Unplanned readmissions to BC hospitals: How can understanding patient experiences and health system expert information drive rate reduction policy?

by
Melodie Anne Kathleen Carew

B.Sc., University of Toronto, 2013

Project Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Public Policy

in the School of Public Policy Faculty of Arts and Sciences

© Melodie A. K. Carew 2019

SIMON FRASER UNIVERSITY Spring 2019

Copyright in this work rests with the author. Please ensure that any reproduction or re-use is done in accordance with the relevant national copyright legislation.
Approval

Name: Melodie Anne Kathleen Carew
Degree: Master of Public Policy
Title: Unplanned readmissions to BC hospitals: How can understanding patient experiences and health system expert information drive rate reduction policy?
Examing Committee: Chair: Dominique Gross
Professor
Doug McArthur
Senior Supervisor
Professor
Olena Hankivsky
Supervisor
Professor
Nancy Olewiler
Internal Examiner
Professor

Date Defended/Approved: April 1, 2019
Ethics Statement

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, collaborator, or research assistant in a research project approved in advance.

A copy of the approval letter has been filed with 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.

Simon Fraser University Library
Burnaby, British Columbia, Canada

Update Spring 2016
Abstract

British Columbia’s patients experience more unplanned readmissions to hospitals than the Canadian average. These experiences are problematic for the patient and health system alike. Readmissions increase patients’ health risks and result in budgetary and efficacy costs to the health system. While progress has been made to isolate risk factors and target interventions, Canada’s rates continue to increase with BC and Saskatchewan’s rates the highest of the provinces. Through a review of the literature, interviews with health system experts including readmission researchers, and by conducting a survey targeted to patients with lived readmission experiences, this study seeks to locate and address the most fundamental and actionable drivers of the problem. Best practices for reducing readmission rates are reviewed across relevant criteria and priority practices are selected from these. Resolving preventable readmissions requires recognition of the impacts on care quality that the lack of integration within the provincial health system’s processes creates.

Keywords: unplanned readmissions; integration of care services; coordination across care settings; communication guidelines; information transfer; best practices
Dedication

This document is dedicated to my grandmothers Kathleen and Jeanette.
Acknowledgements

I would like to express my deep gratitude to Doug McArthur, my research supervisor, for his guidance, enthusiastic encouragement and helpful critiques throughout this process. It was an honour to benefit from such immense knowledge and experience in Public Policy, and a pleasure to be in his company.

I would also like to thank Nancy Olewiler, my internal examiner, for her incisive comments, which helped to strengthen the conclusions in this document, as well as Professors Daniel Savas and Olena Hankivsky for their indispensable advice on the development and implementation of “The Patients’ Readmission Survey”.

My grateful thanks extend to all of the interview participants and survey respondents for taking the time to share their insights and perspectives about the topic of my investigation.

I would also like to express my thanks to Alanna Dyck from the Office of Research Ethics who assisted me through my participant recruitment challenges, and to the staff of the SFU Research Commons for their helpful programs and services. I am especially grateful to Catherine Louie for her patient and knowledgeable assistance in formatting this document.

Finally, I wish to extend thanks to my brothers: Clinton and Adam, for their encouraging words and for their tremendous help in proofreading this very long document. To my biggest fan, my mother, for being at my defense, (literally this time!) and for finding a typo that neither eye nor algorithm had noticed, and to my cheerleaders, the Lefebvre sisters, for providing a refuge from the ravages of graduate school. I would be remiss not to mention that without my father’s herculean effort to elevate his family from poverty I might not be here, achieving this goal. My love and admiration to you, sir.
# Table of Contents

Approval ............................................................................................................................................................................. ii
Ethics Statement ................................................................................................................................................................. iii
Abstract ................................................................................................................................................................................ iv
Dedication ............................................................................................................................................................................. v
Acknowledgements .............................................................................................................................................................. vi
Table of Contents ............................................................................................................................................................. vii
List of Tables ........................................................................................................................................................................ ix
List of Figures ........................................................................................................................................................................ x
List of Acronyms ................................................................................................................................................................. xi
Glossary .................................................................................................................................................................................. xiii
Executive Summary ............................................................................................................................................................ xiv

## Chapter 1. Introduction ..................................................................................................................................................... 1

## Chapter 2. Policy Problem ............................................................................................................................................... 3

2.1. Background ................................................................................................................................................................. 3

2.2. Reducing Readmissions ................................................................................................................................................. 13

2.2.1. Assessing risk .......................................................................................................................................................... 13

2.2.2. Focused care after discharge: The Virtual Ward .................................................................................................. 14

2.2.3. Hospital incentives or penalties ............................................................................................................................. 16

2.2.4. Multiple component approach ............................................................................................................................. 17

2.3. Hypothesis .................................................................................................................................................................... 18

## Chapter 3. Context: B.C’s Health Care Priorities and Agents for “transformative change” .............................................. 19

3.1. The power structure of BC health care .......................................................................................................................... 19

3.1.1. The Service Plan for 2019/20 – 2021/22 .................................................................................................................. 20

3.2. Promising initiatives ......................................................................................................................................................... 22

3.2.1. The Health Data Platform ..................................................................................................................................... 22

3.2.2. Clinical & Systems Transformation ....................................................................................................................... 22

3.2.3. Home is Best investment ....................................................................................................................................... 23

3.3. Agents for Change .......................................................................................................................................................... 23

3.3.1. Patient Care Quality Review Boards: Annual Report 2014/2015 ................................................................. 23

3.3.2. Guidelines and Protocols Advisory Committee ................................................................................................. 24

3.3.3. Accreditation Canada .............................................................................................................................................. 24

## Chapter 4. Research .......................................................................................................................................................... 26

4.1. Analytical Tool: Expert Interviews ............................................................................................................................... 26

4.2. Analytical Tool: The Patient’s Readmission Survey .................................................................................................... 28
Chapter 5. Interview Findings

5.1. “Home care is a critical part of understanding readmission” ........................................ 30
5.2. Communicating across the care continuum .................................................................. 32
5.3. Medication Reconciliation processes ........................................................................... 33
5.4. Methodological issues: Unstandardized use of the metric ........................................... 34
5.5. Utility of the readmission risk-assessment tools .......................................................... 35
5.6. Complex problem, seemingly intractable .................................................................... 35
5.7. Technological solutions ............................................................................................... 36
5.8. Readmission-relevant projects ..................................................................................... 37
5.9. Summary of findings ..................................................................................................... 40

Chapter 6. Findings: Patient Readmission Survey ........................................................... 42

6.1. Selection of questions and responses from the Patients’ Readmission Survey ............ 44

Chapter 7. Criteria & Measures ......................................................................................... 48

Chapter 8. List of Potential Practices .................................................................................. 50

Chapter 9. Practices Matrix ............................................................................................... 53

Chapter 10. Recommended Priority Practices ..................................................................... 58

10.1. How to make an effective Med-rec practice (along with other priority practices) a reality involving a simple technological innovation .................................................. 63

Chapter 11. Conclusion ....................................................................................................... 65

References .......................................................................................................................... 67

Appendix A. The Quadruple Aim (plus One) framework .................................................. 72

Appendix B. Change Management: Lessons and opportunities ........................................ 73

Appendix C. Data: The Patients’ Readmission Survey ......................................................... 78

Appendix D. The Questionnaire ........................................................................................ 94
List of Tables

Table 1. Expert Interviews .................................................................28
Table 2. Patient’s Readmission Survey Advisor demographics .........................43
Table 3. Criteria & Measures ..................................................................48
Table 4. Practices Matrix .......................................................................53
Table 5. Suggested Implementation Practices ..............................................64
List of Figures

Figure 1. The Readmission Pathway.................................................................2
Figure 2. Proportion of all readmissions by ward of index admission (Source: CIHI 2012). ..........................................................6
Figure 3. Average Risk-Adjusted Readmission Rates (with confidence intervals) in the Canadian Provinces 2017-2018; sourced from the CIHI webpage “Your health system: All patients readmitted to hospital” .........................8
Figure 4. Ranked Policy Preferences Question 27b: “The Patient’s Readmission Survey” (1 to 4; or best to worse) ........................................47
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHRQ</td>
<td>Agency for Healthcare Research and Quality</td>
</tr>
<tr>
<td>AI</td>
<td>Artificial intelligence</td>
</tr>
<tr>
<td>AIPCC</td>
<td>Accelerated Integrated Primary &amp; Community Credits</td>
</tr>
<tr>
<td>BCMH</td>
<td>British Columbia Ministry of Health</td>
</tr>
<tr>
<td>BCPCQRB</td>
<td>British Columbia Patient Care Quality Review Boards</td>
</tr>
<tr>
<td>BCSU</td>
<td>BC Support Unit</td>
</tr>
<tr>
<td>CHSA</td>
<td>Community Health Service Areas</td>
</tr>
<tr>
<td>CIHI</td>
<td>Canadian Institute for Health Information</td>
</tr>
<tr>
<td>CIHR</td>
<td>Canadian Institutes of Health Research</td>
</tr>
<tr>
<td>CIO</td>
<td>Chief Information Officer</td>
</tr>
<tr>
<td>CME</td>
<td>Continuing Medical Education</td>
</tr>
<tr>
<td>CML</td>
<td>Care Management Lead</td>
</tr>
<tr>
<td>COPD</td>
<td>Chronic Obstructive Pulmonary Disorder</td>
</tr>
<tr>
<td>CPD</td>
<td>Continuing Professional Development</td>
</tr>
<tr>
<td>CST</td>
<td>Clinical and Systems Transformation</td>
</tr>
<tr>
<td>DAD</td>
<td>Discharge Abstract Database</td>
</tr>
<tr>
<td>EMR</td>
<td>Electronic Medical Records</td>
</tr>
<tr>
<td>FNHA</td>
<td>First Nations Health Authority</td>
</tr>
<tr>
<td>FTE</td>
<td>Full Time Equivalences</td>
</tr>
<tr>
<td>GPAC</td>
<td>Guidelines and Protocols Advisory Committee</td>
</tr>
<tr>
<td>H2H</td>
<td>Hospital to Home</td>
</tr>
<tr>
<td>HRRP</td>
<td>Hospital Readmissions Reduction Program</td>
</tr>
<tr>
<td>ICD-9-CM</td>
<td>International Classification of Diseases, Ninth Revision, Clinical Modification</td>
</tr>
<tr>
<td>IPCC</td>
<td>Integrated Primary and Community Care</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>JCC</td>
<td>Joint Collaborative Committee</td>
</tr>
<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
</tr>
<tr>
<td>PCC</td>
<td>Patient Care Coordinator</td>
</tr>
<tr>
<td>PCH</td>
<td>Providence Health Care</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>PCN</td>
<td>Primary Care Network</td>
</tr>
<tr>
<td>PCQO</td>
<td>Patient Care Quality Offices</td>
</tr>
<tr>
<td>PCQRB</td>
<td>Patient Care Quality Review Board</td>
</tr>
<tr>
<td>PHSA</td>
<td>Provincial Health Services Authority</td>
</tr>
<tr>
<td>ROP</td>
<td>Required Organizational Practice</td>
</tr>
<tr>
<td>SFU</td>
<td>Simon Fraser University</td>
</tr>
<tr>
<td>SMS</td>
<td>Short Message Service</td>
</tr>
<tr>
<td>SPOR</td>
<td>Strategy for Patient-Oriented Research</td>
</tr>
<tr>
<td>STAAR</td>
<td>State Action on Avoidable Readmissions</td>
</tr>
<tr>
<td>VA</td>
<td>Veteran’s Administration (Department of Veteran’s Affairs)</td>
</tr>
<tr>
<td>VCH</td>
<td>Vancouver Coastal Health</td>
</tr>
<tr>
<td>VGH</td>
<td>Vancouver General Hospital</td>
</tr>
</tbody>
</table>
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-Health</td>
<td>The use of mobile phone technology to assist in health care service provision.</td>
</tr>
<tr>
<td>Patient-oriented research</td>
<td>Research focused by patient priorities that engages patients as partners, in order to improve patient outcomes.</td>
</tr>
<tr>
<td>Readmission</td>
<td>The experience of requiring acute care shortly after being discharged from a hospital.</td>
</tr>
</tbody>
</table>
Executive Summary

Unplanned hospital readmissions rates are a costly and troubling health system indicator that persist in Canada and other countries. Readmissions represent 11% of all inpatient costs across Canada and amount to $1.8 Billion in extra health care expenses. Readmissions are associated with increased mortality and morbidity rates and foment patient dissatisfaction. The costs of unplanned hospital readmissions are therefore larger than just the significant financial costs, affecting the public’s perceptions of competence and quality in our health care system.

British Columbia’s readmission rate of 9.7% is higher than the Canadian average of 9.1%. To consider what can be done to reduce B.C.’s rate, this study examines the body of international and domestic literature that focuses on patient, community and hospital-specific factors. In the Canadian Institute of Health Information’s analysis of the Discharge Abstract Database, a collection of administrative data about admissions and readmissions from reporting hospitals across the country, myriad readmission factors have been located. Their data analysis reveals that older age, male gender, co-morbid diagnoses, and certain chronic diseases are associated with higher readmission rates. A patient’s use of acute care in the six months prior to admission is also strongly and positively associated with an increased risk for readmission. Recognizing the diversity of these patient characteristics, this study focused on finding a unified theory for the policy problem that could assist in developing improvements to common readmission responsive conditions across all of these categories.

The literature on hospital and community factors provided the insight that both discharging practices and community health resources were relevant factors in considering readmission rates. Recent Canadian research, that compared outcomes for older adults based on their care pathway, illuminated a potential deficit in coordination between hospital, homecare and long-term care. Other research has recently revealed that the largest proportion of readmissions for readmitting patients from a large hospital in the Vancouver Coastal Health Authority, were deemed to have been the result of inadequate communication between hospital, primary and community care providers involved in the readmitted patient’s circle of care.
Still other findings advanced a hypothesis that dual-deficits in communication and coordination were the main issue for readmissions. Complimentary findings emerged from the expert interviews with health system clinicians, researchers, and managers in this study. In regular practice, discharge summaries and focused discharge planning are not routine. Neither is it a widespread practise to deliver timely discharge summaries to the primary or community care clinic involved in the patient’s health. Improving discharge practices, follow-up services and care coordination across the care continuum have also been the subject of recommendations and standards requirements for accreditation as discovered through the interview findings and supplemented by grey literature.

In keeping with a Quadruple Aim (plus one) approach to health policy questions that considers patients’ and caregivers’ experiences and preferences, along with cost containment and other concerns, this study designed and implemented a targeted online questionnaire called “The Patient’s Readmission Survey”. Using a mixed-methods design, this survey probed the patient’s experience of readmission asking what the respondent could recall about the details and their impressions of their experience. They conveyed feelings of frustration and concern as they related their readmission stories, expressing a desire for better communication in their health care interactions.

This study recommends a set of four priority practices that address the communication and care coordination deficits that underlie BC’s high readmission rates be implemented without delay, and proposes a technological solution that can assist in achieving readmission rate reduction as the goal in this bundled approach.
Chapter 1. Introduction

An unplanned readmission to acute care occurs when a recently discharged patient, whose health was presumed to have been stabilized prior to their previous discharge, returns to the hospital for urgent care (Shuster, Hurlburt, Yung, Wan, Staples, & Tam, 2018). The readmission event can be envisioned as a series of two (or more) hospital visits with the condition that the second (or consecutive) visit(s) was/were unintended and not a scheduled or elective care episode (See Figure 1). Qualifiers, such as how recent, and whether the second admission was preventable and unplanned, are considerations for administrative (or research) staff in recording and reporting incidences of “unplanned readmission” (Shuster et. al, 2018). Benchmarks for a “recent” discharge are set at either 28, or 30-days, between first (index) and second hospitalization with 30-days as the most common measure found in the literature and used in British Columbia (CIHI 2012; Shuster, Hurlburt, Tam, & Staples, 2018).

Unplanned readmissions are a costly inconvenience for admitting staff, clinicians and patients alike, occurring for almost 10% of the admitted patients in Canada (CIHI 2016). British Columbia hospitals have higher rates than all other provinces except Saskatchewan. Recent research indicates that the problem persists and remains interesting to clinicians and academics for what it might reveal about gaps in the provincial health system (Shuster, Hurlburt, Tam, & Staples, 2018). Multiple studies suggest that readmission rate factors may be mitigated (Bradley et al., 2015; Donzé, Aujesky, Williams, & Schnipper, 2013; Epstein, 2009). When rate reductions follow interventions, researchers accept this as evidence that those districts or hospital groups have made effective changes in their procedures around readmission related processes (Bradley et al., 2015; CIHI, 2012).
This study examines the dimensions of the readmission problem by reviewing the literature and supplementing gaps in knowledge with expert interviews from hospital staff, researchers, health policy analysts, and patients who have lived experience with unplanned readmission. Currently too many B.C. patients are experiencing the inconvenience, trauma and adverse health outcomes that an unplanned readmission to acute hospital care can portend.

Figure 1. The Readmission Pathway

Legend
A: Index admission to urgent care
...: 30-days (or similar)
B: Readmission to urgent care

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Triage</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Treatment</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Discharge</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 2. Policy Problem

2.1. Background

“Readmission to hospital within 30 days”: A health system performance indicator

The performance of a health system is measured by its capacity to produce optimal outcomes in certain indicators (Najafizada, Sivanandan, Hogan, Cohen, & Harvey, 2017). In their scoping review of studies on Canada’s ranking over various measures of health system performance, Najafizada, Sivanandan, Hogan, Cohen, & Harvey (2017), report that Canada received an overall B grade and was considered “middle of the pack”. Given the high cost associated with delivering publicly funded health care in Canada, and with national spending higher than the OECD average (Anderson & Hussey, 2001), performance measures are useful for both economic and political considerations. The readmission indicator functions within our national health system performance frameworks. For the purposes of health system managers and point-of-care workers, the rate may be used to benchmark improvements based on shared best-practices, in the policy learning ideal described by Nazafizada and colleagues (2017; “Enhancing Pan-Canadian Health System Performance Reporting at CIHI,” 2013).

The indicator “readmission within 30 days post-discharge” came to prominence as a performance measure in 2009 after an American study concluded that unplanned readmissions were a substantial drain on health care resources (Donzé, Aujesky, Williams, & Schnipper, 2013; Shuster, Hurlburt, Tam, & Staples, 2018). Since that time, readmission rates have been used as an indicator of health system performance in Canada, the US, and the UK (Shuster, Hurlburt, Tam, & Staples, 2018). Nonetheless, despite a surge of attention to the readmission rate problem in the past decade, Canada’s average rate has increased by 7% since the first figures were reported (CIHI, 2016; CIHI, 2012).
Why readmission matters

As Shuster, Hurlburt, Tam & Staples outlay in their 2018 paper “Unplanned hospital readmissions in British Columbia”, an unplanned readmission happens to approximately 200 000 Canadians, or one out of eleven hospital admissions each year. The costs of readmissions are equivalent to 11% of total annual inpatient costs, with the second hospitalization costing upwards of 42% more than the index\(^1\) procedure (Shuster, Hurlburt, Tam, & Staples, 2018). Readmissions are responsible for $1.8 billion in extra health care costs per year (2012 dollars), and are costly in terms of patient outcomes by increasing the risk of death and disease and deteriorating patient experiences (CIHI 2012).

Worse patient outcomes, with higher rates of infection, drug reactions, and venous thromboembolism, combined with a threefold risk in mortality when compared with patients who were not readmitted, are troubling associations for clinicians and policy makers (Shuster, Hurlburt, Tam, & Staples, 2018). This trifecta of indicators, including cost, outcome and patient experience, forms the basis for the established triple aim approach to health care decision making in North America (Berwick, 2008). Deficient measures across the triple aim, underscores the importance of readmission rates for health policy makers.

Who gets readmitted? Patient-level factors

A 2012 report published by the Canadian Institute for Health Information [CIHI] analysed administrative data from selected provinces and identified the four most common patient groups to be unexpectedly readmitted by the type of care received on their index admission. Of the total readmissions, medical, surgical, pediatric and obstetric patients were (respectively) 64.9%, 23.9%, 7.1%, & 4.1%, more likely to be unexpectedly re-hospitalized after they were discharged. Factors such as age, gender, comorbidity\(^2\), complications during surgery, and the number of times they had been

\(^{1}\) The “index” procedure refers to the hospitalization event that precedes the readmission. In figure 1 this is the pathway denoted by “A”.

\(^{2}\) Comorbidity means that the patient is diagnosed with two or more diseases
admitted to acute care six-months prior to the index hospitalization (twice or more occurrences) were all significant, and acute care use prior to index was the most important independent patient-level predictor (Shuster, Hurlburt, Tam, & Staples, 2018).

Of the medical patients, 21% of Heart Failure patients and 18.8% of those admitted for Chronic Obstructive Pulmonary Disorder (COPD), had unplanned readmissions (CIHI, 2012). Other frequent readmissions occurred for pneumonia, digestive disorders and arrhythmia. For COPD and Heart failure, 53% and 42.2%, of those readmitted (respectively) returned for the same treatment as the index hospitalization, comparable to the US statistics for these diseases (CIHI, 2012).

Patients with mental illness are 11.4% more likely to be readmitted, based on aggregated Canadian data collected from 2009-2010, but were not included in the 2012 CIHI report due to the lack of reliable and comparable data across provinces beyond that year. In the current service plan of the British Columbia Ministry of Health [BCMH] a performance measure seeking to reduce the: “Percent of people admitted for mental illness and substance use who are readmitted within 30 days” forecasts this number at 14.3% in 2018/19 (improved from 14.7% in 2016/17) and targets a 0.3 percentage point change to 14.0% by 2021/22 (BCMH, 2019).

Patients admitted to the medical wards who are advanced in age, who have been to the emergency department one or more times within six months prior to the index admission, who are male and who have comorbidities, are the most likely to experience a hospital readmission within 30 days of discharge (CIHI, 2012). Mental health and socioeconomic conditions either ameliorate or worsen readmissions, with the lowest income quintile almost twice as likely to readmit as the highest, a 14% increase in readmissions among surgical patients comparing lowest to highest quintiles, and high rates found where mental illness impacts wellbeing (CIHI, 2018; 2016; 2012).
Figure 2. Proportion of all readmissions by ward of index admission (Source: CIHI 2012)

Figure 3. Unplanned Readmissions to Inpatient Acute Care, All-causes (30-day) (Source: CIHI, 2012)
Regions, provinces, geographic

According to the latest CIHI data from 2017-2018 reported on the webpage “Your health system: All patients readmitted to hospital” (n.d.), B.C.’s average rate of “readmission after 30 days” was 9.7%, which was significantly higher the Canadian average (9.1%) and equal to Saskatchewan, while Ontario (9.2%) was closer to average. Readmission rates were risk-adjusted, by controlling for age, and other important characteristics, to make comparisons between diverse patient groups possible (CIHI, 2019). At a more granular level, variations among health authorities emerged, with Vancouver Costal Health’s rate at 9.8% and Northern Health at 10% (CIHI, 2016). For Medicare beneficiaries in the United States the aggregated 30-day American readmission rate in 2004-05 was 19.6% and researchers estimated the cost at $17.4 Billion (Jencks, Williams & Coleman, 2009).

---

3 Medicare is the publicly funded portion of the American health system that is available to those aged 65 and older.
Figure 3. Average Risk-Adjusted Readmission Rates (with confidence intervals) in the Canadian Provinces 2017-2018; sourced from the CIHI webpage “Your health system: All patients readmitted to hospital”

Community or Hospital Factors; Where’s the problem?

A patient’s length of stay at the hospital has readmission rate effects as well. Patients discharged one day sooner than the national expected length of stay are more likely to return (CIHI, 2012). Some patients who stayed longer than the recommended hospital stay are also at a greater risk for readmission but this may be due to the severity of their illness (Donzé et al., 2013). Other hospital-specific risk factors include its size and location with specific factors such as being located in a rural area, having fewer than 2000 weighted annual admissions, or being a small facility (CIHI, 2012).
In a large US study, pooled readmission rates\(^5\) for 4,073 hospitals in 2,244 counties were risk adjusted and variables for both hospital quality and community were estimated by multivariate analysis (Herrin et al., 2015). The study found that community factors accounted for the largest portion of the variation in readmission rates, or 58% versus 42% for hospital effects (Herrin et al., 2015). In counties designated as ‘retirement communities’, lower rates of hospital readmissions were found. Conversely, the highest rates were found in communities with the shared characteristics of ‘never married’ adults, low employment levels, and higher numbers of Medicare beneficiaries (per 100,000). In particular, community health system variables such as the supply of general physicians per capita, and the number and quality of nursing homes, were negatively correlated with readmission rates. Herrin et al. (2015) postulate that health care resources for older adults are likely more abundant and coordinated in designated retirement communities.

**Discharge and Readmission across Care Settings**

In a recent Ontario study, Gruneir et al. (2018) showed that differences in care settings outside of the hospital, otherwise referred to as community care, seem to impact on readmission rates for older adult populations. The sparseness of literature on older adult care transitions in Canada provided the impetus for the study of over 700,000 older adult patients (average age 78.4) who were tracked from discharge to readmission (Gruneir et al., 2018). The research team recorded the care setting from which patients had been admitted, be it from their own home, a long-term care facility or a home-care assisted situation, and assessed over the same categories where patients ended up 14 days after they were discharged. Of the cohort, 12.6% were readmitted within 30 days, and within this total rate, variations depended upon the combination of care settings pre-and post-discharge (Gruneir et al., 2018). The lowest readmission rates were for those newly discharged into long term care (8.4%); while those newly receiving homecare upon discharge were the worst case at 16.8% (Gruneir et al., 2018).

\(^5\) Note: The study was constrained to readmissions for three health conditions, including heart failure, Acute myocardial infarction, or pneumonia.
Homecare

In the aforementioned study, a sizable portion of the older adults was discharged to homecare (31.5%). In other words, the patient’s health condition required the employment of home care resources, as they were too frail to convalesce without assistance. The association between the hospital to home-care continuum and high rates of readmission may be due to a lack of hospital, primary and home care systems integration, resulting in a mismatch of home care services to the recipients’ needs (Gruneir et al., 2018). This finding has implications for both communication deficiencies and funding resources in older adult hospitalizations.

Can readmission rates be reduced?

Assessment of preventability is limited by both subjectivity and the false positives associated with automated methods (Shuster et al., 2018). The 2012 CIHI report: “All-Cause Readmission to Acute Care and Return to the Emergency Department” states that between 9% and 59% of instances of readmission could be prevented. This near 50-percentage point range in rates stems from a lack of consensus among researchers. In response to a systematic review of 34 studies measuring the preventability of readmission, Carl van Walraven, Canadian researcher on the topic stated that “all but three of the studies used subjective criteria to determine whether readmissions were avoidable”, leaving “the true proportion of hospital readmissions that are potentially avoidable [as] unclear” (Monette, 2012).

Studies continue to develop evidence for the qualification of “preventability” by both subjective (doctor chart reading) and standardized (computer algorithms) means (Shuster et al., 2018). Donzé et al (2013) relied on the validated, Swiss-developed computerized algorithm “Striving for Quality Level and Analyzing of Patient Expenditures” [SQLape] to assess the preventability of readmissions. SQLape combines hospital administrative data with the International Classification of Diseases, Ninth Revision, Clinical Modification [ICD-9-CM] to compare the codes of index and readmission cases in order to identify which cases are unavoidable (Donzé et al., 2013). Using this method, the Donzé team estimated that 23% of readmissions in their study
were potentially avoidable had the clinical decisions been different (2013). Prior research pins the proportion of preventable readmissions at approximately 25% (van Walraven, Jennings, & Forster, 2012).

More recently, Shuster et al., set out to “identify and target” readmissions that could be deemed preventable in an observational cohort study of 28-day readmissions conducted at Vancouver General Hospital [VGH] (2018). To manage subjective bias, they devised a multidisciplinary team-based approach to the interpretation of preventability by using a panel of professionals, including hospital administrators, nurses and physicians, to assess administrative and patient reported data. Their findings were that 53% of readmissions were likely preventable (Shuster et al., 2018).

**Best Practice: An Integrated System**

Operational and/or clinical decision-making shortfalls, such as premature discharge, inadequate patient education and inadequate follow-up, are routinely connected with risk for readmission but are also amenable to best practices (Donzé et al., 2013). The extent to which different jurisdictions’ rates vary indicate that variable practices are at play (Gruneir et al., 2011; CIHI, 2012). On a higher level, rising rates of unplanned readmissions can be seen as a consequence of the fact that the Canadian health care system has yet to fully integrate the original vision of “Universality” as described by Justice Emmett Hall in his 1964 report “The Royal Commission on Health Services” which would yet include prescription drug, comprehensive home care, and dental service coverage. Moreover, specific post-acute care was called for in the Romanow report under Recommendation 34:

*Home care services for post-acute patients, including coverage for medication management and rehabilitation services, should be included under the Canada Health Act.*

(Romanow, 2002)

The reality is that our health system is not integrated, leading some to question whether readmission rate reduction is even a feasible proposition:

*If you had an integrated health system where primary care, home care, pharmacy and the hospital were all integrated, it probably would make
sense to hold that integrated health system accountable in some manner for its readmission rates ... but we don’t have an integrated health care system; we have a fragmented health care system.

Dr. Irfan Dhalla (in Monette, 2012)

Communication Gaps and Continuity of Care

Communication practices regarding the sharing of patient information between hospitals and primary care doctors may not be present or adequate (Gruneir et al., 2011). A similar problem occurs with information transfer between home care and primary care: if the patient is discharged from the hospital to home care their family doctor may not know (“Study Finds High Rates of Hospital Readmission Out of Home Care for Older Adults”, 2018). In her book “Better Now: Six Big Ideas to Improve Health Care for All Canadians”, Dr. Danielle Martin tells the story of how she came to learn of a patient’s death in hospital care upon calling the patients’ home to check-in on her and learning about her death from a family member (2017). This example provides the extreme case of a lack of communication between the hospital and primary care provider. Poor communication can also be inferred from the high readmission rates for older adults either discharged to new homecare supports or discharged from long-term care to the same long-term care arrangement. In the former case, Gruneir et al. (2018) postulate that inadequate communication between discharge clinicians and home care services leads to inappropriate or inadequate home care supports. In the latter case, clinicians may discharge the patient prematurely on the misinformed assumption that their long-term care facility has the resources necessary to attend to their care (Gruneir et al., 2018).

Evidence to support communication and continuity of care is not groundbreaking. A meta-analysis of 18 studies, spanning eight countries found strong evidence that providing focused discharge care for older adults with congestive heart failure was an effective readmission rate reduction strategy (Epstein, 2009). This “focused” care including comprehensive discharge planning and extra post discharge supports, was found to reduce readmissions by almost 25% (Epstein, 2009). More support for the communication gap theory was found in Shuster et al.’s (2018) study of patients in the medical wards of Vancouver General Hospital, where structured patient interviews were
used to group preventable reasons for readmission into five categories. Of these, the most prevalent cause of readmission, according to 62% of patients (and vetted by a panel) was “Inadequate coordination with community services on discharge”. The second most prevalent factor was “Poor communication with primary care” at 38% of cases of preventable readmission (Shuster et al., 2018).

CIHI concurs that improving discharge planning, including patient education and scheduling follow up appointments, is an effective pre-discharge intervention. For post-discharge measures, they suggest improving the continuity of healthcare provider information, possibly with phone calls or face-to-face appointments, and establishing patient hotlines for extra questions (CIHI, 2012). In a prospective study of 478 hospitals actively working to reduce readmission rates, follow-up appointments were the only independent intervention associated with reduction (Bradley et al., 2015). In this study, the specific practice of “Discharging patients with an outpatient follow-up appointment already scheduled” was associated with a −0.53 (−0.93, −0.13) percentage point reduction in risk standardized readmission rates (p-value = 0.01) (Bradley et al., 2015).

2.2. Reducing Readmissions

2.2.1. Assessing risk

Focused care after discharge is known to improve unplanned readmission rates, but interventions of this nature are resource intensive (Donzé et al., 2013). On this basis, several research groups have undertaken studies to develop and validate risk-assessment tools for clinical use that might help identify patients at greatest risk for unsatisfactory post-discharge outcomes (Donzé et al., 2013; Gruneir et al., 2011; van Walraven et al., 2010). In 2010, a research team in Ontario developed and empirically tested the “LACE Index”, a patient-risk assessment tool. By means of multivariate logistic modelling, they simplified the model to four factors from a list of fifty candidate variables. The LACE mnemonic with “L” for length of stay, “A” for acuity of the admission, “C” denoting comorbidity (as measured by the Charlson comorbidity index), and “E” for the level of emergency room usage in the prior 6 months, was then used clinically to scale the
magnitude of risk for each patient from 1 to 19, enabling aftercare resources to be focused for greatest impact (van Walraven et al., 2010).

For the sake of clinical simplicity, the accuracy of the LACE model as a risk-assessment tool may have been compromised. The tool omits several high-risk patient predictors from the model, including previous compliance with medication protocols, functional status, health literacy and degree of social support, because they are difficult to obtain at the point of care (Donzé et al., 2013). In the end the algorithm was predictive of only 46% of the high-risk admission cases (those with LACE scores of 10 and higher), implying that there is room for improvement (van Walraven et al., 2010). Yet even at the most simplistic, the four variables in LACE require a computational aid rather than expecting clinicians to commit a point system to memory (van Walraven et al., 2010). As Gruneir and colleagues point out, the care setting pathway also makes a significant difference to readmission risk for older adults, but LACE does not consider this factor in assessing risk (2018).

2.2.2. Focused care after discharge: The Virtual Ward

First developed in the United Kingdom, the “virtual ward” model provides focused patient care within the community post-discharge (Dhalla et al., 2014). Enthusiastic to demonstrate a quantifiable reduction in readmissions, Dr. Irfan Dhalla and colleagues (2014) launched a virtual ward project in Toronto and evaluated it with a randomized control trial. Patients from four participating hospitals were randomized into either Virtual ward treatment or usual care groups. Eligibility depended on being discharged from an internal medicine ward and being at high risk for readmission as assessed by the LACE index. Patients being discharged to a long term or residential care facility were excluded (Dhalla et al., 2014). The treatment group received extra attention to their files by an inter-professional care team and communicated with a single point of contact to coordinate the services to be received in the community (Dhalla et al., 2014).

According to the authors of the Virtual Ward study, “usual care” for discharge in Ontario generally includes a typewritten discharge summary both provided to the patient upon their discharge and sent to their primary care physician. Other “usual” elements of
the discharge procedure include the filling of prescriptions for medicine and/or arrangements for home care where required, some counseling from the attending health care team, and follow-up appointment making or recommendations to do so with the patient’s primary physician and/or specialist (Dhalla et al., 2014).

Patients in the treatment group received the “usual” care as well as the additional care supports offered in the Virtual Ward. A care team consisting of care coordinators, nurses and nurse practitioners, physicians, pharmacists and an administrator met daily to discuss Virtual Ward patients, developing a care plan on the day after discharge and sending a care coordinator to visit the patient in their home within three days (Dhalla et al., 2014). A phone line was staffed to answer patient queries, with after-hours calls directed to an on-call physician. The patients’ primary care physicians were informed about the admission to the Virtual Ward with the expectation that the virtual and primary care physicians would discuss the patient by telephone call. A review of the records showed that the team discussed each patient an average of 6.3 times (SD, 2.1), patients were visited three times each (2.8 average, SD, 0.95) and remained in the virtual ward an average of 35.5 days (SD, 27.0). However, despite this enhanced attention, the intervention did not reduce the 30-day readmission rate6 (Dhalla et al., 2014).

Researchers postulated difficulties in contacting primary care physicians marred successful collaboration, and may have influenced the study. Another challenge was that multiple patient record platforms fragmented access to relevant information. The transfer of clinical information may have been further hampered by recruiting patients from four distinct hospitals. Structural barriers also impeded successful communication with certain care members, such as the patient’s personal support worker. Also, compared with similar studies, readmission rates in the control group were quite high, indicating a possibly sicker, or more hospital dependent study group (Dhalla et al., 2014). The problem of illness differentials in readmission rate research needs to be controlled for. It was accounted for in the parameters of the LACE index, with the use of the comorbidity (“C”) and the “E” (emergency use 6 months prior”) parameters (van Walraven et al., 2010).

6 P-value 0.9
[A] key question is how strongly does a readmission to hospital reflect quality of care and how strongly does it just reflect a sick person.

Carl van Walraven (in Monette, 2012)

2.2.3. Hospital incentives or penalties

In 2011, the US Affordable Care Act enacted the Hospital Readmissions Reduction Program [HRRP] in response to high readmission rates. HRRP tracks rates for six targeted conditions, including heart failure and COPD, and Hospitals are penalized at a rate of 3% of their Medicare reimbursement if their patients are readmitted in excess of the national average for these conditions (Dhalla et al., 2014; “Hospital Readmissions Reduction Program”, 2018). The program has spurred a tremendous amount of work on readmissions, including 5197 studies and quality improvement papers found in a search for “readmission” within the US Department of Health & Human Services: Agency for Healthcare Research and Quality website (“AHRQ- Agency for Healthcare Research and Quality: Advancing Excellence in Health Care”, n.d.).

Wasfy et al.’s 2017 study modeled readmission rates before and after the HRRP program came into effect, finding the incentive was especially effective for the lowest performing hospitals. In the study, over 15 million discharged Medicare patients stratified by the hospitals’ penalty-level from which they were discharged were tracked for readmission over a 13-year period, from 2000 to 2013. Hospitals incurring the highest penalties at baseline were found to have reduced their readmission rates for the targeted diseases more rapidly and extensively than the groups receiving lower penalties (Wasfy et al., 2017).

Doubts about these reductions in rates have centred on whether corresponding increases in observation stays and emergency department visits were compensating for the reduced rates. Even so, an analysis found that Medicare spent $2 Billion less on readmissions in 2016, even when accounting for these ancillary increases (“Medpac Reports Lower Readmissions and Reduced Medicare Spending with HRRP”, 2018). While the use of financial penalties is not a practice that the Canadian system would tolerate, the American success in lowering readmissions across underperforming
hospitals demonstrates that concerted efforts can achieve results in reducing readmission rates.

**Bundled payments: a system-wide policy change**

A reform to the healthcare payment system, known as a “bundled payment”, has attracted proponents in health reform. Currently hospitals are paid on a global budget while home care and primary physician care are paid on a per-service basis. Under the “bundled” scheme, provinces pay for “episodes of care” in a bundle distributed between the hospital, primary and tertiary health care providers (Herrin et al., 2015). Employing this payment method incentivizes coordination across the care continuum, with some arrangements allowing savings to be distributed among the care components.

**2.2.4. Multiple component approach**

Bradley et al.’s (2015) prospective study of 478 American Medicare hospitals taking part in the State Action on Avoidable Readmission [STAAR] and Hospital to Home programs [H2H], found that the hospitals taking up three or more evidence-based readmission rate reduction interventions achieved higher rate reductions (0.72 percentage points higher; p < 0.05) than the facilities who took up two or fewer interventions. By Bradley et al.’s (2015) count, hospitals who were taking up three or more strategies were engaging in ninety-three unique combinations of readmission reduction interventions. This level of variability renders generalization useless.

The quest for a generalizable set of practices continues despite the evidence for the need for “complex interventions”, or a “multiple component approach”. Interventions should be tailored to the local context, and use continual evaluation by quality improvement techniques (Dhalla, 2014; Shuster, Hurlburt, Tam, & Staples, 2018). Ideally, programs with the best evidence can be chosen from sets aiming at different facets of the problem and general enough to be customized to local needs.

---

7 The study was constrained to readmissions for patients with heart failure
2.3. Hypothesis

This study postulates that the non-integration of B.C.’s health care system components is the ultimate barrier to readmission rate improvement and will argue that strategies to integrate the care continuum, including better information transfer and care coordination can support significant readmission rate reductions. In order to keep this work within scope, only practices that can affect readmission rates while providing co-benefits are considered, although these practices may not be able to solve the myriad patient, hospital or systemic factors involved. Nonetheless, these factors can improve clinician to patient communication and cross-care continuum in the crucial days post hospital discharge. Since, costly interventions in an already taxed health care system are politically risky and need strong evidence; this study will attempt to isolate the most effective practices associated with the best co-benefits. Whatever options are chosen, the approach and pathway to implementation requires a level of scrutiny that is out of scope here, but touched on in Appendix B.

Effective policy tackling high readmission rates requires multiple components that strengthen the care continuum and improve communication practices throughout the entire episode of a patient’s care. This would not be possible without an understanding of the key structures and processes in BC health.
Chapter 3. **Context: B. C’s Health Care Priorities and Agents for “transformative change”**

3.1. **The power structure of BC health care**

The cost of provincial healthcare is estimated at $20 billion annually accounting for nearly half of the provincial public services budget (BCMH, 2018b). Strategies for improving healthcare must therefore be informed by international and domestic evidence and be able to demonstrate having the intended impact (BCMH, 2018b). The British Columbia Ministry of Health [BCMH] sets the priorities for health care in the service plan document, and allocates funds to health programs and systems from the yearly provincial budget (BCMH, 2019).

Jurisdiction over provincial health delivery is divided between five health authorities who provide distinct leadership to their respective hospitals’ administrative and clinical staff. The Provincial Health Services Authority [PHSA] and First Nations Health Authority [FNHA] are unique as they coordinate services across the province. The PHSA delivers highly specialised services, such as technology planning and operations, provincial clinical policy and commercial services, and the FNHA plans, manages and delivers health services for First Nations communities (BCMH, 2019).

The College of Physicians and Surgeons licenses practicing physicians, sets their professional standards and undertakes disciplinary reviews of individual physicians, surgeons, and specialists. Doctors of BC, a voluntary professional association, negotiates compensation on behalf of physicians via the physicians’ master agreement, advocates on behalf of physicians and provides facilitation of practice improvements and support for professional development. Hospitals and clinics are assessed on their practices within a national accreditation system. The BCMH funds hospitals and health care organizations and pays physician fees out of the federal health transfer. The Ministry also sets priorities and has the power to mandate organizations to pursue policy directives.
The BCMH Service Plan for 2019/20 – 2021/22 contains strategies and targets, which, if successfully implemented, could create favorable conditions for readmission rate reduction. The first stated objective in the plan focuses on integration within the primary care model. This connects with the core of hypotheses on unplanned readmission: that they are symptomatic of a fragmented and uncoordinated system of health providers, although it does not specifically address hospital care. Under “key strategies”, the implementation of the “Primary Care Strategy” includes the development of Primary Care Networks [PCN] and Community Health Service Areas [CHSA]. Through an integrated team-based service delivery model, including nurses, clinical pharmacists and other health professionals, PCNs and CHSAs improve care for “patients with chronic illnesses, complex medical needs and frailty.” (BCMH, 2019). These patients, fitting the profile of high-risk for readmission, will have increased access to primary care services outside of the hospital, which is a readmission rate reduction factor (Herrin et al., 2015). The benefits to patients of “a continuous relationship with a primary care provider” include better management of chronic diseases (BCMH, 2019). Since the recurring symptoms of COPD and heart failure cause high readmissions to medical wards, improved disease management can produce rate reductions as well (CIHI 2012). The work of the “Primary Care Strategy” involves an ongoing collaboration with health authorities, the Guidelines and Protocols Advisory Committee, the Nurse and Nurse practitioners of BC, community health centres, and Health Unions (BCMH, 2019). Strengthening connections among these health care entities and facilitating their collaboration can provide foundational support to readmission-specific practices.

Transitions in care settings for older adults are a prevalent factor in readmissions, specifically due to the information gap preceding these transitions (Gruneir et. al, 2018). Strategies in the service plan focus on improving care for this high-risk cohort. A plan to reduce by hundreds of occurrences, the “number of people with a chronic disease admitted to hospital per 100,000 people aged 75 and older” through “proactive disease

---

8 Objective 1.1: “A Primary care model that provides comprehensive coordinated and integrated team-based care.”
management and community-based services”, should result in lowered readmission rates by stabilizing the need for care transitions, and enhancing community care resources (BCMH, 2019).

The document also specifically refers to reducing readmission rates for people with mental health and substance use issues by implementing “specialized services” as integrated and coordinated community-based “care giver supports” and “professional services and supports” including longer-term addiction treatment services and residential care. Integrated Care Management Teams are recommended to improve access to these community supports and services “along with effective discharge planning” to reduce readmission rates (BCMH, 2019). Taken together, these strategies can help improve the factors associated with the high rates of hospital readmissions among those suffering with mental health, substance use and other comorbidities.

Under objective 3.1: “Effective health sector resources and approaches to funding”, a key strategy mentioned is to “continue to modernize the health system through the use of digital services, information management and technology while ensuring effective coordination and management of budgets, timelines and outcomes”. This strategy recognizes that gains for service delivery efficiency can be found through the appropriate application of technology and is measured in overtime hours⁹ (BCMH, 2019).

---

⁹ In 2016 3.8% overtime hours were worked (as a percentage of productive hours), in 2018 4.4% were counted. The plan intends to reduce the number to 3.8%.
3.2. Promising initiatives

The following initiatives of the BC government and its health system associates, with appropriate design, adequate funding and directed adjustments, could create an impact on readmission rates.

3.2.1. The Health Data Platform

The health data platform, a project supported by the BC SUPPORT Unit, aims to enable the sharing and use of health data for researchers, including improvements to access, storage, functionality, retrieval, privacy and security of data (BCMH, 2018a). Researchers in the field recommend tracking local readmission rates as part of a multiple component approach, in a dynamic fashion similar to a Quality Improvement Initiative\(^\text{10}\) (Shuster, Hurlburt, Tam, & Staples, 2018). For comparison among program directors and researchers, these data reports can be housed in a provincial database (such as the health data platform) as well as for shared with CIHI for their national comparisons. A streamlined approach to health system data can provide an integral piece of B.C.’s readmission rate reduction strategy (Shuster, Hurlburt, Tam, & Staples, 2018).

3.2.2. Clinical & Systems Transformation

The Clinical and Systems Transformation [CST] Project is an $8.42 billion dollar project\(^\text{11}\) targeted for completion in 2023. The vision of an integrated system is to be achieved by establishing a standardized and integrated clinical information system between Vancouver Coastal Health [VCH], Providence Health Care [PCH] and the Provincial Health Services Authority [PHSA] (BCMH, 2018b). Once developed and implemented, the integration of health records across the heavily populated VCH, along

\(^{10}\) A quasi-experimental method by which a program may be evaluated and adjusted in real time. Can be a better choice than attempting a randomized control trial or other scientific type of report/evaluation method, in complicated cases where confounding variables are difficult to control for and programs are resource-intensive.

\(^{11}\) This figure is for the ten-year total cost of ownership [TCO] that includes $4.8 billion in capital, and $3.62 billion in operating costs. The project is currently under review with costs expected to increase (BCMH, 2018)
with the connections planned between this system and those of the Island, Northern, Fraser and Interior health authorities, will provide the infrastructure necessary to standardize a province-wide readmission rate information-transfer and care continuum protocol.

3.2.3. Home is Best investment

Recent national trends in older adult care, known as “Home is Best” in BC involve the provisioning of home care resources to delay the need for admitting older adults to long term care facilities. Delivered under Integrated Primary and Community Care [IPCC], the Ministry is supporting the development of “enhanced home-based support programs” with funding for the health authorities of up to $50 million per year over the next three years (“Home is Best”, n.d.). As stated in the literature, gaps in funding and service provision within home and community care contribute to readmissions in two ways: by increasing patients’ exposure to care setting transitions and by impeding information sharing within the care continuum.

3.3. Agents for Change

In the complex and multi-jurisdictional health care arena, it is important to discern the entities capable of creating change. Some advocate on behalf of patients; others make clinician-led changes to guidelines and procedures; still others instigate system-wide policies across care organizations. What follows is a brief overview of a select few change-making mechanisms. Developing and implementing readmission rate responsive changes across BC health care will require the use of one or more of the following agents.

3.3.1. Patient Care Quality Review Boards: Annual Report 2014/2015

Patient Care Quality Review Boards [PCQRB] focus on patient experiences and uses them along with international best practices to enhance quality in the health system. They were established through the Patient Care Quality Review Board Act (2008) and there is one board aligned for each health authority. Accountable to the Minister of Health and not to the health authorities, they investigate patient complaints received
through the health authorities’ Patient Care Quality Offices [PCQO] (British Columbia Patient Care Quality Review Boards [BCPCQRB], 2015).

In the Annual report for 2014/2015, recommendations to the health authorities focused on communication and better discharge planning. In particular, health authorities were instructed to conduct staff training “to improve the communication between staff, patients and their families prior to discharge and clear policy development to guide the discharge process.” The use of electronic health records and discharge summaries are mentioned for actualizing these recommendations (BCPCQRB, 2015).

3.3.2. Guidelines and Protocols Advisory Committee

The Guidelines and Protocols Advisory Committee [GPAC] develops, publishes and promotes clinical practice guidelines and protocols through its advisory work for the Medical Services Commission of BCMH. Working groups are comprised of representatives from the BC Ministry of Health and Doctors of BC. When deciding on new topics, the groups consider criteria such as: highly variable practices and outcomes, evidence that mortality or morbidity rates are responsive, input from stakeholders, and priorities set out by the BC Ministry of Health. Physicians are incentivized to participate in GPAC processes by earning continuing medical education [CME] or continuing professional development [CPD] credits. They are offered the choice to participate in a number of ways, including by serving on guideline producing/ revising working groups and by reading and using the BC guidelines in practice (“Guidelines and Protocols Advisory Committee”, n.d.).

3.3.3. Accreditation Canada

Accreditation Canada is a non-profit entity that works with health organizations to meet a set of standards or Required Operational Practices [ROP] published every few years. The most recent ROP document published in 2017 contains standards for “communication” which include “information transfer during care transitions”, “medication reconciliation [med rec] as a strategic priority” and “med rec at care
transitions”. There is also a “risk assessment” section containing a standard for “home safety risk assessment” (“Required Organizational Practices”, n.d.). Health care organizations value accreditation for recruitment and public relations purposes and voluntarily enter into an accreditation agreement plan, whereby they attempt to achieve the standards set in the ROP over an agreed-upon timeframe (“Accreditation process”, n.d.).
Chapter 4. Research

This study was designed and implemented within the principles of the Quadruple aim (+1) framework\(^{12}\) and employs a literature review; a scan of government agency reports, whitepapers and website content; health system expert interviews, and an online questionnaire. “The Patient’s Readmission Survey”, developed and implemented by the author for this study, is used to gain insight into patient and caregiver perspectives on the problem. Expert interviews help to answer questions from the perspective of project managers, health care workers, and researchers.

Questions for the interviewees aim to uncover readmission details, such as what are the current processes for discharging patients, as well as general ideas such as how to implement evidence-based policy solutions. We also discussed whether the BC health system is currently over-stressed with the multi-billion CST project; and whether the additive demands and priorities of various health authority projects have affected clinicians’ willingness to adapt\(^{13}\).

The survey asked questions about discharge and readmission experiences to discover whether the Patient Care Quality Review Board’s [PCQRB] recommendations to the health authorities for staff training and “clear policy development” on discharge practices have been taken up. Data from the survey also helps to illustrate the state of health system integration, and the quality of communication guidelines and procedures as experienced by the respondents.

4.1. Analytical Tool: Expert Interviews

In this study, nine in-depth and semi-structured interviews were conducted using telephone-recording technology. Topic guides were used to steer questions toward readmission-relevance within the professional experience of the interviewee. Three

\(^{12}\) The Quadruple Aim (plus One) is a health policy framework that considers patient experience, caregiver insights, and clinician concerns along with decision-maker requirements. See Appendix A for a more in-depth discussion

\(^{13}\) See Appendix B for a discussion on Change Management
researchers, including a nurse educator and two physicians, provided an insider’s view of the impacts of unplanned readmissions and were interviewed for their insights into progress on readmission rate reduction. The mechanics behind systemic change were discussed using stories of strategic change management, quality improvement pilot projects, and lessons from patient-oriented research projects tied into provincial and national strategic objectives\textsuperscript{14}. The practical considerations and perspectives of front-line clinicians and primary physicians were also discussed, providing insights into the concerns of this stakeholder group.

\textit{Limitations}

This study may have been limited without the insights from interviews with key informants. Calls to Accreditation Canada and a request for an interview through the “contact us” form on their website were unsuccessful. The explanation herein on how accreditation works in the context of BC health was therefore informed from expert testimony and a review of grey literature resources. Attempts to interview a representative from the BC Ministry of Health were complicated by my angle of interest. I reached out to managers within the health technology assessment department hoping to ask questions about how communication technology could be employed in a readmission rate reduction strategy. Unfortunately, the recipient of my email forwarded it along to another department whom he thought could better answer my technology-related questions and an interview was not secured. An interview with someone at BCMH could have provided an opportunity to inquire about mandating readmission rate related policies. Contact with the architects or managers of the CST project could have answered questions about their plans for information transfer across the care continuum. Explicit mentions of information transfer within the CST website refer only to “handover” between clinicians within the hospital care setting. In addition, a potential lead for an interview at the FNHA, which could have provided details about the development of the recent Primary Care Strategy, did not materialize.

\textsuperscript{14} See Appendix B
Table 1. Expert Interviews

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Physician’s professional organization</td>
<td>Policy Analyst</td>
</tr>
<tr>
<td>Jason Sutherland</td>
<td>UBC Centre for Health Services and Policy Research</td>
<td>Researcher Associate Professor</td>
</tr>
<tr>
<td>Minnie Downie</td>
<td>BC Support Unit</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Dr. Andrea Gruneir</td>
<td>U of A School of Public Health</td>
<td>Researcher Associate Professor</td>
</tr>
<tr>
<td>Dr. Richard Lester</td>
<td>UBC Faculty of Medicine</td>
<td>MD Researcher Associate Professor</td>
</tr>
<tr>
<td>Dr. Constantin Shuster</td>
<td></td>
<td>MD Researcher</td>
</tr>
<tr>
<td>A2</td>
<td>Health Authority</td>
<td>Regional Educator Clinical Education</td>
</tr>
<tr>
<td>Golareh Habibi</td>
<td>Fraser Health</td>
<td>Evaluation Specialist</td>
</tr>
<tr>
<td>Madhu Sharma</td>
<td>Fraser Health Authority – Strategic Transformation</td>
<td>Senior Consultant</td>
</tr>
</tbody>
</table>

4.2. Analytical Tool: The Patient’s Readmission Survey

The intent of designing and implementing the online “Patient’s Readmission Survey” for this study was to obtain the patients’ perspectives on their experience of readmission in order to provide support or clarification for any options developed within this analysis. The survey also allowed the participation of caregivers, who were instructed to fill it out as a proxy for the affected patient. This choice was made in order to align the project with the tenets of a “Quadruple Aim, plus one” framework.

With a mixed-methods design, including eight open-ended question fields among 41 questions, the survey probed for experiential, behavioral, and relational responses. The inclusion of questions assessing the relational aspects of care meets best practices from the literature (Kuluski et al., 2017). Using mixed-methods is also recommended given the challenges in collecting accurate and authentic patient experience data (Kuluski et al.,
2017). Quantitative-only measurements of patient satisfaction have been found to be biased by low expectations, as was demonstrated in Glen Robert’s (2013) research\textsuperscript{15}.

\textit{Limitations}

In order to recruit the target population, a survey link was listed in the “external opportunities” sections of electronic newsletters distributed by Vancouver Coastal Health’s Community Engagement Advisory Network, the Patient Voices Network engagement arm of the BC Patient Safety & Quality Council, and the BC Support Unit. A short article written about the issue of unplanned hospital readmissions and the opportunity to participate in the survey was provided to the BC Support Unit. They also re-tweeted a post I published\textsuperscript{16} leading to further participation in the survey (an increase of ten responses). The readership of these resources is a self-selected group of “patient advisors” which limits the generalizability of the findings. Another limitation for interpreting this data is the small sample size.

The experience of designing and putting out the survey was an interesting exercise in adaptation. As the scope of my study precluded securing a partner at a health authority and thus access to an appropriate patient group, the challenge was to effectively target my survey while recruiting adequately. As described above, the process was iterative and required envisioning new strategies when previous attempts failed to meet the objectives.

\begin{flushright}
\textsuperscript{15} Patients’ satisfaction narratives differed vastly between their tick box and open-ended answers, with tick boxes neutral but open-ended answers expressing more definitive and sometimes contrasting opinions (Roberts, 2013).
\end{flushright}

\begin{flushright}
\textsuperscript{16} While it is impossible to be certain that no one filled out the questionnaire who was not of the target group, it was a lengthy survey, and answering it in full could take between 25 minutes and 1 hour.
\end{flushright}
Chapter 5. Interview Findings

In order to develop the findings, a process of transcription and analysis was undertaken. From nine interviews, each of approximately 1 hour in duration, semi-naturalistic transcripts were written by keeping some of the interviewees’ utterances, those that conveyed meaning and emotion but discarding others that made less meaningful contributions to the data. Ideas and insights were then organized into themes, according to qualitative research methodology.

5.1. “Home care is a critical part of understanding readmission”

Andrea Gruneir’s research in the School of Public Health at University of Alberta focuses on the health service needs of older adults with questions centering on how people get “their needs met in the community, or wherever they live, in the most appropriate way possible.” She uses readmission rates to learn about “gaps in care”. From her perspective, high readmissions indicate shortfalls in the home care system, and the rates illustrate the magnitude of the issue “in a way that seems to resonate”.

*When people are in the hospital they go from having very intensive care... monitored 24 hours a day, there’s somebody there checking their medication, checking their stats... meals are delivered to their bedside, there’s often the opportunity for some level of physio or occupational therapy...a social worker may check in... and then when [they] go home it’s like “Bye! Good luck to you”.*

Jason Sutherland, professor at the Center for Health Services and Policy Research in the UBC Faculty of Medicine agreed that “structural and process factors” including “inadequate supports for quality community care” were associated with the “breakdowns of care” that lead to readmissions. Dr. Gruneir also thought that home care (generally known as community care) was under-resourced. Commenting on the trend toward caring for older adults in their homes, she stated:

*"As populations become more complex and there has been more of an emphasis on community-based care options for people, in particular older people, that's great, except that there has to be some realism about how intensive those needs are."*
Gap in Disease Management, for Chronic Disease and Terminal Illness

Dr. Constantin Shuster, physician and co-author of two readmission papers referenced for this study, described the high-risk readmission patient as a person dealing with several health concerns, each requiring disease management, including self-care. Having depression, anxiety or “trouble with” substance use “made it really difficult for them to take care of themselves”. Unmet needs due to the under-resourcing of home and community care for chronic and terminal diseases add to the burden on acute care resources as people seek relief from recurring symptoms in hospitals and end up as medical ward readmissions. This scenario is commonly experienced in cases of heart failure.

Minnie Downey, Executive Director of the BC Support Unit talked about a successful approach to disease management for heart failure within her previous work as the program director for cardiology services at a health authority. The project set out to address the problem of heart failure patients being “generally admitted to the medicine unit and not to the cardiac unit” which created barriers to providing appropriate care. Interdisciplinary teams piloted “heart failure clinics” within the hospital instead, and the program’s evaluation measured a 50% reduction in patient acute care utilization as well as patient-reported improvements in quality of life.

Supporting Caregivers

Minnie Downey reflected that although caregivers were often lumped into the same category as patients within the Quadruple Aim framework that guides her projects, caregivers have unique needs and a growing importance in the shift towards “home is best” principles, and they should be given their own category of consideration. Dr. Gruneir agreed:

*Understanding caregiver needs and responding to them has become...[critically important] and [is] linked to issues like readmission because it is so intimately tied to the success of things like...people being able to receive care in their homes.*
We briefly discussed caregiver tax credits as a support mechanism for caregivers. Dr. Gruneir suspects that caregiver support is not a government priority, considering the limited extent of support available in the Canada Caregiver Credit\(^\text{17}\).

*A lot of times we’re talking about people who have to take time off work, or not work...if they’re lucky to have some kind of compassionate leave option.*

### 5.2. Communicating across the care continuum

In his recent clinical experience as senior Internal Medicine Resident at Vancouver General Hospital, Dr. Shuster recalled that the discharge summaries he wrote were supposed to be sent to the patient’s family doctor and whichever specialists were involved in the patient’s care. He was uncertain that his summaries would reach the community health professionals (home care nurses, etc.) involved in the circle of care and observed that information from the community was not making it back to him.

*It goes both ways: some of the information that they’re acquiring in the community, I have no access to when the patient ends up in hospital...maybe I’m missing why the patient is being readmitted. Maybe we’re thinking it’s a medical problem when it’s a social problem.*

**Patient record integration including patient oversight**

In the absence of other methods to enable “constant communication during the high-risk first couple of days”, the sharing of an electronic patient record between the hospital and primary and home care attendants is “probably an important step for cross continuum of care” said Dr. Sutherland. Dr. Shuster added that electronic health records help clinicians and patients by reducing the need to rely on patient’s memories.

All interviewees agreed that integrated records have great potential for resolving the communication gaps related to readmissions. However, despite a plethora of patient record systems in British Columbia, a persistent problem remains in their disjointedness. Clinical workflow is hindered in some cases by user-unfriendly connection speeds and interfaces, including separate login requirements for patient blood labs and PharmaNet

\(^{17}\) Canada Caregiver Credit allows a caregiver to claim up to $6,986 in order to assist them in their ongoing support of a family member with a debilitating illness.
services. The additive nature of these inconveniences reduces the clinical utility of current electronic systems.

Ms. Downey asserted that interoperability enabling information transfer between the primary, community and acute care providers would be ideal and were the system to include a portal for patients and their caregivers to view their own records, such as the new blood lab portal for patients\textsuperscript{18}, “you’ve got the golden ticket”. Patient/Caregiver oversight is an effective quality control measure in program design, since patients notice and report on errors in their files.

Dr. Sutherland cautioned against assuming that interoperability of electronic medical records [EMR] alone will solve the readmission problem. Large American health care providers such as Kaiser Permanente, and the Veteran’s Health Administration use a “singular medical record, yet they still have readmissions”. Processes for post-acute follow up, disease management efforts and a medication reconciliation [Med-rec] standard, would all need be included to make gains. Dr. Shuster mentioned that while Alberta has a single EMR system province-wide, it has not yet been made interoperable with community health. Dr. Shuster hopes that CST “will translate into specific IT projects for readmissions” with “frameworks and ways to communicate and share information”. From these findings, it seems clear that guidelines will be required to produce desired outcomes regardless of the sophistication of the infrastructure.

5.3. Medication Reconciliation processes

‘Med-rec’ is the process by which medications, newly and formerly prescribed, are checked by a health professional immediately upon discharge to prevent conflicts and adverse drug events [ADEs]. At the hospital where medications are stopped on admission and managed over the course of a patient’s stay, medication is simple enough to manage as long as adequate information about allergies and prior adverse reactions is available\textsuperscript{19}.

\textsuperscript{18} My eHealth allows patients immediate internet access to their lab results which have been released from the performing lab http://www.myehealth.ca/

\textsuperscript{19} Integrating adverse drug reaction records into the patient’s profile is the goal of Action ADE, a BC Support Unit facilitated project, and winner of the Rewarding Success Pan-Canadian knowledge management
Med-rec becomes very difficult upon discharge. Once home, patients may combine new prescriptions with previous ones due to oversight.

"How do we reconcile between what happens at the community level with respect to pharmaceuticals and what happens at the hospital level?" asked Minnie Downey.

Med-rec is an area of deficiency in Canada’s health system and an area where improvements could impact readmission rates, according to Dr. Sutherland. Minnie Downey agreed that Med-rec processes to ensure that “the patient is actually getting the right medication for their condition, but more importantly are not taking medications that are harmful to them.” were lacking. “It’s the one thing that I would say all the health authorities in BC have failed on their accreditation; probably also most of Canada struggles with it.”

Dr. Shuster agreed that inaccurate physician oversight of medications could impact readmission. The absence of Med-rec processes has roots in the fragmentation of services between health care providers. In integrated systems, Mr. Sutherland said, “a home care person comes to the home on day one and does a Med-rec right there.”

5.4. Methodological issues: Unstandardized use of the metric

Dr. Gruneir pointed out that provincial data on readmissions can be fine-tuned to adjust for whatever particular comparisons are being made, whereas the CIHI data is all generated from the Discharge Abstract Database [DAD] and is therefore cruder20. Dr. Shuster mentioned that the CIHI data in the “All-Cause Readmissions” reports are published two years past its collection and therefore not very responsive or accurate for project evaluations. Reporting to CIHI is voluntary, therefore some BC hospitals report to it and others do not. There is also variability in whether the hospitals choose a 28- or 30-
day benchmark for their readmission counts, and whether or not they include mental health hospitalizations.

5.5. Utility of the readmission risk-assessment tools

Dr. Gruneir provided an account of the development of the risk-assessment tool, as she was one of the researchers who first tested the LACE Index after it was validated. The original derivation study for the index tested many individual characteristics including social health determinants and excluded those without explanatory power in the final design of the tool. On the topic of whether the predictive power of the tool could be improved, she thought that other potential explanatory factors such as “availability of the caregiver, [patients’] education and their ability to understand the instructions that were given to them” could be tested along with care setting pathway data as shown in her research to have a major impact on readmission.

5.6. Complex problem, seemingly intractable

Residents and staff experience the impact of readmissions as increased workloads, larger team size requirements and an increase in paperwork, said Dr. Shuster recalling his experiences as a medical ward resident. Repeated diagnostic scenarios limit residents’ learning opportunities when new diagnostic dilemmas are crowded out by readmissions. Oft-discussed feelings of hopelessness during resident wellness meetings amounted to a type of “moral distress”.

You’re always wondering, especially as a senior resident... how can I do this better? How do I prevent this patient from coming back to hospital even though I have read their chart and they’ve been readmitted six times this year? What am I going to do differently this time?

While the province could make use of the “general concepts” from well-researched American frameworks for reducing readmissions through optimizing discharge processes, Dr. Shuster cautioned that what works in the states is not guaranteed to work here and agreed that a provincial program setting discharge and care continuum practice guidelines, mandating harmonized readmission rate reporting to a central data...
bank, but including locally designed care continuum projects based in locally available resources could achieve rate reduction gains.

On the complexity of the readmission problem Jason Sutherland said:

*I think it’s too simplistic to think that there’s just a couple of things people can do to change it. Otherwise, it would have been done ...people work on this problem all the time and it hasn’t resolved itself.*

5.7. **Technological solutions**

Interviewees agreed that technological innovations could improve readmission rate responsive areas such as information transfer, care continuity and patient follow up. Of mobile-health solutions, whereby text messaging is used to help physicians to communicate with their patients: Dr. Shuster said: “the US has a whole industry around this”. The recent creation of Virtual Health departments in the health authorities signals a willingness for technological enhancement of care, but participant A2, a clinical educator and hospital clinician at a large urban hospital, suggested the offices were meagrely staffed.

Golareh Habibi, an evaluator at Fraser Health, said technology was “absolutely” a feature of programs for home health. A remote monitoring, or “surveillance nurse” project she worked on has been successful at achieving “home is best” goals. Participant A2 spoke about TELUS Home Health, a project for managing heart failure in the community that had people monitoring their own blood pressures and vital signs, and checking in with a hospital staff person remotely.

Dr. Gruneir advised considering equity issues around access to Wi-Fi including user comfort level with technology. On the clinician side of things, participant A2 recommended that any new technology should be designed within the realm of what the clinical user is already using in their personal lives to lessen the learning curve during clinical adoption.
5.8. Readmission-relevant projects

Enhanced discharge planning guidelines and processes

Interviewee A2 spoke of recent adjustments to discharge planning aimed at enhancing care coordination for higher-risk patients where they work. Generally, assessing discharge needs is the duty of the Care Management Leader [CML] and involves “putting a plan together and getting supports organized” while the patient is still in care. If a patient is deemed to be “in control of their faculties”, they receive the non-standardized discharge summary filled out by a physician, “so it could be good or bad”.

More recently with the “shift to move things out into the community”, new “specialized” CML positions help to pull together home care support resources and schedule follow ups with people in their homes. A2 stated that this program was relatively new and probably dependent on the site, as “things don’t always happen across the whole health authority.” Dr. Constantin Shuster also recalled that “a lot of allied health professionals” were involved in recent discharge planning for high-risk cases in the medical ward where he worked, including a social worker helping to facilitate housing and income supports. This quality improvement project included a risk assessment tool and involved the implementation of a “best practices” protocol for high-risk discharges across the wards by a nurse21.

More proactive home care assessments

Golareh Habibi has evaluated several quality improvement projects for Fraser Health based on the “Home is best” philosophy funded through the Accelerated Integrated Primary & Community Credits [AIPCC], a seed-granting project endorsed in 2012 by the BCMH. These projects aimed to keep patients in their homes as long as possible. All of the successful projects had what she described as a “triaging system” based on an algorithm that was developed and perfected over the course of the projects

21VCH were possibly using the STAAR [state action on avoidable readmissions] materials from the “Institute for Healthcare Improvement”, an American organization. The training module mentioned was possibly the “SMART Discharge Protocol” which is available for free download.
through a quasi-experimental approach. Her projects also involved training home care nurses to be more proactive in spotting symptoms in order to avoid the need for a care recipient to be admitted a hospital or long-term care facility.

**Bundled Care**

Jason Sutherlan’s area of active research is in defining “episodes of care”, otherwise referred to as “bundles of care” to improve cross-continuum services. On whether such a restructuring could be a good option for reducing readmissions caused by a lack of care coordination, he stated, “it’s one of the most promising paths forward”. Next to instituting regulations for improved care coordination, financial reforms were the most transformative solution, he said. In the Netherlands, providers in the care cluster take responsibility for a patient’s chronic condition for a one-year period, and in Ontario the method is currently being piloted, he said.

**Health Data Platform/ Provincial interoperability via CST**

Minnie Downie offered: “Having easier access to high quality data is necessary for all research including patient-oriented research”, hence the Health Data Platform project, supported by the BC Support Unit is focused on: “improving the accessibility and quality of the data in the province for secondary use” and “having a single point of contact” for access to the different BC health databases. The primary focus of this project is enabling researchers to query all provincial data repositories “simultaneously”. Issues of coding standardization, such setting the benchmark of either 28 or 30 days, fall under the purview of the CST project. As a “data partner” BCSU is providing some cash funds, while CST is creating the data linkages, unifying and consolidating all the data within Pop Data22.

Vancouver Coastal Health, is the health authority with the least unified health record system explained Ms. Downey. She provided insight into the emergence of the provincial patchwork of systems. As electronic practice management use increased within the province from 20% to 90% over a 15-year period, it engendered a competitive

---

22 Population Data BC (Pop Data) is a health care, health service and population health data resource. [https://www.popdata.bc.ca/](https://www.popdata.bc.ca/)
market with a myriad of systems to choose from. From about 2005 onward, a procurement process managed through the PHSA encouraged physicians, through financial support incentives, to choose between three approved systems. Currently the provincial health authorities use five different practice management systems, where the North, Interior, Island and Fraser each have a single system. The CST project will harmonize VCH under one software system named Cerner.

Five different systems are “still probably four more than we should have” but much better than before, said Ms. Downey, explaining the work being done. Fraser and Interior Health are working to connect their systems, and VCH will be operating on the same system as Island Health when CST is completed. HIMSS levels provide a roadmap to interoperability and mark provincial progress. A council of Chief Information Officers [CIO] comprised of the CIOs from each of the health authorities is stewarding a Health Informatics Plan province-wide. The problem with interoperability in health system information systems is not about strategy, it is about implementation, specifically, change management.

**WELTEL: A Promising Innovation**

Dr. Richard Lester of WELTEL explained their mobile health product and service as a “low-cost information transfer system”. WELTEL is a software developer as well as a health intervention researcher based out of Vancouver. In their Kenyan study of newly diagnosed HIV-infected adults, Lester et al. (2010) found that following-up with the treatment group via SMS (text) messages resulted in improved medication adherence and plasma HIV-1 viral load suppression. The treatment is essentially the provision of a cell phone and a weekly text message from clinical staff asking how the patient is doing. The patient is able to text back by choosing an image option representing “okay” or “not okay”. The team has also been involved in projects and studies within Canada, including an implementation at the Haida Gwaii Hospital, where “care conversations” by text were

---

23 HIMSS an American non-profit supports the application of technology for health information system transformation projects around the world.

24 See Appendix B: Change Management: Lessons and opportunities, for a discussion with interviewees on implementation and change management in the health system.
attributed to preventing visits (“Text Messaging with Your Health Care Team”, 2019). Typically, their findings show that their platform overcomes barriers in clinician to patient communication by enabling two-way connections via text message and phone calls. Their successes add evidence to the hypothesis that patient outcomes and experiences are sensitive to a feeling of being cared for.

5.9. Summary of findings

- Providing adequate homecare, through resource provisioning and improved communication, is important for reducing unplanned readmissions. Caregiver support is a crucial resource and efforts to improve the caregiver-health system relationship should be undertaken.

- Poor management of chronic disease symptoms contributes to hospital readmissions, compounded by a patient’s overall wellbeing. Proactively addressing patient needs while they are in care can help.

- While the system of electronic patient records may not be seamless enough to produce the desired level of communication required to reduce unplanned readmissions, it is important to develop guidelines and processes for communicating, regardless of the infrastructure and without delay.

- Med-rec is a challenging problem that may have a significant impact on readmissions. While systemic deficiencies in meeting accreditation standards for this process have been noted, the means for accomplishing Med-rec as a practice are unclear.

- Provincial standardization of the readmission metric is a useful aim that can feed into the Health Data Platform project and enable granular comparisons between hospitals or health authorities while readmission reduction projects are evaluated.

- The utility of the LACE readmission risk assessment tool could be improved by including information about social supports, health literacy and care setting transitions.

- Work using specialized care management leads at hospitals for high-risk patients is providing some focused discharge services across the care continuum, although these programs are limited in scope.

- The complexity of the readmission problem will require a creative, multiple-component approach that is flexible and responsive to local resources and concerns. Using a low-cost technological solution such as mobile health can
provide an immediate communication infrastructure solution that need not wait for the development of a provincial electronic health records system and may still be uniquely useful regardless of developing IT infrastructure.
Chapter 6. Findings: Patient Readmission Survey

“The Patient’s Readmission Survey” was completed by 66% of people who started it, resulting in 19 completed responses. Forty-one questions probed for readmission experiences, including seven open-ended questions, which requested elaboration in their own words. All questions offered the option “prefer not to answer”, but the ballot question “Q1: Have you experienced an unplanned readmission to a hospital?” was programmed so that answers of “No I have not” or “prefer not to answer” were disqualified from the rest of the survey. This occurred for five respondents. A choice was made not to include data from people who had not experienced a readmission as questions throughout the survey refer specifically to readmission experiences and it was not deemed interesting to note who may have been interested in filling out the survey outside of this target group.

The respondents were asked questions pertaining to their demographic characteristics (summarized in table 2). The gender split in responses (67% women; 33% men) is comparable to recent patient experience research with 62% women and 36% men responding to an email survey (Slater & Kiran, 2016). A vast majority of respondents live in what they consider urban areas. Three of the complete surveys were answered as the caregiver of a person who has experienced a readmission.

From the open-ended questions, further details about the respondents emerged. One individual was the caregiver to a family member with dementia; another described their own recurring mental health issues. One participant described the need to travel 700 km and stay in hotels in metro Vancouver while going through several readmissions. Responses display a mix of emotions from frustration, anger and contempt, to resignation, hurt feelings and sadness. A selection of quotes from the open-ended questions can be found in Appendix C.
Table 2. Patient’s Readmission Survey Advisor demographics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>33</td>
</tr>
<tr>
<td>Female</td>
<td>67</td>
</tr>
<tr>
<td>Place of residence</td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>89</td>
</tr>
<tr>
<td>Rural</td>
<td>11</td>
</tr>
<tr>
<td>Household income (range)*</td>
<td></td>
</tr>
<tr>
<td>&lt;$40K</td>
<td>28</td>
</tr>
<tr>
<td>$40 – 80K</td>
<td>22</td>
</tr>
<tr>
<td>$80K+</td>
<td>39</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>18 – 34</td>
<td>6</td>
</tr>
<tr>
<td>35 – 49</td>
<td>17.5</td>
</tr>
<tr>
<td>50 – 64</td>
<td>53</td>
</tr>
<tr>
<td>65 – 79</td>
<td>23.5</td>
</tr>
<tr>
<td>Attached to a primary care physician</td>
<td>94</td>
</tr>
</tbody>
</table>

* Household income range not adding to 100%, due to answers of “prefer not to answer”
6.1. Selection of questions and responses from the Patients’
Readmission Survey

The following questions and responses are particularly relevant to the focus of this paper. See Appendix D for the full questionnaire.

Q. 4a did patients feel prepared to leave the hospital when they were discharged prior to their readmission\(^{25}\)?

Thirty-three percent of the patient advisors who replied to this question indicated that they did not feel physically prepared to leave the hospital\(^ {26}\). Emotional/mental preparedness was more of a concern for fifty percent of respondents who also said they felt “very unprepared” upon discharge. Financial concerns were admitted by some of respondents (17%) who reported feeling “very unprepared” when it was time to leave the hospital.

Were patients provided with a discharge summary?

“Yes, verbal instructions” said 40% of respondents to question 6: “A nurse or other staff gave me instructions on how to care for my recovery prior to my discharge”. Written instructions were provided to only 20% of the patient advisors, and 35% said they had received “no instructions”. One respondent could not recall.

Q. 7 Were instructions provided to another person (i.e., brother, friend, spouse caregiver) on how to care for recovery prior to discharge?

“No instructions” responded 70% of advisors, while 20% answered that verbal instructions were provided and only 10% recalled the provision of written instructions. As for setting a follow up appointment with either the attending physician or other clinical staff at the hospital\(^ {27}\), only 25% said there was a time and date set; another 25%

\(^{25}\) Answers were divided into 3 sub-sections as “physical”, “emotional” and “financial preparedness”, each with a 5-point Likert scale from “very prepared” to “very unprepared”

\(^{26}\) Answers of “somewhat unprepared”, (2 of 12), and “very unprepared”, (2 of 12), were combined.

\(^{27}\) See Appendix C: Survey Question 8
recalled the advice to follow-up was given but no date was set, and 40% replied that there was “no discussion of following up”.

Q. 9  I was told about community supports for my wellbeing in my neighborhood and how to access them.

Q. 22 I was visited at home by a health care worker set up by the clinical staff at the hospital through my primary care network

Eighty percent of the advisors responded “no” to question 9 and 84% responded “no” to the question 22. In answer to the question 33: “My primary health care provider(s) was informed of my visit(s) to the hospital prior to my telling them”, close to 39% of the advisors said yes, while 33% said no, and around 28% were not sure.

Q. 10 A staff member explained to me what my recovery experience would feel like with examples of standard recovery outcomes and timelines to compare with my own experience.

While 15% of advisors agreed to this, none “strongly agreed” and 80% disagreed, including 45% who “strongly disagreed”.

*There should have been more to plan for discharge and information and counseling about what I can expect during recovery.*

Q. 17 I took my prescription drugs for recovery as prescribed

Q. 18 I understood how to use my medication

Not a single response to question 17 or 18 indicated difficulty with understanding how to take their medication. Most of the advisors said they were able to remember all of the instructions provided to them prior to their departure from the hospital (63%), with only 21% saying they could not. Over half of the respondents (53%) said they used reminders such as calendars, phone alarms, and notes to keep their medication or wound

28 quote from survey
care on schedule. A few respondents had difficulty paying for their prescription and supplies for the duration of their recovery (26%), and some had a difficult time getting to the place to purchase their prescriptions and supplies (32%).

**Preferred Policy Options from the Survey**

A set of policy options were repeated over two differently designed questions with one asking respondents to rank the options in order of preference, and the other asking them to qualify each option’s effectiveness on a 5-point Likert scale from “very effective” to “very ineffective”. The options offered were:

- Improved discharge planning such as written instructions and calendars
- Increased transitional services such as follow-up phone calls or home care visits
- Better communication between hospital staff and primary care providers
- Assistance with disease prevention and health promotion

For both question designs, advisors preferred the option of “increased transitional services, such as follow-up phone calls or home care visits”, with 94% scoring it as effective (61% “very”, 33% “somewhat”), and 71% ranking it first in the ranking question. The second-best option for both sets of questions was a tie between “improved discharge planning such as written instructions and calendars” and “Better communication between hospital staff and primary care providers”.

For effectiveness, “Better communication…” scored slightly higher than “improved discharge planning…” (89%, compared with 83% respectively), but was ordered third place in the ranking question slightly behind “improved discharge planning…”. “Assistance with disease prevention and health promotion” was considered effective by 44% of respondents, but was also the only option to be scored as “very ineffective” (22%). In the ranking question, 85.7% of the respondents ranked it last.

Findings from this survey are similar to those from a recent B.C. study on the preventability of readmissions which, found that of five categories of “preventable”

---

29 See Appendix C: Survey Questions 19 & 20
30 See Appendix C: Survey Questions 14 & 15
readmissions the most prevalent cause of readmission, was “Inadequate coordination with community services on discharge” for 62% of cases. “Poor communication with primary care” was listed as the main causal factor for 38% of cases (Shuster et al., 2018).

Figure 4. Ranked Policy Preferences Question 27b: “The Patient’s Readmission Survey” (1 to 4; or best to worse)
Chapter 7. Criteria & Measures

The set of criteria outlined in table 3 will be used to evaluate the possible practices for readmission rate reduction in British Columbia. These criteria help to balance the trade-offs and benefits incurred for each practice.

Table 3. Criteria & Measures

<table>
<thead>
<tr>
<th>Objective</th>
<th>Criteria</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection and Security, Effectiveness</td>
<td>The extent to which the practice can reduce readmission rates, thereby improving patient health outcomes</td>
<td>Fewer preventable readmissions to acute care as measured by the DAD or other reporting tool</td>
</tr>
<tr>
<td>Equity</td>
<td>The ability for the practice to benefit all patient groups regardless of personal characteristics such as socioeconomic status, age, ability, ethnicity, or place of residence</td>
<td>Distribution of access to and benefit from is in proportion to the population distribution of the target group, to be reviewed in program evaluation.</td>
</tr>
<tr>
<td>Stakeholder Acceptance Includes patients, caregivers (informal), clinicians &amp; health system professionals</td>
<td>Patient experiences are considered</td>
<td>Inclusion and participation in design/reports on</td>
</tr>
<tr>
<td></td>
<td>Caregivers needs and inputs are given consideration</td>
<td>Inclusion and participation in design/reports on</td>
</tr>
<tr>
<td></td>
<td>Clinicians are consulted for input and impact</td>
<td>Inclusion and participation in design/reports on</td>
</tr>
<tr>
<td>Administrative ease</td>
<td>The extent to which new programs, offices or processes need to be developed to accommodate the practice, versus the</td>
<td>Hours to train staff and time to adapt to change in terms of “full time equivalences” [FTEs](^{31}), compared with current level</td>
</tr>
</tbody>
</table>

---

\(^{31}\) Full-time Equivalents [FTE] are a hospital budgeting concept. Each FTE is valued at $200K for a year of full-time work, which includes the cost of training, the benefits package and an amount to capture the high turnover rates at the hospital.
<table>
<thead>
<tr>
<th>Objective</th>
<th>Criteria</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>availability of existing structures to work within.</td>
<td>Operational structures exist already</td>
</tr>
<tr>
<td>Government priorities</td>
<td>The extent to which costs can be justified within current budget(^{32}) or SPOR funding model(^{33}).</td>
<td>Costs are a fraction of what is available for initiatives targeting readmission relevant patient groups and projects.</td>
</tr>
<tr>
<td>Government priorities</td>
<td>The extent to which the practice meets the priorities set in the British Columbia Ministry of Health Service Plan 2019/20 – 2021/22</td>
<td>Better management of chronic diseases through continuous care provider relationships Collaborative program development toward integrated system, including health authorities, GPAC, Nurses, community health centres and other health professionals.</td>
</tr>
</tbody>
</table>

\(^{32}\) $1.3 Billion to support team-based primary care and increased services for older adults; 5$ million to train new health care workers (BC, 2019).

\(^{33}\) There is a substantial amount of funding available for patient-oriented research projects partnering with BC Support Unit: 40 million provincial funds (30 million in kind, which is composed of resources provided by partners, and 10 million in cash) matched in cash by CIHR (another 40 million).
Chapter 8. List of Potential Practices

Best practices development can be used to develop options in health policy (Weiner, 2005). Practices may include providing incentives, information and education, developing organizational infrastructure, stimulating inter-agency collaboration, and developing and using policies, laws and regulations (Weiner, 2005). The practices in the following list are both explicitly found in the research (as suggested by the literature review, mentioned by interviewees or requested by the survey respondents) or have been developed indirectly by the author in response to the findings. The practices have been categorized in groups similar to those used in the review of practices by Bradley et.al (2015). The following list attempts to exhaust all actionable practices that may singly or in combination, reduce readmission rates.

A. Improved Patient Communication and follow-up practices

   i. Mandate the scheduling of a follow-up appointment with someone involved in the patient’s index care episode, prior to his or her discharge and within one week of it.

   ii. Mandate post-discharge follow-up phone calls within three days of discharge with the patient or their caregivers.

   iii. Undertake provincial-wide staff training of nurses and physicians for relational communication skills. Teach soft-skills and effective information transfer for better communication with patients and their caregivers.

   iv. Examine CST Cerner system to make sure that specific components for patient communication and follow-up are included or mandate their inclusion.

   v. Enable the adoption of two-way follow-up communication between patients and hospital care providers via mobile-health technology across the health authorities by approving platforms like WELTEL to develop programs through the Virtual Health offices.

B. Better Discharge Planning processes

   i. Upon admission, record data on patients’ social determinants of health and the care setting they are coming from. Use this process to find out whom they connect with in their community. The Care Management Lead will include these relevant risk factors and resources when deciding upon a discharge plan for each patient.

   ii. Mandate the provision of typewritten discharge summaries for each discharged patient and/or caregiver and send a copy to the primary care physician or network most likely to follow-up with the patient.
iii. Expand the enhanced discharge work already happening at Vancouver General Hospital. Provide more full-time equivalencies [FTEs] for the hiring of specialized Care Management Leads and their teams in hospitals across the province.

C. Integration of health care providers involved in the discharged patient’s care

i. Develop formalized communication protocols and continuity of care guidelines across primary, community and hospital care by holding a series of JCC events34 and convening working groups comprised of physicians, home care nurses, care management leads and allied health professionals.

ii. Expand the informal caregiver’s access to the circle of care. Create a working group to consider adding an interim step between the absolute access granted by a power-of-attorney and the dearth of access in most other cases.

iii. Examine CST Cerner system to make sure that specific components for care continuity and communication procedures are included or mandate their inclusion in the system.

iv. Use Ministry mandate to re-energize the Quality & Safety Departments of the Health Authorities to get accredited per 2017 Required Operational Procedures document, specifically the “information transfer during care transitions” standards.

v. Set up a commission on studying an “Episodes of care and bundled payments” reform to hospital and community care payment methods since this will incentivize team-based care coordination.

D. Improved Medication Reconciliation (Med-rec) processes

i. Use Ministry mandate re-energize the Quality & Safety Departments of the Health Authorities to get accredited per 2017 Required Operational Procedures document, specifically the “Med-rec at care transition” standards

ii. Mandate Med-rec within 24 hours of discharge at the patient’s place of residence, to be attended by a nurse or clinician with pharmacology expertise.

iii. Commission a Med-rec application for mobile phones that enables patients to use once home from hospital: they take photos of their pill bottles and send these to a clinician for instructions.

34 JCC events bring health professionals together to work on problems and design solutions together. See Appendix B.
iv. Develop a Med-rec program that includes mandating new labelling standards for medicine bottles by pharmacists (using QR barcodes), a Med-rec app for each patient discharge containing a list of prescribed drugs, and an artificial intelligence assisted algorithm that scans through the database for potential unintended interactions between drugs identified by their barcodes.

E. **Improve Disease Management Practices**

i. Mandate teach-back\(^{35}\) methods for clinical staff to use with patients and caregivers prior to discharge. These methods ensure that the recovery instructions are understood correctly.

ii. Set up Heart Failure Clinics within the medical wards. These keep heart failure patients from “falling through the cracks”

iii. Assist in the adoption of more remote monitoring technology for COPD, heart failure and other chronic conditions requiring more intensive self-care. Use the PHSA procurement system, the Virtual Health offices and the nurse educators of the health authorities to manage education and implementation.

---

\(^{35}\) Nurses to confirm that the patient or caregiver understands instructions on self-care prior to discharge and has been shown to reduce readmissions (Miller, Lattanzio, & Cohen, 2016) use the method.
Chapter 9. Practices Matrix

The following contains a rough analysis of each of the possible readmission rate reduction practices from the previous section in terms of their advantages and disadvantages that are derived using the lens of the criteria contained in table 3.

Table 4. Practices Matrix

<table>
<thead>
<tr>
<th>Practice (abbreviated)</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. i. Mandated follow-up scheduled within one week of discharge.</td>
<td>Meets protection and security criteria. Evidence to support this as an effective intervention on its own. Mandates more likely to be acted on in a timely fashion.</td>
<td>Poor at stakeholder acceptance since it does not develop capacity at the hospital with clinical staff. Possible equity issues, unless transportation to the appointment is provided. Patients involved in precarious work may not be able to get time off work for the follow-up.</td>
</tr>
<tr>
<td>A. ii. Mandate post-discharge follow-up phone calls within three days.</td>
<td>Somewhat effective since that may not be the best time frame to catch a health concern.</td>
<td>Poor in capacity development at the organization. Might be an equity concern if translation services are not available.</td>
</tr>
<tr>
<td>A. iii. Province-wide relational communication training of nurses and physicians</td>
<td>Medium at meeting effectiveness since results would be indirect and difficult to quantify.</td>
<td>Expensive. Administratively challenging to schedule. Needs a patient-oriented approach to bring patient and caregiver stakeholders into the process.</td>
</tr>
<tr>
<td>A. iv. &amp; C. iii. Design specific components for patient communication and follow-up as well as care continuity in CST Cerner.</td>
<td>A iv. Should be effective at enhancing communication practices for the patients involved C. iii Effective: The system will already be providing</td>
<td>Poor for equity as it only addresses patients within a single health authority (VCH); Time horizon is distant36. Community care not integrated37</td>
</tr>
</tbody>
</table>

36 Estimated completion in 2023
37 While the CST website mentions “integrated plans of care” starting at patient admission, community health providers such as long-term care facilities and community health nurses at shelters have not been explicitly
<table>
<thead>
<tr>
<th>Practice (abbreviated)</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>interoperability between hospitals and physician clinics. Infrastructure will already be laid to tweak for improvements.</td>
<td>Two-way follow-up communication via mobile-health technology</td>
<td>Effective at improving patient experience and outcomes. The Virtual offices exist to facilitate the use of new technology. Must include clinicians, patients and caregivers in the design of the system components in order to meet stakeholder acceptance. Could increase the workload of point-of-care; requires adequate provisioning of FTEs for follow-up services</td>
</tr>
<tr>
<td>A. v.</td>
<td>Use recorded info on patients’ SDH and care setting pathway for discharge planning. Good for effectiveness if readmission risk assessment more inclusive of uncaptured needs.</td>
<td>Requires design that considers clinical user needs and patients’ privacy concerns.</td>
</tr>
<tr>
<td>B. i.</td>
<td>Mandate typewritten* discharge summaries for all provided to relevant circle of care. Meets the basic standard in other provinces (Ontario, where rates are 9.2%); Meets criteria for equity if language and literacy needs are considered.</td>
<td>Asks more from clinicians both at the hospital and in the rest of the care continuum. Requires organizational change management. Also requires developing communication networks and processes between care settings in order to be effective.</td>
</tr>
<tr>
<td>B. ii.</td>
<td>More FTEs for enhanced discharge planning. Medium: effective for those being assessed as high-risk. Better if risk assessment improves.</td>
<td>Equity concern: If current methodology is not based on the most clinically relevant risk factors patients will be missed</td>
</tr>
</tbody>
</table>

mentioned as part of this “integrated” system. The page does contain the suggestion that the plan is customizable (“integrated plans of care”, n.d.).
<table>
<thead>
<tr>
<th>Practice (abbreviated)</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
</table>
| C. i.                                                                                 | Develop formalized communication protocols and continuity of care guidelines across primary, community and hospital care (JCC model).  
Including physicians at the design phase can overcome the structural barriers faced by primary physicians in their clinics and include hospital physicians and their issues.  
Including all voices from the care continuum in the design phase can improve the chances for developing effective guidelines.  
Meets government priorities (Objective 1.1)                                                                                                                   | Does not explicitly collaborate with caregivers or patient advisors.  
Many voices in one space with traditional professional hierarchies may be a difficult collaboration to facilitate.  
If poorly managed an event like this could foment distrust or conflict between the groups                                                                                     |
| C. ii.                                                                               | Expand the informal caregiver’s access to the circle of care.  
Providing caregivers with adequate information and access enables their assistance in keeping the patient at home.                                                                                                                          | Challenging aspects of patient privacy and autonomy made more difficult if the patient is in the early stages of a neurodegenerative disease.                                                                                                                                             |
Effectively incentivizes care coordination.                                                                                                                                                                                                                                                                                                                                                                                          | Distant time horizon since starting at the “working group” stage                                                                                                      |
| C. iv. & D. i. & D. ii.                                                              | Mandate accreditation per 2017 ROP document, for information transfer, Med-rec and home safety assessment standards.  
Effective at stimulating action on three important rate reduction strategies.  
Readmissions due to drug interactions could be prevented. Four-thousand deaths per year in BC are caused by adverse drug events, including drug interactions.38                                                                 | Does not resolve structural barriers to standards adoption. Puts the onus on resource-strapped organizations to figure it out. Could compete for space with other strategic priorities.  
Re: Med-rec: The FTE requirements to make this happen would be massive.                                                                                             |

---

38 Action ADE (SPOR funded project with BC Support Unit as partner) is developing the infrastructure to record drug interactions into patient files.
<table>
<thead>
<tr>
<th>Practice (abbreviated)</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Safety concerns for the staff conducting multiple home visits.</td>
</tr>
<tr>
<td>D. iii. Med-rec app for patients: sending photos to a clinician.</td>
<td>Reduces the expense and safety challenges of home visits while managing a Med-rec program.</td>
<td>Requires cooperation of patient to use the technology in a timely manner. Requires clinical technicians to analyze the reconciliation and respond to it at the receiving end.</td>
</tr>
<tr>
<td>D. iv. Med-rec program: Pharmacy-labelling changes, a Med-rec app with AI assisted programming.</td>
<td>Only requires clinician intervention if the AI program flags a conflict. Phones are ubiquitous, and apps using the phone camera and linking to databases are not out of reach in current technological innovations. Aligns with “modernizing the health system using IT &amp; technology” Could build on database improvements being developed by Action ADE, which will add a record of patient adverse drug events to the Pharma-net database of prescription history.</td>
<td>Equity issues in case of patients without active phones (bills not up to date; data unavailable, etc.), unless a lender-phone program can close that gap.</td>
</tr>
<tr>
<td>E. i. Teach-back techniques</td>
<td>Effective for readmissions related to improper medication use, disease management or wound care</td>
<td>Only addresses the cognition piece and only ensures that instructions are understood in the moment. Requires change management.</td>
</tr>
<tr>
<td>E. ii. Set up Heart Failure Clinics</td>
<td>50% decrease in heart failure patient utilization</td>
<td>Administratively complex since this practice requires a reorganization of</td>
</tr>
<tr>
<td>Practice (abbreviated)</td>
<td>Advantages</td>
<td>Disadvantages</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
<td>---------------</td>
</tr>
<tr>
<td></td>
<td>of ER; and gains in quality of life</td>
<td>admission procedures, and sequestering beds for a specific cardiac area.</td>
</tr>
<tr>
<td>E. iii.</td>
<td>Adoption of more remote monitoring technology for chronic conditions.</td>
<td>Connects clinicians to data on patient symptoms and vital signs. Can be used for proactive following up that prevents the need for a readmission.</td>
</tr>
</tbody>
</table>
Chapter 10.  Recommended Priority Practices

In order to determine what should be considered a “priority practice and therefore a recommended practice, each option was evaluated against the criteria developed for this analysis. Where there is evidence for readmission rate reduction, a practice strongly met the criteria: “protection and security through effectiveness”. Stakeholder acceptance and equity concerns were evaluated by whether a practice could be designed and implemented in ways that involve and benefit the affected parties. Determining whether practices meet government priorities was based on a review of the recent BCMH Service Plan’s stated goals and strategies. In order to assess administrative ease, a crude estimation of the staff, training and resources required for each practice was compared against an estimate of those same structures at present. Similarly, a limited appraisal was used for cost, given the complexity of these initiatives and the limits to scope for this study. Additional considerations relied on the following parameters:

A. How well does this practice fit logically within the set of other priority practices for working with readmissions, since evidence suggests that three or more combined strategies can achieve the best results?

B. How strongly has this practice been supported by the evidence gathered? Did the use of this practice come up in the literature review, the expert interviews and/or the survey responses?

C. Does the practice have the potential to meet the quadruple aim (plus one)?

D. Can the practice be acted on immediately, and still be modified as changes in the system emerge? For example, can it be flexible and responsive to the developing IT infrastructure for electronic health records?

The following priority practices are most likely to realize effective, equitable and acceptable results in terms of readmission rates. These practices can and should be taken up soon.

39 See criteria table
1 Mandate the scheduling of a follow-up appointment (in person or by text) with someone involved in the patient’s index care episode, prior to his or her discharge and within one week of it.

This type of intervention has been proven to achieve rate reductions, therefore meeting the criteria of “protection and security”\textsuperscript{40}. Equity concerns can be met by taking an accessible communication approach\textsuperscript{41}. While it will involve increasing administrative FTEs, this mandate should not involve much additional training. While scheduling systems already exist within hospitals, practices around managing a wider use of these systems will be necessary. This practice also meets stated government priorities such as “Better management of chronic diseases through continuous care provider relationships”. Follow-up appointments were strongly supported by the survey respondents\textsuperscript{42}. This practice can be taken up immediately and can be adapted to the current IT infrastructure. It can be included in the emerging electronic health record systems as they develop. In terms of meeting the Quadruple Aim (plus one), the process to enable this practice can be developed through consultation that includes clinicians, patients and caregivers.

2 Develop formalized communication protocols and continuity of care guidelines for all patients across primary, community and hospital care systems.

Continuity of care across care settings is a common theme in readmission rate solutions from the literature and has been requested by patients in the survey.

\textsuperscript{40} The only single intervention effective at reducing rates (Bradley et al., 2015); as part of a focused discharge approach, including comprehensive discharge planning and extra post discharge supports reductions of 25% for heart failure readmissions (Epstein, 2009).

\textsuperscript{41} See Sunnybrook’s website for their approach: https://sunnybrook.ca/content/?page=care-access-communication

\textsuperscript{42} “increased transitional services, such as follow-up phone calls or home care visits”: 61% “very”, 33% “somewhat” effective
conducted for this study. This practice would strongly meet government health system integration goals. Meeting stakeholder acceptance criteria can be accomplished by holding a series of collaborative events and convening working groups comprised of physicians, home care nurses, care management leads and allied health professionals. Including a study of patients and caregivers’ communication concerns across the province can inform the protocols in order to keep the process focused on patient needs. Additionally, this inclusion of patient/caregiver input could qualify the practice as a project for SPOR funding. Sharing this type of information between care providers will require careful analysis of the trade-off between privacy and efficacy. This practice should be undertaken as an early step in a rollout of readmission practices, based on the available resources at this time and considering the level of interoperability in information management systems as is currently available. Information gathered in this process can also enhance the developing IT infrastructure to include relevant information sharing practices for readmission concerns. The process should involve an attempt to envision changes and plan for the adaptation of the communication protocols following technological improvements. This practice is a priority because it is foundational to the success of other readmission practices. It addresses the lack of integration in the patient care continuum that is specific to communication.

3 **Mandate a typewritten discharge summary be produced for each patient who was admitted to the hospital upon discharge. Give a copy to the patient, one to their caregiver (where appropriate) and send one by fax to their primary care physician.**

---

43 62% patients said “Inadequate coordination with community services on discharge” was the reason for their readmission (Shuster et al. 2018) and “Better communication between hospital staff and primary care providers” was considered to be effective by 89% of survey respondents

44 Such as JCC
As suggested by both interview findings and survey responses, this practice is not routine in all BC hospitals despite its recommendation by the BC Patient Safety Quality Review Boards in 2015. A lack of action in implementing this practice suggests that a mandate is needed, since discharge summaries are foundational to the comprehensive discharge planning approaches found to be effective from the literature (Epstein, 2009). As part of a set of practices, the dissemination of a typewritten discharge summary meets the requirement that clear information and instructions are available to the patient and their circle of care. Electronic translation services and designs informed by experts in accessible communications can anticipate equity concerns for language, literacy and sight issues. The discharge summary should be informed by a patient-oriented approach to ensure patients’ communication needs are met. The summary could be accompanied by a teach-back opportunity, where the attending clinician ensures that instructions are understood. For clinician acceptance, it is crucial to recognize that an elaboration of the discharge process will demand more time at the point-of-care. The use of communications, design, change management and technology in implementing this practice can maximize efficiency and minimize user difficulty. Future technological development will improve the ease for which the summary may be disseminated. From the outset, the forms can be designed to import relevant information from the patients’ hospital record and connect with pre-fabricated documents providing instructions for diverse conditions. This practice will require additional development costs depending on the choice of software that the hospital or health authority chooses. Additional funds provided by the recent provincial budget should accommodate the costs.

---

45 “A nurse or other staff gave me instructions on how to care for my recovery prior to my discharge”. Verbal instructions 40% Written instructions 20% and 35% said they had received “no instructions”

46 Shown to reduce readmissions, this method is used by nurses to confirm that the patient or caregiver understands instructions on self-care prior to discharge (Miller, Lattanzio, & Cohen, 2016).
Assist hospitals in meeting the accreditation standards within the 2017 Required Operational Procedures document for medication reconciliation.

Med-rec is a crucial component of successful readmission rate bundles (Tuso et al., 2013). Additionally, this study’s interviewees pointed out the need for immediate action on implementing this practice and strongly supported its inclusion in a provincial readmission rate strategy. Accreditation Canada has included standards for Med-rec in the Required Organizational Practices document for 2017, yet the challenges in adopting med-rec have led to limited implementation. Clinicians are sensitive to the need for a med-rec process that works to ensure patients do not take conflicting medicines when they leave the hospital. For patients and caregivers, a process that assures them of what medications they should or should not be taking once they return home from the hospital with new prescriptions in hand can help to eliminate preventable readmissions due to adverse drug reactions. Since ADEs are the cause of over 4000 deaths per year in B.C., immediate implementation of Med-rec practices will have valuable co-benefits.

---


48 Kaiser Permanente Northwest Region, winner of the Lawrence Patient Safety Award for innovative and effective readmission rate reduction work, included Med-rec in their “transitional bundle of care” even at low Lace index scores (0-6), achieving a 1.8 percentage point reduction in readmission rates over a two-year period.
10.1. **How to make an effective Med-rec practice (along with other priority practices) a reality involving a simple technological innovation.**

As a mechanism for providing two-way communication during the high-risk post-discharge period, m-Health should be employed in readmission rate reduction programs. By providing a mechanism for follow-up communication services\(^{49}\), this technological solution could help to achieve the priority practices outlined herein. The low-cost technology could also provide remote disease management coaching, an additional readmission rate responsive practice. The platform can be designed by input from all stakeholders for multiple and specific functions. In meeting equity concerns, functions can be designed to achieve equal benefits for smart phones or simple SMS (text) technology. Since readmission disproportionately affects the poorest Canadians (CIHI 2016), this flexibility in design across platforms precludes access issues due to income. WELTEL has further provided loans of simple SMS phones to patients in their treatment groups in order to overcome access barriers. In their Haida Gwaii pilot with young Indigenous women, the project was able to gain overall cost savings, even when phones needed to be provided and replaced.

A major advantage is the opportunity to modify the platform to meet several priority practices at once. For example, follow-up services are inherent, while teach-back can also occur by text. Med-rec can be managed remotely using photos or by having the patient text the names of medications in their medicine cabinets. Discharge instructions can be held within the application for the patient’s reference. The use of mHealth can facilitate the communication needs for readmission rate reduction and achieve the co-benefits of improved patient experience and improved patient outcomes.

The evaluation of an mHealth readmission project, including and based on the practices hitherto mentioned, can be tested using quality improvement approaches at adjacent hospitals in diverse health authorities and data from these projects can be inputted into the Health Data Platform. Furthermore, implementing these projects may

\(^{49}\) the only single readmission rate driver per Bradley et al. (2015)
occur in the near-term, using funds from the SPOR initiative and 2019 Budget. An mHealth-enabled system for patient-to-clinician communication enhancement will also be relevant after a fully interoperable EHR system has been achieved.

I recommend that we enable the adoption of mHealth technology. The technology can be eventually implemented across the health authorities by first approving platforms like WELTEL to develop Quality Improvement readmission-focused projects through the Virtual Health offices. The PHSA can further manage a procurement process in order to keep a minimal but effective list of technology providers. For a coordinated approach between hospitals: encourage hospitals to collaborate and compare patient readmission data while enacting QI projects using mHealth. This partnered approach is recommended in the literature and interviews, since adjacent hospitals are likely to catch a percentage of readmissions from the other. Therefore, a coordinated data tracking system can expand the picture clarifying the situation. Making use of the Health Data Platform as soon as possible will help to track changes in readmission rates following the implementation of practices and provide data for further research.

**Table 5. Suggested Implementation Practices**

- Use a patient-oriented approach to designing and conducting pilot projects that meet the above priority practices.
- Use embedded evaluators and Quality Improvement processes, including data dashboards to witness rate changes and other data fluctuations, in order to optimize projects.
- Develop a long-term strategy to ensure successful uptake. Consider mandating minimum contract terms for health-authority management and project/change management positions tasked with these projects.
- Put WELTEL on a limited list of mobile-health options through the PHSA Supply Chain procurement process. Once listed in the “Preferred Product Catalogue” prices can be reduced for interested Health Authorities and Hospitals, and the standardization of products helps to reduce variances in practices (“standardization”, n.d.). Moreover, through the PHSA channel, with its coordinated services, there is a better chance for scaling up m-Health services, if pilot projects results warrant.
Chapter 11. Conclusion

The evidence surveyed in this study of readmission rates implicates the communication practices of hospitals when they are discharging patients (Gruneir et al., 2018; CIHI, 2012; Epstein, 2009; Shuster et al. 2018b; “Patient Readmission Survey”, 2019). Recommendations that could close the communication gap, such as from the BC Patient Care Quality Review Board in 2015 and Accreditation Canada’s Required Organizational Practices document in 2017, have been taken up either incompletely or as piece-meal projects directed at a small group of high-risk patients (Shuster et.al, 2018; “Patient Readmission Survey”, 2019). A comprehensive approach to improved communication would provide typewritten discharge summaries for every patient being discharged after a procedure. Inclusive practices developed for all patients and communicated throughout the care continuum (including community health nurses, for example) would help reduce the stratification of readmissions by income.

For high risk readmission rate cases involving frail older adults and/or people struggling with substance use and addiction, the evidence suggests that better integrating community care (home care, community health clinics) with acute care can improve patient experiences and outcomes and potentially reduce readmission rates. The BC government’s current focus on integrating health care between primary and community resources is therefore timely and advantageous, though not complete in scope. The development of Primary Care Networks and Community Health Service Areas should provide coordinated access to non-urgent care circumventing the need for some hospital admissions and thus indirectly improving readmission rates. However, since acute care, a crucial connection in the care continuum during readmissions is not explicitly included in this strategy, effective readmission rate reduction remains out of focus. Therefore, the convening of health care organizations across acute, community and primary, in order to develop formalized communication protocols remains a priority. Fortuitously, some of the groundwork may have been freshly laid through the recent accomplishments of the Primary Care Strategy.
Effective policy solutions to the problem of high readmission rates will require multiple components working toward strengthening the care continuum and improving communication practices throughout the entire episode of a patient’s care. To mediate complexity and anticipate challenges, convening exhaustive groups of care providers to design communications processes should be undertaken at the outset. In order to ensure that the communication process designs are inclusive of their needs and insights, representatives from patient/caregiver focus groups should be given a prominent voice in the proceedings. Clinical insight is also necessary to develop sound and feasible practices.

With the use of technological solutions like mobile health all patients could receive, a complete discharge process, including a discharge summary, some form of follow-up, be it face-to-face or by text, and medication reconciliation. This might reduce or eliminate the need for readmission risk assessments, such as LACE, which, in their current form, fail to identify almost half of those at risk. Since improved adherence to treatment is a demonstrated feature of mHealth communication tools, implementing them could fulfill an important co-benefit. Mobile-health has the potential to reduce communication gaps in general, is modifiable to include specialized components and may be implemented in the near-term for almost every patient.

Efforts toward integrating the provincial health care system in B.C. constitute an important step forward. However, without following the patient throughout their care trajectory and listening to what is being reported to us, we may continue to miss the most important messages. In this way, our high readmission rates can be seen as a helpful reminder that there is still work to be done within the relationships in our health care system, especially in the ways through which we communicate across them.
References


Guidelines and Protocols Advisory Committee Gpac. (n.d.) Retrieved from https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/msp/committees/guidelines-and-protocols-advisory-committee-gpac


Home is Best. (Webpage, n.d.) Retrieved from https://www2.gov.bc.ca/gov/content/family-social-supports/seniors/about-seniorsbc/seniors-action-plan/what-we-ve-done/home-health-care?keyword=home%20is%20best


Appendix A. The Quadruple Aim (plus One) framework

Berwick et al.’s (2008) concept of a “Triple Aim” suggests that health policies need to address cost-containment, health outcomes and patient care experiences as simultaneous targets. Patient experiences are measured and assessed for both their subjective and objective dimensions. As such, issues of safety, cultural safety, equity, efficiency, timeliness, and person-centeredness are evaluated as “patient experience” (Galvin, 2018). More recently, health policy analysts have recommended expanding the framework to include the needs and contributions of the clinical professions in a “Quadruple Aim” (Sobal, Jaskie, 2016). “Plus, one” is an acknowledgment, for now, that the framework should have five aims, with consideration for caregivers’ unique needs given their increasingly important role in healthcare.

Figure A.1. Aims in Health Policy: From Triple to the Quadruple Aim Plus One
Appendix B. Change Management: Lessons and opportunities

Building Consensus

The main component in a successful implementation is behavioural change. To be successful, good leadership and accountability are paramount, since many clinical staff have developed habitual practices over many years at their jobs, explained Golareh Habibi, Evaluation Specialist at Fraser Health. Including physicians and other health care professionals in the design process of new guidelines is paramount. As interview participant A1 stated:

*Consultation with physicians on any new change is key. They want to know what is happening, why it’s happening and they have a particular clinical perspective that they can provide that others can’t*

Dr. Shuster agrees, “You kind of need the physician buy-in to create any sort of change in the hospital.” Moreover, resistance is to be expected, “especially when it impacts patient care.”

A1 described the rollout of new opioid prescribing guidelines as an example of the wrong way to treat a crucial stakeholder. The tone of the rollout was perceived as an admonishment of their clinical judgement causing offense, which impeded the relationships required to help guide the challenging process of meeting the new guidelines.

*So, it was just kind of the timing, the way it was framed, the approach that was taken, you know, and then a lack of resources for physicians to be able to support their patients when all of this change was happening and this new standard and guideline was implemented. It just made it very difficult for physicians to adjust or adapt to that change.*

Priority overkill; Cognitive space

The Clinical and System Transformation project, described by A2 as “the biggest implementation in many health care worker’s lifetimes”, is an example of how huge projects can derail other priorities. The project has demanded many cognitive resources from the health care workers involved and is behind schedule and over-budget. Interview
participant A2, described the reality of adjusting to change at the point of care in a busy hospital. Multiple, competing priorities are developed in siloed departments, such as Quality and Safety, Professional Practice, and Operations, each endeavouring simultaneously to get their priorities to be taken up by the clinician at the point of care. A2 questioned the availability of the “cognitive space” required for people to learn what is happening for each thing “all while care is happening”. It is hard for one person at the point-of-care to do a good job given this complexity.

**Change Management Pathways; large and small changes**

Change management is crucial for “building consensus”, handling staff turnover, the impact of new legislation, changes in local contextual factors and emerging special interests said Minnie Downey. There is a distinction between large and small changes in terms of strategy. The larger the project, the more likely that a Change Management Team would be employed explained A2. Dr. Shuster suggested that big system-wide changes require “lots of education” and include “individuals who are more expert to support the nuances of how everyone’s going to navigate this new system.” He tapped nurse educators, nurse leaders and administrators as “the main people involved in the initiatives around readmission” but stressed that buy-in from everyone involved would affect success.

**Educator pathways**

In a generalized pathway for change, the Ministry of Health makes recommendations to the Quality and Safety, Professional Practice or Virtual Health department of the health authorities who design an appropriate policy or “best practice” in response. The ‘best practice’ is then communicated to an “educator group” who decides whether a standardized education plan is warranted. Participant A2 said this decision is based on the level of “cognitive shift” involved. Smaller changes such as new clinical guidelines are communicated at unit meetings or by email to the units, while for larger changes, standardized plans with training materials may be developed. A “super user” or train-the-trainer model is sometimes employed to speed education. For larger changes that fall under the category of Strategic Priorities, health authorities might bring
in a Change Management Team. Education that is mandatory needs to be paid\textsuperscript{50}, and requires nurses to “come off the unit, many of which are already short-staffed” this could cause a detriment to patient care. As such, there is an effort to try not to do mandatory education if possible, disclosed A2.

**Physician committees & organizations**

More than 90% of the province’s physicians are voluntary members of Doctors of BC, previously known as the British Columbia Medical Association [BCMA]. The association negotiates compensation for all physicians within the province. Through the Practice Support Training Program, Doctors of BC manages the training of professional practice modules for physicians. The association also helps to communicate news about new guidelines as dictated by the College of Physicians and Surgeons of British Columbia, through newsletters and social media channels. In return, they are responsive to complaints about guidelines from Physicians. Physician interest in contributing to decision making prompted the creation of the Joint Collaboration Committees [JCC]\textsuperscript{51} comprised of Ministry and physician representatives as part of the Physician Master Agreement.

**Change across the entire system**

The CST rollout provides lessons in change. A good strategy would have been to harmonize protocols, guidelines and policies as a first step, said participant A2, as the degree of practice variance and number of target sites created incredible complexity for implementation. The pressure of funding promised by the outgoing provincial government may have caused the project to be rushed, they opined. Nevertheless, a beneficial outcome of the project is how it has helped people to work together across

\textsuperscript{50} Full-time Equivalents [FTE] are a hospital budgeting concept. Each FTE is valued at $200K for a year of full-time work, which includes the cost of training, the benefits package and an amount to capture the high turnover rates at the hospital.

\textsuperscript{51} The event “JCC Champions of Change” hosted by the BC Patient Safety & Quality Council held in March 2018 was attended by over 400 physicians and other health care professionals. The topic of “Streamlining Care Pathways” was included in the workshop format. A Continuing Medical Education credits of 6.5 hours was offered as an incentive to attend (“Record Numbers Attend JCC Champions of Change Event”, 2018).
organizational boundaries in an unprecedented fashion. Another cross-organizational example was the Home First initiative mentioned by Ms. Habibi, which ran projects in each of the five health authorities with evaluators meeting remotely via teleconference to share learning. Initiatives that are successful at one health authority may be extended into the others.

Madhu Sharma, Strategic Transformation Senior Consultant at Fraser Health works on system-wide projects involving strategic initiatives set by the organization. Her team engages with the executive and senior leadership to create ways for “higher level objectives to trickle down into practice-level change”. Specialists in this field must consider the change that is required, locate the gaps between current and desired practice, and figure out how to navigate them. Factors important for strategic change include the extent to which the management is modelling the behavioural changes, and whether or not there is resistance to change within the organization.

Changes affecting shared services across health authorities require a strategic transformation team to develop and manage the needs and concerns of the various stakeholders in the process. Ms. Sharma explained how it was important to find out the details of what system users were doing before an intended design change and consider how the new approach will meet all of those same user needs. This process involves cycles of interviewing the user and bringing the findings to the executive, who decide whether to consider adjusting within the scope and objectives of the project.

As far as incentivizing large-scale changes, A2 offered: “If you wanted to do a particular strategy or a particular thing and you could get it through Accreditation Canada that would be a driver for change for sure.

**Knowledge management: Challenges in health policy / research collaborations**

A misalignment in the agendas and timelines of researchers and policy makers can hinder health policy development. Effective working relationships take years of effort to build and nurture. Collaboration between the two groups, with “decision makers” controlling funding and the researchers commanding the required scientific
competencies, requires negotiation and compromise. Opportunities to listen to each other’s thoughts and ideas are helpful for successful collaborations, said Dr. Gruneir.

The Virtual Ward was an example of a research-policy collaboration. The project was the “largest trial of its kind” funded through a 50-50 grant via CIHR and the Ontario Ministry of Health. Spearheaded by a clinician who worked on developing interest from funders and decision makers, the project was a “joint effort”. Regarding the failure of The Virtual Ward to reduce readmission rates, Dr. Gruneir said:

*This is another great example of why we actually do need to do research because everyone was so enthusiastic about this; there was a lot of buy-in even before the results were in...I believe that there was some talk of expanding it...*

**Quality Improvement methods with Embedded Evaluation**

Embedded evaluation using quality improvement methodology is an innovative approach to health system change. Since 2012, Fraser Health has been using embedded evaluators for their quality improvement projects. The health authority “values evaluation quite a bit” said Ms. Habibi. The difference in the embedded approach is that the evaluators are with the project “from day one”, working in concert with the project manager, and acting as a feedback loop for the project. Quality Improvement [QI] allows the experimental process work to occur in a living, working system, liberating it from some of the constraints of the scientific process, such as the inability to adjust the parameters of a randomized control trial once data collection has begun. Projects evaluated in this method and termed successful are now part of Fraser Health Operations, explained Ms. Habibi. Dr. Shuster agrees that QI projects are “an avenue to improve the system”.
Appendix C.  Data: The Patients’ Readmission Survey

Respondents’ records are labelled in the left-hand margins of their responses to questions. Comments are not labeled. Caregivers answered in completed records 4, 9, 14 and the incomplete record 20.

Q4 Please choose the answer that best describes your experience: When I was discharged from the hospital the first time:

<table>
<thead>
<tr>
<th></th>
<th>VERY PREPARED</th>
<th>SOMEWHAT PREPARED</th>
<th>NEITHER PREPARED NOR UNPREPARED</th>
<th>SOMEWHAT UNPREPARED</th>
<th>VERY UNPREPARED</th>
</tr>
</thead>
<tbody>
<tr>
<td>I felt physically prepared to leave</td>
<td>16.67%</td>
<td>16.67%</td>
<td>33.33%</td>
<td>16.67%</td>
<td>16.67%</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>I felt emotionally/mentally prepared to leave</td>
<td>0.00%</td>
<td>30.00%</td>
<td>10.00%</td>
<td>10.00%</td>
<td>50.00%</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>I felt financially prepared to leave</td>
<td>61.11%</td>
<td>5.56%</td>
<td>16.67%</td>
<td>0.00%</td>
<td>16.67%</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Q5 Would you care to elaborate on your level of preparedness as per your previous answer?

1  My first time back in 2011 I was discharged while still experiencing severe depression that required re admission

2  Did not physically feel okay; like I was ready to be discharged. Indicated such to dr. but was discharged anyway.

3  I was not prepared to face the reality of life on the outside..ie financial, family reactions and how to deal with them, substance use issues etc

4  discharge summary was not provided to family caregiver

5  I went to emergency with horrible gallbladder-related pain. i was trashin in bed. i was given morphine in an iv and eventually fell asleep. In the morning a nurse rudely awoke me, removed the IV and said I didn’t need to be here, that I slept all night. I
I felt dazed and unsure that I was ‘cured’, I still felt so unwell, but left and slept more at home.

I felt that it was going to happen again and because of my lack of treatment and monitoring I had no idea what I was dealing with.

Your survey setup only allows me to answer one of the three questions above. I would have answered "very prepared" for all three.

I was not in a medical condition that I believed was suitable for discharge. I felt my bleeding needed to be stabilized and I needed to be monitored for the ability to return home. The discharge nurse dismissed my concerns and no one really examined me. They wanted a bed freed up as they were behind schedule.

Was not expecting to have to empty the tubes hanging out of the abdomen myself since my caregiver could not help me.

Very expensive chemo drugs are covered when admitted, but not when discharged.

I accepted that the system had done its best, it was recommended that I let the arm hang to heal. I was given recommendations and I felt able to do them.

I left with a large urine bag attached and I was not expecting that.

After ICU and hospital stay, referred to cardiologist.

Very prepared

I felt fine. No pain. Ready to get home and see my daughter and grandchildren who had come to help me.

Prostate surgery one day and released next. Instructions were not designed for having to stay in a hotel. Such as how to attach a catheter bag to one's bed as hotels have different bed supports. No apparatus on how to empty bag or clean in a hotel. Financially a problem as I came from interior to VGH 700 km and had to cover expenses of travel and hotel stays before and after surgery.

I had my MPFL(ligament) repaired. Great surgeon/great surgery. Issues as to post-surgical care were: 1) Doctor did not see me before being discharged. Did not know if everything went okay 2) No orthopaedic wheelchair available (leg had to be kept straight & not touch the floor 3) Discharge nurse told me to not touch or change dressing (I then refused to let anyone loosen tensor bandage while at home in the coming weeks regardless of the swelling in my leg). 3) Discharge told me NOT to raise leg for if my leg swelled 4) I rec’d very little instruction in a hand-out for post-surgical care—even though the surgeon had assured me that any post-operative homecare would be addressed in the hand-out.
I was still quite sick when I was discharged. No one helped me to make a plan for my discharge.

Wasn't prepared to leave because my legs were still paralyzed.

Q12 Do you have an interesting story about how you made it home after the first hospitalization? Feel free to write a few words here.

1. My parents took me back home.
2. No interesting story. My mom drove me home.
3. More medical information should be provided to designated family caregivers who are caring for a person with dementia 24/7 because this influences the kind of care the person receives, whether in the community or in a care home. Unfortunately, there are major communication breakdowns and front-line staff do not receive the necessary information to care for a person with Dementia appropriately. This is particularly salient when it involves CT scans; a differentiated diagnosis would have influenced the quality of life of my parent; she likely had Lewy Body and Posterior Cortical Atrophy, the symptoms of which I am only now learning about through a UK-based MOOC.
4. No story other than feeling dazed and that the problem had not been solved. I was given no instruction and I had a feeling that I would need to return again.
5. I was brought in by ambulance, so had no way to get home. I sat outside in the cold waiting for a taxi for over an hour.
6. Wife drove us home.
7. My wife came to get me but couldn't find parking near the hospital (VGH) so had to park a long distance away. I could barely walk, so she came to get me downstairs, then I waited for her to walk back to the car, and then to drive to the VGH door, then come in and get me. It was stressful and exhausting.
8. We left with no understanding of why DKA happened. Lectures on diabetes management, and we had impression this was somehow our fault.
9. The instructions were totally inadequate. I was told to stay in a hotel (I had driven 700 km to get surgery) for a week until catheter was removed. After a week the catheter was removed and I found no flow happened so had to go to Burnaby Hospital emergency and wait 4 hours before a doctor could see me and inserted new catheter. Told stay around and check back with Prostate Clinic at VGH. Waited another week and had catheter removed. Repeat of no flow so went back to Prostate Clinic late afternoon. I was told to go to VGH emergency as no staff available. I refused and said
they took it out so put in new one. A person came and did it. Told come back in several days. Removed catheter and all ok. Told go home. That night (still in hotel in Burnaby) had fever. Went to Burnaby Hospital emergency and they gave me prescription for antibiotics and said Check with my home doctor. Took a blood sample. Next day I started to drive home. Got a phone call from Burnaby Hospital saying the blood sample indicates I had e-coli infection in blood and return immediately to hospital. I was 300 Km away so I called my home doctor and asked why not just get treated in Nelson as I was halfway home. He said if any complications then Nelson unable to do corrective surgery. I returned to Burnaby. Since they had called they had me fast tracked into their system. (Wonderful) and put me on intravenous antibiotics and then scheduled me for daily intravenous antibiotics. Back to hotel for 3 weeks of treatment. I informed Prostate Clinic at VGH of infection and does if they would do an a check on strain to determine if it was from me or some outside infection. I was told that would only be done as a forensic investigation (so no interest in determining cause of infection) with pre-op requirement to be done a few days before operation and with the complications and infections I was required to spend at my cost about 6 weeks in a hotel. The general impression was there was pressure on staff to get people out of hospital quickly so health care costs were a personal problem and not the province cost. This led to inadequate instructions, poor response when I had catheter problems, and inadequate capabilities in home region to allow me to be treated in home city. I was generally left to be a self-advocate to get treatment. The call from Burnaby Hospital was the great exception - the doctor who had seen me has reviewed the blood test and personally called me to get me to return and get proper antibiotic treatment. His personal care may well have saved my life as the infection was very difficult to cure. I think it is characteristic of health care workers. They Care. But the system prevents them from providing their full care due to budget restrictions and poor cost allocations. At VGH I was in a very nice long bed room at the Holiday Inn which has a special rate for people having medical treatments at VGH. They were a block away from the hospital. So had the same location costs. VGH for me out of the spartan hospital room in one night because someone allocated several thousands of dollars to a bare room with poor upkeep. (someone walked through once with a single bucket and string mop. Sup the mop in old water and move around floor and pick up water with mop and squeeze back into bucket. Certainly not clear looking water. VGH had a notice on bulletin board extolling they had reached 80% compliance with hand washing. Another patient was reading it when I was and they commented Don’t they realize 20% of the staff is not washing their hands?)

19 It was difficult to even get out to our vehicle due to the fact that there were initially no orthopedic wheelchairs available in post-op. I was too woozy to crutch out on my own. They had to search the hospital for an appropriate wheelchair since I was not supposed to touch my foot to the ground & had a brace from hip to ankle (had to keep leg straight out in front of me).

20* No. My caregiver insisted that the doctor get me to stand to prove that my legs weren’t paralyzed anymore as he insisted.
**Q16 Is there anything you would like to add about accessing prescriptions and supplies for your recovery?**

Answered: 10   Skipped: 19

3  Plan G should be organized in the hospital before discharge and at least one week’s supply should be given upon discharge

4  I am thankful that I currently do not have to deal with the medication shortage at the moment.

5  Not applicable. I was not given any prescription. I was simply given the boot!

6  I wasn’t given anything. I had had a tachycardia episode that resolved on its own, so they removed me from the monitor and in the two hours I lay in the bed I had at least three more unrecorded episodes. I was not checked on by a nurse at all in that time. They released me with no prescriptions or instructions

7  I required (and continue to require) significant supplies and prescriptions, all of which are covered by the health authority, pharmacare and my employer-paid insurance. I am incredibly fortunate to have such outstanding coverage.

9  Perhaps drugstores need to bring in larger bandages for post surgical patients.

10  I was on disability due to my cancer and had limited funds for expensive cancer drugs.

17  At VGH there was a pharmacy as part of hospital. This was easy to access. However the information given to me by hospital on supplies required was poor

18  I had discussed post-op pain relief w my surgeon before surgery. Unfortunately, the prescribed drug did very little, to nothing, to assuage my pain. My surgeon & G.P. were both unavailable right after my surgery. Neither had locums in place. So, I had to go to the E.R. twice to get help.
Paramedics were very patronizing and disabling to family caregiver, and also made derogatory remarks about the GP to family caregiver. More empathy and professional communication needed among paramedics. Hospital staff seemed unbothered by the concerns of the elderly, very cold and business-as-usual, which is emotionally and cognitively hard on people living and dying with dementia.

When I was received in emergency and told them I was here 24 hours before they seemed to be upset that I would show up again. I suspect it wasn’t good for their stats.

I was at a different hospital. They did things totally differently and actually gave me a diagnosis

Had to return to emergency twice. Terrible infection was not addressed the first time. CRP 200 when finally admitted.

Scheduled for cardiac surgery the following month.
Helpless, disappointed and ashamed

I had indicated I knew I was not physically ready to be discharged. This was not listened to. I then had complications within 24 hours, necessitating return in the middle of the night, very lengthy period in Emergency, and readmission to hospital.

Disappointed

GPs were OK, but nursing staff needed more empathy. I could hear the unprofessional comments being made by nurses in the bay next door/curtain about an elderly man who had soiled himself. All staff need more empathy and education on the moment-to-moment challenges that people with dementia face, especially in emergency wards. This includes the realization that family caregivers are the most important resource for people with dementia; they carry the continuity of care for the person living with dementia. More dementia-friendly medical, social, and architectural environments are needed, particularly in smaller hospitals.

I felt I was being perceived as a drug seeker. I felt confident I needed to be there, and indeed my gallbladder was necrotic.

I was also very relieved. I had been going to the Fort St John ER dept for years. They always treated me like I was a nuisance. I would frequently wait 1 to 3 hours in the waiting room with chest pains and tachycardia, before I even got an EKG done. In Dawson Creek, they did the EKG immediately and found out I was in A-Fib. They
prescribed blood thinners and a blood pressure medication. That was the first time I had ever gotten anything but eye rolls, sighs and nurses sitting outside my room complaining how I was a waste of their time.

Frightened. It was difficult to know what symptoms were normal, and what was dangerous.

The ER staff were very dismissive and left me bleeding and in pain for hours. It has now been close to 24 hours since my surgery with no food or drink, unable to use the bathroom. No one notified my surgeon and I waiting in the ER for 4 hours before I was seen. This was my second time back to the ER that day.

The second time we went to emergency, he was too sick to even talk or eat! He was not going to survive. His infection should have been addressed the first time we showed up in emergency.

Was treated as if it was my fault.

Because of a pain drug, related to broken arm, I was unable to urinate, so a catheter was put in, which caused Urinary Tract Infection, and resulted in blood with urine. It was my impression the catheter caused the infection. The subject of the cause was never addressed.

Pleased that heart condition was a priority

I started to bleed heavily from my incision and was worried.

From all the check marks above I felt the care was functional but not dealing with any patient concerns

I knew I needed help with the extreme pain & swelling in my leg due to poor advice from discharge nurse telling me not to touch bandages & tensor on my leg when discharged. By the time I went to the E.R. the 1st time, I had quit sleeping except for a few minutes here & there, when I passed out (the pain would wake me as soon as I passed out!). The pain killers prescribed by the surgeon were not sufficient. Since he & my g.p. were not in town after surgery—the only place I could access pain relief help was at the E.R. The E.R. doctor gave me a painkiller that helped almost immediately. When I asked for a prescription for the next week ir two, she told me she was not allowed to prescribe from the E.R., that class of drug. Gave me a few pills & told me to come down every 2 days for more. This, even though we told her my g.p. & surgeon were out of town. Also, surgeon had made it clear BEFORE surgery that I should move around as little as possible so as not to wreck new ligament.
Q35 Please tell us more about how you feel that your personal characteristics impact on your experience of care:

1 I didn't feel like it had impact. My anxiety and depression did affect at times experience of care. Some nurses at Segal hospital treat patients as convicts and can be quite rude at times. Overall there was a feeling of distance between the nurses and the patients and lack of trust and care from the nurses side. Although there were some that were better.

3 My ethnicity and personality

4 I am speaking as a family caregiver for an elderly frail person with multiple co-morbidities (CHF, DM, AD, etc.). Anyone with a dementia diagnosis is largely "written off" as a person with legitimate concerns. This includes access to appropriate medical care. More supported and shared decision-making is needed, rather than full delegation to a caregiver or long-term care home (still called "residential facilities").

5 As a woman i will always feel that my symptoms will be taken less seriously than a man. It's just how it is.

6 Because I have had this issue and several others for years (recently diagnosed with EDS which accounts for most of my visits), I am well-known in my ER department. They never take me seriously. I went in hemorrhaging from my uterus and the nurse made fun of me. Because of EDS it could have been serious, so I had to go in. It turned out to be cancer, but that nurse brought it up with the other nurses when I went in by ambulance last time with my tachycardia. I had to drive myself to Dawson Creek in A-Fib to get the treatment I needed,

7 I'm an educated white woman with a serious diagnosis. On readmission, the physician said she was taking my symptoms seriously because I was a "legitimate character". That left me wondering who isn't seen as legitimate, and what happens to them.

8 Female of child bearing age

9 It is called "ageism". Anyone over 70 is not treated very well unless they have "connections".

12 There is financial triage happening when it comes to care

14 ER doctor dismissive and wouldn’t listen to me. Felt this was because I was a female senior.

15 No impact
As a person in my 70s I think there is a tendency to think just another old person who is not having an acute emergency. No real discussion on what or why something is occurring. This applies to hospital not my family doctor.

I’m an alcoholic.

I feel that my gender, age and weight often cause my symptoms to be dismissed or diminished by health care providers.

I have no indication that my race, age, etc, had any impact on my post-surgical care.

Some researchers have suggested that unplanned readmissions could be better managed by identifying risk profiles for patients based on their characteristics. For example patients who are older adults, or those with chronic conditions. More attention and resources could then be focused on the transitional care needs of these patients.

Q36 How effective do you think a risk profile would have been for your situation?

Answered: 17    Skipped: 12

<table>
<thead>
<tr>
<th>ANSWER CHOICES</th>
<th>RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely effective</td>
<td>17.65%</td>
</tr>
<tr>
<td>Very effective</td>
<td>29.41%</td>
</tr>
<tr>
<td>Somewhat effective</td>
<td>11.76%</td>
</tr>
<tr>
<td>Not so effective</td>
<td>5.88%</td>
</tr>
<tr>
<td>Not at all effective</td>
<td>35.29%</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>0.00%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
</tr>
</tbody>
</table>

Q37 Why, or why not?

Answered: 18    Skipped: 11

1   Very Effective:  
Identifying and properly addressing health concerns of patients in the community could be more effective and important in the care of patients. It is more difficult to do with mental health but collecting information from patients and having some monitoring ability can help ensure some form of stability.

2   Very Effective:
This happened when I was in Emergency [visit by the chronic pain team] but should have happened during my first visit.

3  **Not so effective**
I would be worried that if I wasn't in the risk category that corresponds to my needs I might not receive care that I need or care that I don't need.

4  **Very effective**
People with dementia would receive more and better medical care; for instance, a cancer diagnosis would mean that the PwD would receive appropriate pain relief.

5  **Not at all effective**
I worry about ‘profiling’ patients especially those who are labelled ‘frequent flyer’, and then if the profiling is done in a respectful manner, there will be patients left behind due to their characteristics.

6  **Extremely effective**
If they were aware of what EDS was, and the fact that things like POTS and MCAD are co-morbid, I may have had better treatment, especially if FSJ changed their policy to get chest pain and tachycardia patients an EKG BEFORE seeing a doctor several hours after they come in.

7  **Extremely effective**
I have a rare disease, and it's difficult to know what symptoms are dangerous and what is not. Having a risk profile explained to me would help me to know what to look out for, and what I can better manage at home.

8  **Not at all effective**
I have no risk factors.

9  **Not at all effective**
This was a repair from the original surgery 2 years earlier. Risk profile is completely inappropriate.

11  **Extremely effective**
Chronic cancer.

12  **Somewhat effective**
There would be more resources for recovery and prevention of readmission.

13  **Very effective**
Perhaps I would have been informed about hospital based physiotherapy, which I later discovered on my own.

14  **Not at all effective**
It was the surgery that was a risk; not me or my ability to take care of myself. This was an unexpected turn of events.

15  **Not at all effective**
14 admissions to ER in 2 years. Condition never adequately diagnosed. My husband died last month.

16  **Very effective**
When I was diagnosed with the blood infection the clinic said well not that unusual as about 10 to 15% of surgery patients get infections. That is a huge risk! Do something about it. Risk based analysis would identify something should be done to increase cleanliness.

17  Just don't know.

18  **Not at all effective**
It was a problem with how the surgery had been done- stitches came undone- it was not related to my profile or behaviour.

19  **Somewhat effective**
I had discussed one major risk regarding my health care with my surgeon prior to surgery. It was that I am anaphalactically-allergic to codeine, & possibly other painkillers. We agreed that we could address that post-surgically, as things progressed. Unfortunately, the surgeon was only available for the first few days after my surgery before leaving town. I had not been informed he would be unavailable. So I had no plan-"B" to find good post-surgical help with pain. I very much would have liked a plan before surgery.

Q38 Reflecting back on your experiences, what do you think could have been done differently to prevent your unplanned hospital readmission?

1  Things got much worse for me when I my doc and I decided on a medication change. Unfortunately my depression worsened during that process and I don't think there was or is a way to prevent except by checking in with me more regularly during that process. An effective treatment or plan for my depression and anxiety could have been helpful.

2  Not dismissing a patient's experience in their own body, as less valid than a physician's past experiences and hospital pressures to discharge.

3  There should have been more to plan for discharge and information and counseling about what I can expect during recovery.

4  (1) Nurses should view family caregivers as a useful source of information instead of as an intrusion on their expertise.  (2) Better institution-to-institution continuity of communication would be helpful.  (3) Discharge summaries could include information on recommended resources (e.g. websites).  (4) Follow-up telephone call could be made to the caregiver, three days after discharge.  (5) More staff education ("lived
experience" stories) on the day-to-day, moment-to-moment challenges faced by people living with dementia and their caregivers.

5. Nothing other than staff discharging me the first time stop being so rude, and discuss what I need to do if the pain returns, or what to watch for.

6. If I had had an EKG upon arrival to emergency, I may not have gone several years in and out of ER. Doing it that way enabled the Dawson Creek hospital to catch the event and now we know what it is and I have treatment. I probably won't be wasting the ER department's time any more. If I go in, we will know what is wrong. Hopefully they don't make me wait hours still.

7. I don't know that it could have been prevented. I experienced chest pain after having a Hickman line inserted; that needed to be checked out to rule out a blood clot. Perhaps quicker access to CT in emergency could have got me home sooner, rather than having to be admitted.

8. I was discharged too early originally due to a bed shortage and the day surgery was behind schedule

9. Perhaps some one should have helped me with the drainage tubes. Perhaps the first trip to the emergency when the tube smelled should have told the "doctor" that it was an infection and we could have had the antibiotics and gone home. Instead no antibiotics were given and he got really sick requiring IV antibiotics and a further surgery to replace the drains and clean out the abdomen.

11. Better communication would have prepared me. I don't think it could have been prevented. It was unplanned though.

12. Doctors get stuck on wrong diagnosis and confirmation bias rather than listening to the patient. The cause of my issues was not correct resulting in several re-admissions to hospital.

13. Thorough cleaning of catheter. Written warning signs as a consequence of catheter use.

14. Direct contact with my specialist who did the surgery might have helped.

15. Each hospitalist seemed to ignore previous history and subsequent recommendations from family doctor. Apparent goal was to get him mobile and then home.

16. When I and others reported infections the hospital should have an active team who investigate the source of any infection and then put in place new practices to remove the sources.

17. Give Ativan. That was the only drug, other than vitamins, which maybe they should've recommended ,too. My heart isn't just irregular ,which they gave me a low dose time release patch, but it beats very hard due to a hematoma in the muscle. Ativan eases withdrawal. Wtf? Why don't they give it to us?
More care in the surgery.

I could have had the doctors or some h.c. professional help have a plan “B” if the medication prescribed for post-surgical pain did not work. Especially since surgeon knew I can go into analphalaxis if given the wrong drug(s). Also, I needed a plan for home care for post-surgery. E.g.s: 1) What to do if leg swelled up 2) when or even IF, I should loosen tensor bandage left on leg from surgery 3) who to contact for help in conjunction to immediate post-surgical pain

Q41 If you have another idea for how the system could improve, please share it:

1

An important aspect in mental health is proper diagnosis and customized treatment for the individuals. Helping patients to maintain healthy life style and with their day to day struggles can help them achieve better success. It is important to have occupational therapist as well as group therapy and to monitor for the effectiveness of the group therapies provided for mental health.

2

1] Emergency staff were visibly angry about the visit by the chronic pain team at VGH, as though their own actions and care were not deemed by the hospital to be enough. This was uncomfortable to witness and be a part of. 2] Visit by the chronic pain team prior to discharge the first time. 3] I was on methadone for pain. As I had received instructions to bring all my medications to my surgery, I did so - including the large bottle of liquid methadone. Nurses had no policy for how to deal with this, and were all aflutter - that I should not have brought it in, and they did not know how to store it [perhaps because it’s marked 'Poison', and/or because it was usually refrigerated] or what to do with it. A supervisor had to be brought in. My medication had to be taken from me, and they seemed unable to guarantee it would be returned - which, as a pain patient, caused huge anxiety for me [they used their own methadone to give me on the floor, on my first admission]. 4] Medications that are available for use on the floor by nurses, also need to be available for use in Emergency. On my return to hospital to Emergency, it was revealed that they had no access to continue my medication with Methadone...though I had been provided with this medication 24 hours earlier up on a floor. They told me my aunt, my support person, would have to leave VGH, drive back to the North Shore, retrieve my medication, and return to VGH Emergency to provide me with the necessary medication as they were not able to provide it. 5] Better HR vetting and particularly, a system of patient surveys of how they are treated by staff. The fellow who handled my Emergency admission was curt, dismissive, and evidently hated his job. 6] The ER physician was shocked that I had received written instructions for post-surgery care. I, too, had only this one experience of receiving surgery summary and post-care instructions in writing. Across the board, in all hospitals I had treatment in, the system is: the doctor goes in to see the patient who is still recovering from sedation; still groggy, and not yet with a family member with them. In this state, the doctor sums up results of the surgery, and gives verbal instructions for post-
operation care and followup. Because I had been in post-operation grogginess, it was always a struggle to remember instructions. Written instructions and ideally, summary of surgery/operation results, as I received, should be mandatory.

3 Nurses need to be more approachable and kinder, easy to talk to, listen to me. There should be information about diagnosis and what it means for my lifelong recovery.

4 Mentioned previously, more effective communication strategies for staff with patients and their families, in addition to a dementia-friendly environment (built environment). This includes the notion of social citizenship for older adults, who have a right to access medical care, especially since they have paid taxes to build the system they now need.

5 Routine visit to primary physician after emergency visit unless it is a minor issue.

6 Rotating staff out of the ER. I think burnout is a major problem, as well as complacency. I think that might help with shortages as well, if more nurses were able to be in ER, and know they don't have to stay there indefinitely. And getting the ones that are always there out of their comfort zone and dealing with regular patients, not always emergencies. Maybe that would help them regain their compassion. More training, especially on bedside manner in ER, I met lots in Dawson that were very professional, efficient AND warm-hearted. They are out there!

7 I have excellent care, in the form of access to a nurse practitioner via email, text message and phone. I was very well educated on how to manage my care at home, and what kinds of situations warranted an email, text or call to my nurse practitioner. This system has undoubtedly saved me multiple trips to the ER.

8 Focus on the patient well being and quality of care. Find efficiency elsewhere but not at the sake of neglecting patients.

9 Need better emergency physicians. The first one was useless. The second time the physician saved his life. Why should it be that way? Believe the patient the first time they come in!

11 Advising the patient what to look out for and who to call if it happens, rather than having them go to the ED and wait with all those HAI.

12 You need patient input in the construction of this kind of survey! You have left off the major causes of my readmissions and what would have helped. What about Doctors actually communicating with each other and creating a coordinated plan!!! I had sepsis 5 times because one specialist was fixated on the wrong cause. If they had looked at the whole person, rather than one hyper-specialist dictating to everyone else, we would have prevented readmissions. Financially, this was also devastating. There are also issues with the lack of attention to mental health implications for patients undergoing repeat admissions. We can do better!!

13 At the time, I had a primary care doctor. But now that I live in Victoria, there are no primary doctors available. I am an involuntarily unattached patient. To improve
healthcare, provide a guaranteed connection with primary care for every MSP subscriber.

15 Change focus from getting the patient out of there asap to finding out what was causing the medical problem. Actually paying attention to previous admissions while dealing with the immediate problem.

16 I don't think any of the solutions presented make much of a difference. The problem is a systemic problem of poor cost allocations and scrutiny on how the trained healthcare workers are restricted in doing best practices because some accounting process says they are doing to many tests or not getting patients out the door fast enough. Morale problems generated by keeping people on short term contracts instead of full time employees. Huge requirement of electronic data records for liability coverage not in any province wide mechanism to actually be available to any health region for good patient diagnosis. The lab tests are costed per test as if the 40 year old one at a time manual analysis are still being done. Reality is automated multi parameter instruments give all the test results in one or a few machines. Pay a single price based on the machine and operator time Andover the whole range of lab results so doctors can do a full diagnosis instead of requiring a doctor to select as few tests as possible that would indicate the general problem and then order more tests based on the first round to determine more in depth diagnosis. If a person came into emergency and all the tests for a very simple selection like if a fever do ... And just do it without any requirement for a doctor to select tests, then half of the doctor time would be saved and when the doctor got to patient all the various possibilities would be already tested so the doctor can do a faster and better diagnosis. That saves more doctor time and almost halves the patient wait time. The reason this is not done is someone pays for individual tests and is using our of date understanding of current lab tests and the ease of automated instruments. Look at the payment structure and it will show why our healthcare system is challenged to keep up with patient needs.

17 Get competent doctors.

19 Ensure that E.R. physicians get a PRIMER on treating post-operative pain in the E.R.’s.
* I had to go in a SECOND time for pain relief since first ER physician refused to prescribe. The second doctor saw the swelling & all the classic signs of pain in my countenance(pale-as-a-sheet/nausea/inability to eat & sleep/trying not to pass out/ inability to get around without alot of help, etc) & gave me a painkiller prescription immediately(seemingly very confused when we told her that the first doc we saw a few days before, said she COULDN’T prescribe from the ER. Said it was no problem). She even immediately wheeled over a mobile ultrasound machine to check I didn’t have a blood clot in my very swelled up leg, without any prompting from myself or my husband). I had to go to the E.R. twice, post-operatively.
Appendix D. The Questionnaire

Patient Experiences Survey- Unplanned Readmissions to hospitals are avoidable; Help us understand how.

Each year more than 190,000 Canadians experience an unplanned readmission to emergency care after a condition they believed was resolved suddenly flares up again, or a secondary issue arises causing a need to return to the hospital for further treatment. If you have been through this experience you might have something to say about it.

This questionnaire hopes to learn from your thoughts and feelings into what happened and how. The insights that you contribute will be applied to a graduate policy analysis paper: “Unplanned Readmissions to BC hospitals; how can patient experiences and health system expert information drive rate reduction policy?” which could assist in the process of applying new strategies and ideas to the problem.

Just a few more details about the survey and how it works:
This survey can be completed within 5-10 minutes, however since a few questions are open-ended you may wish to take a bit more time with them. Since a partially completed survey cannot be saved and returned to, we recommend the option of clicking on “exit link” if you would like to return to complete the survey when you have a bit more time.

We do not think that our questions could be harmful to you, but given the personal nature of health, it is possible that a line of questioning might upset you or make you feel uncomfortable. Please feel free to answer “prefer not to answer” to any of the questions.

Please note that the “Previous” button will allow you to change an answer. Researchers cannot see your answers until after you click “Done” at the end of the survey. By answering the survey and clicking on “Done” you are indicating that you consent to your data being used by our study in the ways described below.

Your anonymity and the protection of your privacy:
Your survey responses are anonymous, however there are opportunities to answer freely to open-ended questions. To provide additional protection against any breach of your privacy, please avoid providing identifying information, such as your name or address.

The responses to this survey will be web-hosted in Canada by Survey Monkey until the results are ready to be analyzed.

Survey Monkey is a commercial provider that works with Simon Fraser University and is compliant with BC’s Freedom of Information and Protection of Privacy Act, however, as an American company they are subject to laws such as the Patriot Act which would supersede our agreements. This would be an unlikely situation, but if you would like more information about their privacy laws please see their statement here.

While we are working on the analysis, our work files will be kept within SFU Vault, an SFU-based server recommended by data security experts for securing research data. After we have analyzed the data, we will be making it available with “use restrictions” for other researchers on RADAR, Simon Fraser University’s open data repository. “Use restrictions” require other researchers ask us directly for permission to use the data and set guidelines for safe and ethical usage.

By taking these steps, we are committing to the best-practices for protecting your privacy while adhering to research collaboration methods and practices.

*If you have any concerns about your rights as a research participant and/or your experiences while participating in this study, you may contact Dr. Jeffrey Toward, Director, SFU Research Ethics at [email protected]*

Principal Investigator: Melodie Carew [email protected]

Supervisor: Doug McArthur

Thanks again for helping to advance the patients’ perspective on health care!

Begin Survey
An unplanned readmission to the hospital is the experience of having gone to the hospital for any type of procedure and then unexpectedly needing to return within one to three months.

Q. 1. Have you experienced an unplanned readmission to a hospital?

- Yes I have
- No I have not
- I have not but I am the caregiver of someone who has
- Prefer not to answer

We are going to be discussing the experience of unplanned readmissions as a sequence of trips to the hospital. When we say “first”, we mean the trip to the hospital prior to the unexpected need to return.

Q 2. After my first admission to the hospital, I needed to return:

- Within 30 days
- Within 3 months
- After 3 months but within 6 months
- Over 6 months later.
- Prefer not to answer

Q 3. Please state the main reason for your first admission by treatment type:

- Emergency surgery
- Scheduled surgery (non-emergency)
- Physical or mental health emergency: treated with drugs
- Routine therapy (i.e. scheduled like dialysis, chemo, etc.)
- Other
- Prefer not to answer
The term discharge means that a patient is being sent home by the clinical staff at the hospital.

Q 4a. Please choose the answer that best describes your experience:

When I was discharged from the hospital the first time:

a) I felt physically prepared to leave
b) I felt emotionally/ mentally prepared to leave
c) I felt financially prepared to leave

For above:  a) b) c)

- very prepared / somewhat prepared/ neither prepared nor unprepared/ somewhat unprepared/ very unprepared

- Prefer not to answer (for each one)

Q 4b. Would you care to elaborate on your previous answer?

- ________
- Next

Q 5a. A nurse or other staff gave me instructions on how to care for my recovery prior to my discharge

- Yes, verbal instructions
- Yes, written instructions
- No instructions
- I cannot recall
Q 5b. A nurse or other staff member gave another person (i.e. my brother, friend, spouse, caregiver) instructions on how to care for my recovery prior to discharge

- Yes, verbal instructions
- Yes, written instructions
- No instructions
- I cannot recall

Prior to my departure from the hospital the first time:

Q 6. A follow-up appointment was set for me with the attending physician or clinical staff at the hospital.

- Yes, an appointment was set with a time and date
- I was asked to follow up but no date was set
- No there was no discussion of following up
- I cannot recall

Q 7. I was told about community supports for my well being in my neighborhood and how to access them.

- Yes they offered my lots of suggestions
- Yes they mentioned something
- No we did not discuss this
- I cannot recall

Q 8. I was explained what my recovery experience would feel like with examples of standard recovery outcomes and timelines to compare with my own experience.

- Strongly agree / somewhat agree/ neither agree nor disagree/ somewhat disagree/ strongly disagree

Q 9a. I was assisted with transportation to my home

- Yes
- No, I made my own way home
- I cannot recall

Q 9b. Do you have an interesting story about how you made it home after the first hospitalization? Feel free to write a few words here.
After my departure from the hospital the first time:

Q 10a. Locating the place to purchase my prescriptions and supplies:

- Was no trouble
- It was hard to locate the place to buy my prescriptions and supplies
- Please explain the reason why access was difficult: ________________
- Not applicable
- Prefer not to answer

Q 10b. Getting to the place to purchase my prescriptions and supplies:

- Was no trouble, I got a ride
- Was no trouble, I managed on my own
- Was a challenge for me
- Please explain the reason why access was difficult: ________________
- Not applicable
- Prefer not to answer

Q 10c. Paying for my prescription and supplies for the duration of my recovery:

- Was no trouble
- I could not afford my prescription(s) and/or supplies for the entire time I was supposed to take it
- I could not afford the prescription(s) and/or supplies at any time during recovery
- Prefer not to answer

Q 10d. Is there anything you would like to add about accessing prescriptions and supplies for your recovery? ____________________________

- Next

Q 11a. I took my prescription drugs for recovery as prescribed:

- All of the time
- Some of the time
- Most of the time
- Rarely
Q 11b. I understood how to use my medication:

- Never
- Not applicable

Q 11c. I used reminders to keep my medication or wound care on schedule:

- All of the time
- Some of the time
- Most of the time
- Rarely
- Never
- Not applicable

Q 12. I was able to remember all of the instructions given to me prior to my departure

- Yes
- No
- Not applicable

Q 13. After I was discharged I had support for the following (check all that apply):

- Eating (meal preparation and groceries)
- Bathing
- Medication reminders
- Drinking water
- Helping me to remember my recovery instructions
- Mobility: help with walking, or help with transportation to access therapeutic needs
- Coping with the experience emotionally
- Did not need support
- I needed support but was able to take care of myself
- I needed support and had to ask for help
- Prefer not to answer
Q 14. I was visited at home by a health care worker set up by the clinical staff at the hospital or through my primary care network

☐ Yes
☐ No

"Readmission" refers to your second trip to the hospital.

Q 15. Please state the main reason for your readmission (second trip to the hospital): (trick filter question/makes sure the readmission was unplanned)

☐ Emergency surgery
☐ Scheduled surgery (non-emergency)
☐ Physical or mental health emergency: treated with drugs
☐ Routine therapy
☐ Post-surgical infection
☐ Complications from first hospitalization
☐ Venous thromboembolism
☐ Other __________
☐ Prefer not to answer

The following questions are about your experience with having to return to the hospital unexpectedly (readmission)

Q 16. Please rank the level you feel the following statements apply to your experience of readmission from 1 to 5, or from least to most applicable:

a) I felt like I was being listened to
b) I felt like I was being treated with respect and dignity
c) I was satisfied with the level of communication from staff
d) Things were explained to me in a way that I could understand
e) I understood the reason why I was there

For the above:

☐ 1/ 2/ 3/ 4/ 5
☐ Prefer not to answer

Q 17. What were your feelings about having to return to the hospital (check any that apply)?
- Acceptance
- Worried about my health
- Upset
- Confused
- Inconvenienced
- Angry
- Concerned about the healthcare system
- Unimpressed
- I knew that this was a possibility given my condition
- I did not expect there to be any complications of this nature
- Please tell us how you felt: ___________
- Prefer not to answer

The next few questions help us to understand more about your individual circumstances and general characteristics, they may seem personal but they are very useful for analysis.

Q 18. I have needed to use emergency care this past year:

- Never
- 1-4 times
- 5 or more times
- Prefer not to answer

Q 19. Please choose a household income level that best reflects your situation:

- Under $40 000
- $40,000 - $80,000
- Above $80,000
- Prefer not to answer

Q 20a. My place of residence is:

- Rural
- Urban

Q 20b. Approximate distance to the nearest hospital driving in a car or by ambulance:

- Less than a 30 minute drive
- 30 minutes to just under 1 hour
- 1 - 2 hours
More than a 2 hour drive

Q 21a. Please choose the best option for your age:

- 18 - 34
- 35 - 49
- 50 - 64
- 65 - 79
- 80 +

Q 21b. Are you:

- Female
- Male
- Transgender
- Prefer not to answer
- None of the above, identify as __________

Primary care refers to a family doctor or other health care provider (or team of providers) who sees you somewhat regularly and looks after your health care concerns on an ongoing basis.

Q 22. My primary care is delivered by (choose the best answer):

- Family doctor
- Walk in clinic
- Nurse practitioner
- A team at a community clinic
- I don’t have a primary care provider
- I’m not sure

Q. 23. My primary health care provider(s) was informed of my visit(s) to the hospital prior to my telling them:

- yes
- No
- Not sure

Q 24a. I feel that the personal characteristics of who I am (i.e. race/ethnicity, gender, age, religion, income, or other) affect the quality of health care that I receive.
Please choose an impact level on a scale of 1 – 5 or from no impact [1] to major impact [5]

☐ 1/2/3/4/5

Q. 24b. Please tell us more about how you feel that your personal characteristics impact on your experience of care.

☐ __________

☐ next

Q 25a. Some researchers have suggested that unplanned readmissions could be better managed by identifying risk profiles for patients based on their characteristics. For example patients who are older adults, or those with chronic conditions. More attention and resources could then be focused on the transitional care needs of these patients.

How effective do you think a risk profile would have been for your situation?

☐ Very effective / somewhat effective/ neither effective nor ineffective/ somewhat ineffective/ very ineffective

☐ Prefer not to answer

Q 25b.

☐ Why or Why not? __________

☐ next

Q 26. Reflecting back on your experiences, what do you think could have been done differently to prevent your unplanned hospital readmission?

☐ __________

☐ next

Q 27a. The following interventions have been discussed for preventing unplanned readmissions to hospitals. How effective do you think they would be?

a) Improved discharge planning, such as written instructions and calendars
b) Increased transitional services, such as follow-up phone calls or home care visits
c) Better communication between hospital staff and primary care providers
d) Assistance with disease prevention and health promotion

For the above:

☐ Very effective / somewhat effective/ neither effective nor ineffective/ somewhat ineffective/ very ineffective

☐ Prefer not to answer
Q 27b. Rank the following interventions from best to least for how well you think they would work to prevent unplanned readmissions to hospitals.

- Improved discharge planning, such as written instructions and calendars
- Increased transitional services, such as follow-up phone calls or home care visits
- Better communication between hospital staff and primary care providers
- Assistance with disease prevention and health promotion

Q 27c. If you have another idea for how the system could improve, please share it:

- Your idea here
- next

Thank you for your participation!