 2005, from http://archfami.ama-assn.org/cgi/content/abstract/2/5/523?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&fulltext=Comparative+costs+of+urgent+care+services+in+university-based+clinical+sites&searchid=1112859132459_17&stored_search=&FIRSTINDEX=0&journalcode=archfami
- Weinick, R., Billings, J., and Burstin, H. (2002). What is the role of primary care in emergency department overcrowding? Retrieved November 15, 2007, from <http://council.brandeis.edu/pubs/WeinickED.pdf>
- Williams, R.M. (1996). The costs of visits to emergency departments. *New England Journal of Medicine* 334(10):642-6. Abstract retrieved September 21, 2007, from <http://content.nejm.org/cgi/content/abstract/334/10/642>

- Yoon, P. (2003). Alberta heritage foundation for medical research: emergency department fast-track system. Retrieved April 6, 2005, from <http://www.ahfmr.ab.ca/hta/hta-publications/initiatives/HTA-FR10.pdf#search='The%20Emergency%20Department%20%28ED%29%20FastTrack%20System%20study%20by%20Dr.%20Philip%20Yoon'>
- Young, G.P., Wagner, M.B., Kellerman, A.L., Ellis, J., and Bouley, D. (1996). Ambulatory visits to hospital emergency departments. *Journal of the American Medical Association* 276(6): 460-465.